

Survey Design of Japanese Panel Study of Employment Dynamics

1. Outline of the Survey

Purpose of the Survey	Reveal dynamics and variation of employment and non-employment all over the country
Items surveyed	Status of employment, Living dynamics, Status of initial and previous employment, Attribute of individual person of the Previous one year
Survey volume	about 100 questions Survey 2018: 111 questions

2. Period of the Survey

Survey period	Survey period is fixed as every January January 12 ~ January 31, 2018
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3. Coverage of the Survey

Survey districts	All over the country
Conditions of persons	Male and female 15 years old and over to be surveyed
Exclusion conditions	None (no condition on occupation/survey cooperation records)

4. Method of the Survey

Survey technique	Internet monitoring survey (Sample survey)
Sampling method	Extract persons satisfied the conditions by the monitor (Mighty monitor) possessed by Intage Inc.
Sample design	Based on “Labour force survey” data of Statistics Bureau, Ministry of Internal Affairs and Communications, allocation was implemented by gender, stratified age group, type of employment, district block, education background. The allocation was set to reflect the population. However, as for 10s of non-labour force, and 65 years old and over, the allocation was adjusted less than actual count of persons.
Effective collection count/effective collection rate	<p>Survey 2018: 50,677 samples</p> <p>* From Survey 2017 onwards, each survey consists of 3 sample types, continued (previous year answerers), additional (new answerers of the year) and revived (answerers of Survey 2016 who didn't answer Survey 2017).</p> <ul style="list-style-type: none"> • Continued samples (continuous answerers since last year): 37,503 persons Persons requested: 47,081 Effective collection rate: 79.7% • Additional samples (new answerers, this year): 10,369 persons Persons requested: 16,574 Effective collection rate: 62.6% • Revived samples (no answer in survey 2017, but answered in 2016): 2,805 persons Persons requested: 11,418 Effective collection rate: 24.6% <p>* 21 samples out of the above are excluded from aggregating subjects due to overseas emigration</p>

5. Aggregation Method

Weighted sampling aggregation	Weighted sampling aggregation is necessary to implement aggregation according to the population construction since the collection was conducted with less allocation than actual count of persons for 10s of non-labour force, and 65 years old and over.
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1. Outline of the Survey

In Japanese Panel Study of Employment Dynamics, following items were questioned in survey 2018 for the purpose of grasping status of employment, living dynamics, etc. during the previous one year prior to the survey (in case of survey 2018, one year period of 2017).

Attribute		Status of the Previous One Year	
Q1	Gender	Q52	Level of happiness
Q2	Age	Q53	Life satisfaction
Q3	Birth month and year	Q54	Annual events and living
Q4	Present residential place	Q55	Annual occupational events (1)
Q5	Final educational background	Q56	Annual occupational events (2)
Q6	Graduated faculty	Q57	Self-development activities
Q7	Present school year	Q58	Holiday acquisition condition
Q8	Dropout experience	Q59	Rate of taking paid leaves
Q9	Marital status	Q60	Stress
Q10	With or without a child/children	Q61	Income source of living expenses
Q11	Number of children	Q62	How to cover the living expenses
Q12	Age of the eldest child	Q63	Job upskilling
Q12	Age of the youngest child	Q64	On-the-Job-Training opportunity
Q13	Type of residence	Q65	Off-the-Job-Training opportunity
Q14	Cohabiter	Q66	With or without self-development
Q15	Principal household income earner	Q67	Work place status
Q16-1	Labour force status of January 2017~April 2017	Q68	Nature of work
Q16-2	Labour force status of May 2017~August 2017	Q69	Job satisfaction
Q16-3	Labour force status of September 2017~November 2017	Q70	Stress of taking balance of work and family life
Q17	Labour force status of December 2017	Q71	Reasons of stress
Status as in Last December		Status of Second Job	
Q18	Type of working	Q72	With or without taking second job
Q19	Type of employment	Q73	Desire to take second job
Q20	Incorporated or not	Q74	Reasons of desire to take second job
Q21	With or without store	Q75	Reasons of taking second job
Q22	With or without business contract	Q76-1	Type of working of the highest income second job
Q23	Using or not using crowdsourcing	Q76-2	Content of work of the highest income second job
Q24	Reasons of being engaged in work as in December	Q76-3	Specific work content of second job
Q25	Reasons of absence from work	Q76-4	Business type of second job
Q26	Could be engaged in work upon availability?	Q76-5	With or without store of second job
Q27	Desire to work	Q76-6	With or without business contract of second job
Q28	Degree of desire to work	Q76-7	Using or not using crowdsourcing in second job
Q29	With or without job seeking	Q76-8	Number of the second jobs
Q30	Reasons of seeking no job	Q77	Working hours per week of the second jobs
Q31	Reasons of unemployment	Status of Initial Employment	
Q32	The reason of no desire to work	Q78	Type of working of initial employment
Q33	Industry	Q79	Industry of initial employment
Q34	Number of employees	Q80	Number of employees of initial employment
Q35	Occupation	Q81	Occupation of initial employment
Q36	Position title	Status of Previous Employment	
Q37	With or without employment contract term	Q82	Type of working of previous employment
Q38	Employment contract term	Q83	Industry of initial employment
Q39	Status of employment (unemployment) insurance coverage	Q84	Number of employees of previous employment
Q40	Working days and hours per week	Q85	Occupation of previous employment
Q41	Salary payment method	Q86	Number of working days/hours in previous employment
Q42	Hourly rate	Q87	Annual income of previous employment
Q43	Work flexibility	Q88	Channels to find current place of work
Q44	Working place	Q89	Order of timing between the last resignation and adoption of current employment
Q45	Time allocation of work	Q90	Reasons of the resignation
Q46	Time for telework	Status around the Delivery of the Youngest Child	
Q47	Status of telework system introduction and adoption	Q91-Q93	Working status before and after the birth of your youngest child / child of currently one year old
Q48	Subject person to telework system	Q92-Q94	Social system used at the birth of your youngest child / child of currently one year old
Q49	Commuting methods	Others	
Q50-1	Time for living (Commutation)	Q95	Residential place
Q50-2	Time for living (Housework, childcare)	Q96	Academic achievement at the last junior high school year
Q51	Number of resignation times in the past	Q97	Month and year of school graduation, month and year of entry to and resignation from the initial employment, month and year of entry to and resignation from the previous employment, month and year of entry to the current employment
		Q98	Annual income of the previous year (main job, second job, non-occupational)
		Q99	With whom can you consult?
		Q100	Type of working of the spouse
		Q101	Annual income of the spouse
		Q102	With or without doing nursing care
		Q103	The number of people to whom you provide nursing care
		Q104	The family member to whom you provide nursing care
		Q105	Notification to the company or seniors about current nursing of a person requiring long-term care
		Q106	Desire for changing or hunting job
		Q107	Do you have desire to leave from work?
		Q108	Approach taken related to future career plan in the past one year
		Q109	Desired future plan after graduation
		Q110	Decision of occupation after graduation
		Q111	Job-hunting experience

