

## 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 2021: 112 questions

### 2. Period of the Survey

Survey period	Survey period is fixed as every January January 7 ~ January 29, 2021
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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 70 years old and over, the allocation was adjusted less than actual count of persons.
Effective collection count/effective collection rate	<p>Survey 2021: 56,064 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 before 2019 who didn't answer Survey 2020).</p> <ul style="list-style-type: none"> <li>· Continued samples (continuous answerers since last year): 45,192 persons Persons requested: 55,232 Effective collection rate: 81.8%</li> <li>· Additional samples (new answerers, this year): 5,809 persons Persons requested: 12,665 Effective collection rate: 45.9%</li> <li>· Revived samples (no answer in survey 2020, but answered in 2019): 5,063 persons Persons requested: 23,442 Effective collection rate: 21.6%</li> </ul> <p>* 11 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 and 65 - 69 years old of non-labour force, and 70 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 2021 for the purpose of grasping status of employment, living dynamics, etc. during the previous one year prior to the survey (in case of survey 2021, one year period of 2020).

Attribute		Status of the Previous One Year	
Q1	Gender	Q56	Level of happiness
Q2	Age	Q57	Life satisfaction
Q3	Birth month and year	Q58	Annual events and living
Q4	Present residential place	Q59	Annual occupational events
Q5	Final educational background	Q60	Self-development activities
Q6	Graduated faculty	Q61	Holiday acquisition condition
Q7	Present school year	Q62	Rate of taking paid leaves
Q7-1	Faculty to plan to graduate from	Q63	Stress
Q8	Dropout experience	Q64	Income source of living expenses
Q9	Marital status	Q65	How to cover the living expenses
Q10	With or without a child/children	Q66	Job upskilling
Q11	Number of children	Q67	On-the-Job Training opportunity
Q12	Age of the eldest child	Q68	Off-the-Job Training opportunity
Q12	Age of the youngest child	Q69	With or without self-development
Q13	Type of residence	Q70	Work place status
Q14	Cohabiter	Q71	Nature of work
Q15	Principal household income earner	Q72	Job satisfaction
Q16-1	Labour force status of January 2019~April 2019	Q73	Stress of taking balance of work and family life
Q16-2	Labour force status of May 2019~August 2019	<b>Status of Second Job</b>	
Q16-3	Labour force status of September 2019~November 2019	Q74	With or without taking second job
Q17	Labour force status of December 2019	Q75	Desire to take second job
<b>Status as in Last December</b>		Q76	Reasons of desire to take second job
Q18	Type of working	Q77	Reasons of taking second job
Q19	Type of employment	Q78-1	Type of working of the highest income second job
Q20	With or without store	Q78-2	Content of work of the highest income second job
Q21	Reasons of being engaged in work as in December	Q78-3	Specific work content of second job
Q22	Reasons of absence from work	Q78-4	With or without store of second job
Q23	Could be engaged in work upon availability?	Q78-5	Number of the second jobs
Q24	Desire to work	Q79	Working hours per week of the second jobs
Q25	Degree of desire to work	<b>Status of Initial Employment</b>	
Q26	With or without job seeking	Q80	Type of working of initial employment
Q27	Reasons of seeking no job	Q81	Industry of initial employment
Q28	Reasons of unemployment	Q82	Number of employees of initial employment
Q29	The reason of no desire to work	Q83	Occupation of initial employment
Q30	Industry	<b>Status of Previous Employment</b>	
Q31	Number of employees	Q84	Type of working of previous employment
Q32	Occupation	Q85	Industry of previous employment
Q33	Position title	Q86	Number of employees of previous employment
Q34	With or without employment contract term	Q87	Occupation of previous employment
Q35	Employment contract term	Q88	Number of working days/hours in previous employment
Q36	Status of employment (unemployment) insurance coverage	Q89	Annual income of previous employment
Q37	Working days and hours per week	Q90	Channels to find current place of work
Q38	Overtime work system	Q91	Order of timing between the last resignation and adoption of current employment
Q39	Existence/actual condition of overtime work	Q92	Reasons of the resignation
Q40	Presence of request to increase/decrease the work hours	<b>Status around the Delivery of the Youngest Child</b>	
Q41	Degree of increase/decrease in work hours	Q93・Q95 Working status before and after the birth of your youngest child / child of currently one year old	
Q42	Possibility to increase work hours and content of work	Q94・Q96 Social system used at the birth of your youngest child / child of currently one year old	
Q43	Reason of not possible to increase work hours even when wanting to increase them	<b>Others</b>	
Q44	Salary payment method	Q97	Residential place
Q45	Hourly rate	Q98	Academic achievement at the last junior high school year
Q46	Work flexibility	Q99	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
Q47	Working place	Q100	Annual income of the previous year (main job, second job, non-occupational)
Q48	Job style	Q101	With whom can you consult?
Q49	Job percentage	Q102	Type of working of the spouse
Q50	Commuting methods	Q103	Event in work (resignation or employment of spouse)
Q51-1	Time for living (Commutation)	Q104	Annual income of the spouse
Q51-2	Time for living (Housework, childcare)	Q105	With or without doing nursing care
Q52	Time for telework	Q106	Desire for changing or hunting job
Q53	Status of telework system introduction and adoption	Q107	Approach taken related to future career plan in the past one year
Q54	Subject person to telework system	Q108	Desired future plan after graduation
Q55	Number of resignation times in the past	Q109	Decision of occupation after graduation
		Q110	Job-hunting experience
		Q111	Change in the form of work due to the effects of COVID-19 (survey subject)
		Q112	Change in the form of work due to the effects of COVID-19 (spouse)

## 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 2021 was actually implemented from January 7 to January 29, 2021.