2. Period of the Survey

As the purpose is to grasp the status of the previous one year prior to the survey period, the survey period is fixed as every January. The survey 2018 was actually implemented from January 12 to January 31, 2018.

3. Coverage of the Survey

The subjected persons are male and female of 15 years old and over, and without upper age limit. The survey was implemented not as a complete census but sample survey. (Refer to “4. Method of the Survey”)

4. Method of the Survey

Internet monitoring survey was used as the technique of survey by asking the monitors for the survey after extracting male and female of 15 years old and over. The survey applied the system to receive answers on internet screens.

When monitors are surveyed, discrepancy would be seen in age and occupation construction between monitors and the population subject to survey. In order to conduct the survey with representativeness reflecting the population as much as possible, necessary sample numbers were calculated by gender, stratified age group, type of employment, district block and education background, then collected answers aiming these numbers (allocation).

On this stage, if the samples are allocated according to the population construction, total volume of unworking groups of 10s and 65 years old and over increases and results decrease of sample numbers of working people groups on the target for the desired close analysis. Therefore, the survey was designed to obtain larger number of working people samples by allocating less figures to non-labour force of 10s, and 65 years old and over.

(Refer to Reference (1) “Production method of population value data and allocation by gender, stratified age group, type of employment, district block and education background”)

In survey 2018, at first we asked all the people who could be requested out of the answerers of survey 2016 or 2017 (continued samples and revived samples), to answer the survey. 58,499 persons could be requested for the survey as they remained in the monitor. 40,308 persons answered out of the above number. In the next stage, new answerers were extracted from the monitor and asked for the survey, imagining deficient cells to be filled up for the allocation. Out of the requested 16,574 persons, answers were obtained from 10,369 persons. In survey 2018, total number of effective samples was 50,677.

(Refer to “Reference (2) Allocation and collection count”)

5. Aggregation Method

Weighted sampling aggregation is necessary to implement aggregation according to the population construction so that the number of the samples can get near to the population value calculated in the stage of sample design in “4. Method of the Survey”, since less figures than actual count of persons were allocated to 10s of non-labour force, and 65 years old and over.

(Refer to “Reference (3) Calculation method of weighted values”)

It is verified that big bias can be eliminated from the survey results even compared with official statistics by allocation with smaller segmentation under consideration of the representativeness in the stage of sample design, then making correction by weighted aggregation.

(Refer to “Reference (4) Comparison of the survey results and official statistics”)

Reference (1) Production method of population value data and allocation by gender, stratified age group, type of employment, district block and education background

<Data production procedures>

- I. Produce population data: Produce population data using multiple official data adapting to the targeted allocation cells
- II. Correct population data for allocation: Adjust number of persons in the population
- III. Produce allocation: Make allocation adapting to the population data construction after correction

<Data production procedures in detail>

I. Produce population data:

Produce population data using multiple official data adapting to the targeted cells for allocation

I-i. Produce basic data

<Data used>

“Table II Population aged 15 years old and over by status of employment, position of employment, type of employment, marital status, and age group” from 2016 version “Labour Force Survey (Basic Tabulation) by Region” issued by Statistics Bureau, Ministry of Internal Affairs and Communications

- Extract number of persons of self-employed workers, family workers, executives of company or corporation, regular employees, non-regular employees, unemployment and non-labour force by gender age group (divided by 10s) for each area of whole Japan (divided by 11 areas), from “Table II Population aged 15 years old and over by status of employment, position of employment, type of employment, marital status, and age group” of 2016 version “Labour Force Survey (Basic Tabulation) by Region”
 - * The latest yearly data are used
- Data are produced by following cells x 11 areas

		Labour force						Non-labour force
		Self employed worker	Family worker	Executive of company or corporation	Regular employee	Non-regular employee	Unemployment	
Male	15 - 24 years old							
	25 - 34 years old							
	35 - 44 years old							
	45 - 54 years old							
	55 - 64 years old							
	65 years old and over							
Female	15 - 24 years old							
	25 - 34 years old							
	35 - 44 years old							
	45 - 54 years old							
	55 - 64 years old							
	65 years old and over							

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I-ii. Age group division change (by 5 from 10 years)

<Data used>

“Table I-2 Population aged 15 years old and over by status of employment, position of employment, type of employment (number of employees for non-agricultural/forestry industry employees), main activity status, agriculture/forestry, non-agricultural/forestry, type of household, family type of household and age group” from 2016 version “Labour Force Survey (Basic Tabulation) Whole Japan” issued by Statistics Bureau, Ministry of Internal Affairs and Communications

- The data in I-i are divided into groups of 10 years, therefore the above data are divided so that 15 ~ 24 years old becomes 15 ~ 19 years old/20 ~ 24 years old, and 65 years old and over becomes 65 ~ 69 years old/70 years old and over
(Get the rate of 15 ~ 19 years old out of 15 ~ 24 years old, then multiply the data of 15 ~ 24 years old by the rate to get number of persons. For other age segments, the same procedures are to be followed as above.)
- On this stage, utilise the data corresponding to the segments by self-employed workers, family workers, executives of company or corporation, regular employees, non-regular employees, unemployment, non-labour force that were sorted in I-i
 - * As for executives of company or corporation, the data of regular employees are used
 - * The data uniformed throughout the country are used

In this way, cells will be arranged as follows;

		Labour force						Non-labour force
		Self employed worker	Family worker	Executive of company or corporation	Regular employee	Non-regular employee	Unemployment	
Male	15 - 19 years old							
	20 - 24 years old							
	25 - 34 years old							
	35 - 44 years old							
	45 - 54 years old							
	55 - 64 years old							
	65 - 69 years old							
	70 years old and over							
Female	15 - 19 years old							
	20 - 24 years old							
	25 - 34 years old							
	35 - 44 years old							
	45 - 54 years old							
	55 - 64 years old							
	65 - 69 years old							
	70 years old and over							

I-iii. Calculation of number of persons attending school

<Data used>

“Table I-2 Population aged 15 years old and over by status of employment, age group, main activity status, agriculture/forestry, non-agricultural/forestry, whether wishing to work, marital status, type of household, relation to the head of household, and education background” from 2016 version “Labour Force Survey (Detailed Tabulation) Whole Japan” issued by Statistics Bureau, Ministry of Internal Affairs and Communications

- From the above data, ratios of “attending schools” for labour force/non-labour force by gender age (divided into groups of 10 years) are calculated. The results are multiplied by the basic data to get the count of persons “attending school” by labour force/non-labour force x gender age (divided into groups of 10 years)
 - * Since there are no data by labour force breakdown (self-employed, regular employees, etc.), the ratio is as uniformed for every type of employment
 - * Since there are no data by each region, whole Japan data are used

In the above way, attending school was extracted and arranged as in following cells;

		Labour force						Non-labour force	
		Self employed worker	Family worker	Executive of company or corporation	Regular employee	Non-regular employee	Unemployment	Attending school	Attending school
Male	15 - 19 years old								
	20 - 24 years old								
	25 - 34 years old								
	35 - 44 years old								
	45 - 54 years old								
	55 - 64 years old								
	65 - 69 years old								
	70 years old and over								
Female	15 - 19 years old								
	20 - 24 years old								
	25 - 34 years old								
	35 - 44 years old								
	45 - 54 years old								
	55 - 64 years old								
	65 - 69 years old								
	70 years old and over								

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I-iv. Divide persons other than attending school into the groups of below university graduates and university graduates or higher

<Data used>

“Table I-2 Population aged 15 years old and over by status of employment, age group, main activity status, agriculture/forestry, non-agricultural/forestry, whether wishing to work, marital status, type of household, relation to the head of household, and education” from 2016 version “Labour Force Survey (Detailed Tabulation) Whole Japan” issued by Statistics Bureau, Ministry of Internal Affairs and Communications

- Like as in I-iii, ratios of below university graduates and university graduates or higher for the persons “graduated from” by labour force /non-labour force x gender age (divided into groups of 10 years) are calculated. The results are multiplied by the basic data to get the count of persons by education background (below university graduates/university graduates or higher)
 - * Since there are no data by labour force breakdown (self-employed, regular employees, etc.), the ratio is as uniformed for every type of employment
 - * Since there are no data by each region, whole Japan data are used
- Now, the count of persons of the population adapted to the aimed allocation cells is completed. Produce 2,816 cells (cells x 11 areas = 2,816) as below;

		Hokkaido												Non-labour force			
		Labour force															
		Self employed worker		Family worker		Executive of company or corporation		Regular employee		Non-regular employee		Unemployment		Attending school			
		Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher		Below university	University or higher	Attending school
		14	6	3	1	9	3	84	41	66	20	7	3	6	162	22	24
Male	15 - 19 years old	0	0	0	0	0	0	1	0	1	0	0	0	1	1	0	9
	20 - 24 years old	0	0	0	0	0	0	3	1	2	1	0	0	2	0	0	3
	25 - 34 years old	1	0	0	0	0	0	9	8	2	2	1	0	0	1	0	0
	35 - 44 years old	2	1	0	0	1	0	15	9	2	1	1	0	0	2	0	0
	45 - 54 years old	2	1	0	0	1	1	14	8	2	1	1	0	0	2	0	0
	55 - 64 years old	3	1	0	0	2	1	9	6	4	3	1	0	0	4	1	0
	65 - 69 years old	1	0	0	0	2	0	2	0	4	1	1	0	0	8	2	0
70 years old and over	2	1	0	0	1	0	1	0	2	1	0	0	0	31	7	0	
Female	15 - 19 years old	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	8
	20 - 24 years old	0	0	0	0	0	0	3	1	2	1	0	0	2	0	0	3
	25 - 34 years old	0	0	0	0	0	0	6	3	6	3	1	0	0	5	2	0
	35 - 44 years old	1	0	1	0	0	0	8	2	10	3	1	0	0	8	2	0
	45 - 54 years old	1	0	1	0	1	0	9	1	12	2	1	0	0	8	1	0
	55 - 64 years old	1	0	1	0	1	0	4	1	11	2	1	0	0	14	2	0
	65 - 69 years old	1	0	0	0	1	0	1	0	4	0	0	0	0	17	1	0
70 years old and over	1	0	1	0	0	0	1	0	2	0	0	0	0	62	2	0	

II. Correct population data for allocation: Adjust number of persons in the population

II-i. Reduce the actual count of persons 65 years old and over by half

- Reduce actual data of number of persons for each cell of 65 ~ 69 years old and 70 years old and over by half

II-ii. For generation of 10s and 65 years old and over, make the non-labour force a half of the labour force

- As for age groups 15 ~ 19 years old, 65 ~ 69 years old and 70 years old and over, make the total of non-labour force count a half of the labour force
- The construction of education background (below university graduates/university graduates or higher/attending school) within the non-labour force is to be kept same as of the original population construction.

II-iii. After adjustment, construction ratio of the population is calculated

- Calculate overall construction ratio of each cell for the population data in II-ii

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Males														Females																
Labour force														Labour force																
Part-time worker				Family worker				Executive of company or business proprietor				Regular employee				Non-regular employee				Unemployment				Non-labour force						
Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Below university	University or higher	Below university	University or higher	Attending school	Below university	University or higher	Attending school			
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105	0	0	75	0	0	0	0	0	0	0	0	0			
15-19 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20-24 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
25-34 years old	3	2	0	0	0	0	0	0	0	0	0	0	0	0	6	5	3	2	3	2	101	104	53	19	9	7	2			
35-44 years old	7	4	0	0	0	0	0	0	0	0	0	0	0	0	20	12	3	2	13	8	192	122	20	12	7	4	0			
45-54 years old	7	4	0	0	0	0	0	0	0	0	0	0	0	0	47	16	3	2	17	10	400	162	17	10	7	4	0			
55-64 years old	13	8	0	0	0	0	0	0	0	0	0	0	0	0	40	23	0	0	24	14	118	68	30	29	10	6	0			
65-69 years old	6	2	1	0	0	0	0	0	0	0	0	0	0	0	16	5	1	0	10	2	59	43	2	6	2	6	0			
70 years old and over	8	2	1	0	0	0	0	0	0	0	0	0	0	0	25	4	1	0	1	1	3	8	1	8	0	21	5	0		
15-19 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
20-24 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
25-34 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	8	0	0	0	91	52	67	38	7	4	2	58	20	2
35-44 years old	0	0	4	1	0	0	0	0	0	0	0	0	0	0	8	2	0	0	4	1	146	75	114	58	8	4	0	83	24	6
45-54 years old	5	1	5	1	5	1	5	1	5	1	5	1	5	1	9	2	14	2	9	2	148	20	145	23	8	1	0	73	12	0
55-64 years old	8	1	9	1	5	1	5	1	5	1	5	1	5	1	14	2	19	3	14	2	75	10	133	18	9	1	0	109	22	0
65-69 years old	2	0	2	0	1	0	1	0	1	0	1	0	1	0	3	0	7	0	4	0	6	28	1	0	0	0	0	21	0	0
70 years old and over	3	0	3	0	1	0	1	0	1	0	1	0	1	0	0	3	0	0	0	0	1	0	0	0	0	0	0	11	0	0

Males																														
Labour force																														
Part-time worker				Family worker				Executive of company or business proprietor				Regular employee				Non-regular employee				Unemployment				Non-labour force						
Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Below university	University or higher	Below university	University or higher	Attending school	Below university	University or higher	Attending school			
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64	0	0	11	0	0	0	0	0	0	0	0	0			
15-19 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20-24 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
25-34 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35-44 years old	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45-54 years old	2	2	0	0	0	0	0	0	0	0	0	0	0	0	17	10	2	0	0	0	0	0	0	0	0	0	0	0	0	0
55-64 years old	7	4	0	0	0	0	0	0	0	0	0	0	0	0	7	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65-69 years old	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 years old and over	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15-19 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25-34 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35-44 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45-54 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55-64 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65-69 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 years old and over	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Reference (2) Allocation and collection count

The number of persons from whom actual effective answers were obtained is as below after the implementation of survey with the target of the allocation produced in Reference (1).

Allocation																	
All over the country																	
Labour force																	
Self employed worker		Family worker		Executive of company or corporation		Regular employee		Non-regular employee		Unemployment		Non-labour force					
Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Attending school	Below university	University or higher	Attending school		
Male																	
15 - 19 years old	0	0	0	0	0	0	0	68	0	123	0	5	0	72	5	0	116
20 - 24 years old	6	2	0	0	0	0	367	117	240	77	43	15	304	29	5	469	
25 - 34 years old	59	46	15	10	30	22	1452	1172	272	219	83	65	26	122	42	38	
35 - 44 years old	191	118	18	12	141	87	2144	1364	228	144	82	51	0	148	28	3	
45 - 54 years old	236	142	15	10	197	118	1975	1190	194	116	72	44	0	151	36	0	
55 - 64 years old	302	177	0	0	239	141	1117	649	509	295	79	48	0	400	160	0	
65 - 69 years old	136	44	7	0	102	33	86	27	223	71	21	3	0	309	73	0	
70 years old and over	171	53	7	0	44	14	38	13	108	33	9	1	0	196	41	0	
Female																	
15 - 19 years old	0	0	0	0	0	0	35	0	147	0	8	0	73	5	0	115	
20 - 24 years old	0	0	0	0	0	0	331	107	262	85	22	9	314	36	2	411	
25 - 34 years old	32	20	12	8	10	6	962	547	622	354	66	39	17	589	203	23	
35 - 44 years old	81	23	56	15	40	11	1110	315	1301	368	77	21	0	938	270	0	
45 - 54 years old	115	21	93	17	89	17	1066	184	1549	268	77	14	0	854	141	0	
55 - 64 years old	126	18	137	21	112	16	606	84	1224	171	53	9	0	1438	202	0	
65 - 69 years old	49	2	53	1	37	1	5	2	244	14	4	0	0	229	0	0	
70 years old and over	70	3	83	6	27	0	37	1	106	5	2	0	0	160	0	0	
Collection count (final effective samples)																	
All over the country																	
Labour force																	
Self employed worker		Family worker		Executive of company or corporation		Regular employee		Non-regular employee		Unemployment		Non-labour force					
Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Attending school	Below university	University or higher	Attending school		
Male																	
15 - 19 years old	3	0	0	0	3	0	24	0	20	1	0	0	89	25	3	156	
20 - 24 years old	15	5	5	2	19	4	318	161	172	76	17	6	439	50	27	358	
25 - 34 years old	87	77	22	14	56	23	1882	1558	372	287	58	67	65	181	85	48	
35 - 44 years old	222	139	37	28	147	97	2323	1476	301	168	79	54	43	206	56	10	
45 - 54 years old	280	158	26	11	217	137	2118	1269	260	159	75	47	43	192	73	5	
55 - 64 years old	349	257	11	5	247	159	1236	772	593	403	68	42	31	493	208	9	
65 - 69 years old	146	96	8	2	107	54	105	43	293	183	14	10	8	453	240	5	
70 years old and over	198	150	10	2	57	80	45	34	200	149	5	3	16	358	256	9	
Female																	
15 - 19 years old	5	0	2	0	5	0	28	0	61	0	3	0	117	24	1	162	
20 - 24 years old	41	7	11	2	29	5	451	160	374	109	25	6	594	117	27	458	
25 - 34 years old	102	46	34	10	49	18	1318	779	899	496	78	50	4	827	288	30	
35 - 44 years old	132	47	76	25	39	9	1256	372	1462	420	79	25	28	1053	324	13	
45 - 54 years old	150	46	107	20	88	17	1179	224	1724	311	83	10	35	933	165	9	
55 - 64 years old	181	73	159	29	111	29	673	128	1358	260	55	14	25	1644	285	15	
65 - 69 years old	64	13	44	4	31	3	61	8	277	31	6	0	4	468	74	2	
70 years old and over	68	15	32	1	17	2	19	2	123	19	1	0	4	274	36	3	
Excess/deficiency count																	
All over the country																	
Labour force																	
Self employed worker		Family worker		Executive of company or corporation		Regular employee		Non-regular employee		Unemployment		Non-labour force					
Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Below university	University or higher	Attending school	Below university	University or higher	Attending school		
Male																	
15 - 19 years old	3	0	0	0	3	0	(44)	0	(103)	1	(5)	0	17	20	3	40	
20 - 24 years old	9	3	5	2	19	4	(49)	44	(68)	(1)	(26)	(9)	135	21	22	(111)	
25 - 34 years old	28	31	7	4	26	1	430	386	100	68	(25)	2	39	59	43	10	
35 - 44 years old	31	21	19	16	6	10	179	112	73	24	(3)	2	43	58	28	7	
45 - 54 years old	44	16	11	1	20	19	143	79	66	43	3	3	43	41	37	5	
55 - 64 years old	47	80	11	5	8	18	119	123	84	108	(11)	(6)	31	93	48	9	
65 - 69 years old	10	52	1	2	5	21	19	16	70	112	(7)	7	8	144	167	5	
70 years old and over	27	97	3	2	13	66	7	21	92	116	(4)	2	16	162	215	9	
Female																	
15 - 19 years old	5	0	2	0	5	0	(7)	0	(89)	0	(5)	0	44	19	1	47	
20 - 24 years old	41	7	11	2	29	5	120	53	112	24	3	(3)	280	81	25	47	
25 - 34 years old	70	26	22	2	39	12	356	232	277	142	12	11	27	238	85	7	
35 - 44 years old	51	24	20	10	(1)	(2)	146	57	161	52	2	4	28	115	54	13	
45 - 54 years old	35	25	14	3	(1)	0	113	40	175	43	6	(4)	35	79	24	9	
55 - 64 years old	55	55	22	8	(1)	13	67	44	134	89	2	5	25	206	83	15	
65 - 69 years old	15	11	(9)	3	(6)	2	8	6	33	17	2	0	4	239	74	2	
70 years old and over	(2)	12	(51)	(5)	(10)	2	(18)	1	17	14	(1)	0	4	114	36	3	

* Above data show total of whole Japan. In detail, total throughout the country by 11 areas. Figures in the brackets represent number in deficiency

* 21 samples are excluded from the above collection count for this year survey due to their overseas emigration

Reference (3) Calculation method of weighted values

<Calculation procedures>

- I. Calculate number of persons for each cell in case collection can be made up according to the population construction
- II. Calculation of weighted values

<Calculation procedures in detail>

- I. Calculate number of persons for each cell in case collection can be made up according to the population construction
 - I-i.
 - Calculate overall construction ratio of each cell using the data of population person count produced in Reference (1)-I
 - I-ii.
 - Calculate number of persons for each cell in case of collection of 50,656 can be made up according to the population, multiplying 50,656 excluded 21 samples of overseas emigrants out of the effective answer count of the survey by overall construction ratio of the population

II. Calculation of weighted values

- Calculate the coefficient (weighted value) to make the actual collection count for each cell as the same number of persons calculated in I-ii
- Calculation was done in following 2 patterns; As for unemployment and non-labour force, the weighted value calculated with Pattern A is to be used, and for the rest of persons, the weighted value calculated with Pattern B is to be used

Pattern A: Number of all cells of the population produced in Reference (1)-I (2,816 cells)

Pattern B: 96 cells only by gender, stratified age group, status of employment, education background

Japanese Panel Study of Employment Dynamics 2018

Pattern A * Hokkaido only as an example

Collection count (final samples)														Ideal count of persons in case collection can be made according to the population construction													
Labour force														Non-labour force													
Self-employed worker				Family worker				Government employee				Regular employee				Non-regular employee				Unemployment				Non-labour force			
Below university	University or higher	Attending school	Other	Below university	University or higher	Attending school	Other	Below university	University or higher	Attending school	Other	Below university	University or higher	Attending school	Other	Below university	University or higher	Attending school	Other	Below university	University or higher	Attending school	Other				
Male	15-19 years old	85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	20-24 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	25-34 years old	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	35-44 years old	11	7	3	1	3	1	95	55	11	9	2	0	0	0	0	0	0	0	0	0	0	0	0			
	45-54 years old	17	9	1	0	12	6	80	46	11	15	2	2	2	2	10	0	0	0	0	0	0	0	0			
	55-64 years old	12	12	0	0	10	0	97	62	20	15	0	0	0	0	23	0	0	0	0	0	0	0	0			
	65-69 years old	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	70 years old and over	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Female	15-19 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	20-24 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	25-34 years old	4	1	1	0	2	0	42	24	47	24	4	0	4	40	14	0	0	0	0	0	0	0	0			
	35-44 years old	4	1	0	1	3	0	50	13	61	19	4	3	0	43	14	0	0	0	0	0	0	0	0			
	45-54 years old	6	1	0	0	6	0	53	15	77	12	6	1	0	44	8	0	0	0	0	0	0	0	0			
	55-64 years old	8	2	8	1	6	0	29	18	60	9	4	0	2	95	10	0	0	0	0	0	0	0	0			
	65-69 years old	1	1	1	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0			
	70 years old and over	1	1	1	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0			

Calculate the coefficient to make the left table figures as the same ones in right table
= weighted value Pattern A

As for unemployment and non-labour force in blue frames, the weighted value calculated in this way is to be used

* For attending school cells of labour force, Pattern A is to be used only for the persons of unemployment

Pattern B

		All over the country					
		Labour force			Non-labour force		
		Below university	University or higher	Attending school	Below university	University or higher	Attending school
		26020	12313	1585	7298	2148	1292
Male	15-19 years old	50	1	89	25	3	156
	20-24 years old	546	254	439	50	27	358
	25-34 years old	2477	2026	65	181	85	48
	35-44 years old	3109	1962	43	206	56	10
	45-54 years old	2976	1781	43	192	73	5
	55-64 years old	2504	1638	31	493	208	9
	65-69 years old	673	388	8	453	240	5
	70 years old and over	515	418	16	358	256	9
Female	15-19 years old	104	0	117	24	1	162
	20-24 years old	931	289	594	117	27	458
	25-34 years old	2480	1399	44	827	288	30
	35-44 years old	3044	898	28	1053	324	13
	45-54 years old	3331	628	35	933	165	9
	55-64 years old	2537	533	25	1644	285	15
	65-69 years old	483	59	4	468	74	2
	70 years old and over	260	39	4	274	36	3

		All over the country					
		Labour force			Non-labour force		
		Below university	University or higher	Attending school	Below university	University or higher	Attending school
		21056	8569	695	15363	2071	2902
Male	15-19 years old	175	0	61	84	0	1075
	20-24 years old	566	181	263	27	5	405
	25-34 years old	1649	1332	23	106	37	32
	35-44 years old	2421	1541	0	128	24	5
	45-54 years old	2325	1402	0	129	32	0
	55-64 years old	1945	1129	0	346	137	0
	65-69 years old	989	312	0	826	190	0
	70 years old and over	652	205	0	2981	687	0
Female	15-19 years old	163	0	62	99	0	1011
	20-24 years old	535	173	271	31	4	355
	25-34 years old	1478	841	14	510	175	19
	35-44 years old	2312	655	0	811	233	0
	45-54 years old	2575	447	0	739	122	0
	55-64 years old	1951	271	0	1243	174	0
	65-69 years old	766	46	0	1543	53	0
	70 years old and over	554	33	0	5759	199	0



Calculate the coefficient to make the left table figures as the same ones in right table
= weighted value Pattern B

As for the labour force (excluding unemployment) in blue frames, the weighted value calculated in this way is to be used

Reference (4) Comparison of the survey results and official statistics

Comparison between aggregated results in the survey (after weighted aggregation) and construction ratio in official statistics shows as below; The results of this survey appear not strongly biased, even compared with official statistics.

<Construction ratio by gender, stratified age group and type of employment>

Japanese Panel Study of Employment Dynamics 2018

The population produced in Reference (1)-I

		All over the country (%)									
		Labour force						Non-labour force			
		Self-employed worker	Family worker	Executive of company or corporation	Regular employee	Non-regular employee	Unemployment	Attending school		Attending school	
		n (persons)	previously graduated	previously graduated	previously graduated	previously graduated	previously graduated	previously graduated	previously graduated	previously graduated	previously graduated
Male		5071	5.3	1.3	3.0	29.3	18.1	1.7	1.4	34.3	5.7
15-19 years old	1301	0.0	0.0	0.0	0.2	0.1	0.0	0.1	0.2	2.1	2.1
20-24 years old	1466	0.0	0.0	0.0	0.9	0.5	0.1	0.5	0.1	0.8	0.8
25-34 years old	3219	0.2	0.0	0.1	4.5	0.9	0.2	0.0	0.3	0.1	0.1
35-44 years old	4127	0.6	0.3	0.4	5.9	0.7	0.2	0.0	0.3	0.0	0.0
45-54 years old	3883	0.7	0.1	0.5	3.2	0.6	0.2	0.0	0.3	0.0	0.0
55-64 years old	3583	0.9	0.0	0.6	2.9	1.5	0.2	0.0	1.0	0.0	0.0
65-69 years old	2324	0.6	0.0	0.4	0.4	1.1	0.1	0.0	2.0	0.0	0.0
70 years old and over	4520	0.6	0.0	0.2	0.1	0.6	0.0	0.0	7.2	0.0	0.0
Female		1311	0.0	0.0	0.0	0.1	0.2	0.0	0.1	0.2	2.0
15-19 years old	1377	0.1	0.0	0.0	0.7	0.6	0.1	0.5	0.1	0.7	0.7
20-24 years old	3050	0.2	0.1	0.1	2.5	1.6	0.2	0.0	1.4	0.0	0.0
25-34 years old	4020	0.3	0.1	0.1	2.4	2.8	0.2	0.0	2.1	0.0	0.0
35-44 years old	3883	0.3	0.2	0.2	2.1	3.1	0.1	0.0	1.7	0.0	0.0
45-54 years old	3639	0.3	0.3	0.2	1.1	2.3	0.1	0.0	2.8	0.0	0.0
55-64 years old	2403	0.2	0.1	0.1	0.2	0.9	0.0	0.0	3.1	0.0	0.0
65-69 years old	6504	0.3	0.1	0.1	0.1	0.5	0.0	0.0	11.7	0.0	0.0

		All over the country (%)									
		Labour force						Non-labour force			
		Self-employed worker	Family worker	Executive of company or corporation	Regular employee	Non-regular employee	Unemployment	Attending school		Attending school	
		n (x 10,000 persons)	previously graduated	previously graduated	previously graduated	previously graduated	previously graduated	previously graduated	previously graduated	previously graduated	previously graduated
Male		11010	4.7	1.3	3.1	29.9	17.7	1.8	1.4	34.1	5.7
15-19 years old	303	0.0	0.0	0.0	0.1	0.2	0.0	0.1	0.2	2.1	2.1
20-24 years old	315	0.0	0.0	0.0	0.8	0.5	0.1	0.5	0.1	0.8	0.8
25-34 years old	691	0.2	0.0	0.1	4.5	0.8	0.3	0.0	0.3	0.1	0.1
35-44 years old	895	0.5	0.1	0.4	6.0	0.6	0.2	0.0	0.3	0.0	0.0
45-54 years old	845	0.6	0.0	0.5	3.4	0.5	0.2	0.0	0.3	0.0	0.0
55-64 years old	773	0.8	0.0	0.6	3.0	1.4	0.2	0.0	1.0	0.0	0.0
65-69 years old	504	0.6	0.0	0.5	0.4	1.0	0.1	0.0	2.0	0.0	0.0
70 years old and over	983	0.8	0.0	0.2	0.2	0.5	0.0	0.0	7.2	0.0	0.0
Female		290	0.0	0.0	0.0	0.1	0.3	0.0	0.1	0.2	2.0
15-19 years old	298	0.0	0.0	0.0	0.7	0.6	0.1	0.5	0.1	0.7	0.7
20-24 years old	690	0.1	0.0	0.0	2.6	1.7	0.2	0.0	1.4	0.0	0.0
25-34 years old	872	0.2	0.1	0.1	2.4	2.9	0.2	0.0	2.1	0.0	0.0
35-44 years old	844	0.2	0.2	0.2	2.1	3.1	0.1	0.0	1.7	0.0	0.0
45-54 years old	791	0.2	0.3	0.2	1.2	2.4	0.1	0.0	2.8	0.0	0.0
55-64 years old	524	0.2	0.2	0.1	0.2	0.9	0.0	0.0	3.2	0.0	0.0
65-69 years old	1423	0.3	0.3	0.1	0.1	0.4	0.0	0.0	11.8	0.0	0.0

* % values in the table represent percentage of total

* Since the weighted aggregation is implemented, total (n) of Japanese Panel Study of Employment Dynamics 2018 is not identical with the actual collection count

<Construction ratio of regular and non-regular by gender and stratified age group, for employees>

Japanese Panel Study of Employment Dynamics 2018

		(%)		
		n (persons)	Regular employee	Non-regular employee
Male	15-24 years old	1117	47.6	52.4
	25-34 years old	2733	83.7	16.3
	35-44 years old	3334	89.0	11.0
	45-54 years old	2982	89.0	11.0
	55-64 years old	2230	66.9	33.1
	65 years old and over	1166	22.5	77.5
Female	15-24 years old	1078	37.3	62.7
	25-34 years old	2099	60.0	40.0
	35-44 years old	2643	46.4	53.6
	45-54 years old	2626	40.8	59.2
	55-64 years old	1759	33.1	66.9
	65 years old and over	887	16.4	83.6

Statistics Bureau, Ministry of Internal Affairs and Communications "Labour Force Survey (Basic Tabulation)" December, 2017

		(%)		
		n (x 10,000 persons)	Regular employee	Non-regular employee
Male	15-24 years old	262	52.3	47.7
	25-34 years old	576	84.7	15.3
	35-44 years old	711	90.7	9.3
	45-54 years old	690	91.0	9.0
	55-64 years old	499	70.5	29.5
	65 years old and over	251	29.1	70.9
Female	15-24 years old	247	45.7	54.3
	25-34 years old	477	61.0	39.0
	35-44 years old	585	47.9	52.1
	45-54 years old	615	41.5	58.5
	55-64 years old	413	32.2	67.8
	65 years old and over	195	23.1	76.9

<Unemployment rate by region>

Japanese Panel Study of Employment Dynamics 2018

Hokkaido	Tohoku	Minami kanto	Kitakanto/koshin	Hokuriku	Tokai	Kinki	Chugoku/Shikoku	Kyusyu/Okinawa
3.3	3.2	3.1	2.5	2.6	2.2	3.5	2.4	2.7

Statistics Bureau, Ministry of Internal Affairs and Communications "Labour Force Survey (Basic Tabulation)" October ~ December 2017 (Seasonally adjusted values)

Hokkaido	Tohoku	Minami kanto	Kitakanto/koshin	Hokuriku	Tokai	Kinki	Chugoku/Shikoku	Kyusyu/Okinawa
2.9	2.6	2.8	2.5	2.3	2.2	2.9	2.9	3.1