## 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 - 69 years old, and 70 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 - 69 years old, and 70 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 2021, at first we asked all the people who could be requested out of the answerers of survey before 2020 (continued samples and revived samples), to answer the survey. 78,674 persons could be requested for the survey as they remained in the monitor. 50,255 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 12,665 persons, answers were obtained from 5,809 persons. In survey 2021, total number of effective samples was 56,064.

(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 and 65 - 69 years old of non-labour force, and 70 years old and over.

(Refer to “Reference (3) Calculation method of weighted values” and “Reference (5) 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 **October to December 2020** 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 **October to December 2020** 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	
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 October to December 2020 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 - 74 years old/75 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 - 74 years old									
75 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 - 74 years old									
75 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 October to December 2020 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 - 74 years old									
75 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 - 74 years old									
75 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 October to December 2020 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 3,168 cells (cells x 11 areas = 3,168) 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	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				
		14	6	5	2	11	5	83	47	62	22	6	3	8	148	24	24
Male	15 - 19 years old	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	9
	20 - 24 years old	0	0	0	0	0	0	3	1	1	0	0	0	3	0	0	3
	25 - 34 years old	1	0	1	0	0	0	8	7	2	2	1	1	0	1	0	0
	35 - 44 years old	1	1	0	0	1	0	12	10	2	1	1	0	0	2	0	0
	45 - 54 years old	2	2	0	0	2	1	13	9	2	1	1	0	0	2	0	0
	55 - 64 years old	2	1	0	0	2	1	10	7	4	3	1	0	0	2	1	0
	65 - 69 years old	1	0	0	0	2	1	2	1	3	1	1	0	0	5	2	0
	70 - 74 years old	1	1	0	0	1	0	1	0	2	1	0	0	0	9	3	0
75 years old and over	1	0	0	0	0	0	0	0	1	0	0	0	0	22	7	0	
Female	15 - 19 years old	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	8
	20 - 24 years old	0	0	0	0	0	0	2	1	2	1	0	0	3	0	0	3
	25 - 34 years old	0	0	1	0	0	0	6	4	4	3	1	0	0	3	1	0
	35 - 44 years old	1	0	1	0	1	0	8	3	8	3	0	0	0	5	2	0
	45 - 54 years old	1	0	0	0	1	0	10	2	13	3	1	0	0	6	1	0
	55 - 64 years old	1	0	1	0	1	0	5	1	10	2	1	0	0	11	2	0
	65 - 69 years old	1	0	1	0	1	0	1	0	4	0	0	0	0	12	1	0
	70 - 74 years old	1	0	1	0	1	0	1	0	2	0	0	0	0	17	1	0
75 years old and over	1	0	1	0	0	0	0	0	1	0	0	0	0	50	3	0	

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

II-i. Reduce the actual count of persons 70 years old and over by half

- Reduce actual data of number of persons for each cell of 70 - 74 years old and 75 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, 70 - 74 years old and 75 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

## III. Produce allocation: Make allocation adapting to the population data construction after the correction

- Allocate 43,000 persons adapting to the construction ratio calculated in II-iii
- Now, allocation of 3,168 cells is completed (18 x 16 cells x 11 areas = 3,168). Actual survey was implemented aiming the number of persons to be collected for the allocation

	Hokkaido														Tohoku																
	Labour force							Non-labour force							Labour force							Non-labour force									
	Self-employed worker		Family worker		Executive of company or proprietor		Regular employee		Non-regular employee		Unemployment		Attendance school		Below university		University or higher		Attendance school		Below university		University or higher		Attendance school		Below university		University or higher		Attendance school
Male	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
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	0	0	0	0	0	0	0

  

	Kansai														Chugoku																
	Labour force							Non-labour force							Labour force							Non-labour force									
	Self-employed worker		Family worker		Executive of company or proprietor		Regular employee		Non-regular employee		Unemployment		Attendance school		Below university		University or higher		Attendance school		Below university		University or higher		Attendance school		Below university		University or higher		Attendance school
Male	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	
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	0	0	0	0	0	0	0

  

	Kansai														Shikoku																
	Labour force							Non-labour force							Labour force							Non-labour force									
	Self-employed worker		Family worker		Executive of company or proprietor		Regular employee		Non-regular employee		Unemployment		Attendance school		Below university		University or higher		Attendance school		Below university		University or higher		Attendance school		Below university		University or higher		Attendance school
Male	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	
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	0	0	0	0	0	0	0

  

	Kansai														Hokkaido																
	Labour force							Non-labour force							Labour force							Non-labour force									
	Self-employed worker		Family worker		Executive of company or proprietor		Regular employee		Non-regular employee		Unemployment		Attendance school		Below university		University or higher		Attendance school		Below university		University or higher		Attendance school		Below university		University or higher		Attendance school
Male	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	
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	0	0	0	0	0	0	0

  

	Kansai														Tohoku																
	Labour force							Non-labour force							Labour force							Non-labour force									
	Self-employed worker		Family worker		Executive of company or proprietor		Regular employee		Non-regular employee		Unemployment		Attendance school		Below university		University or higher		Attendance school		Below university		University or higher		Attendance school		Below university		University or higher		Attendance school
Male	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	
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	0	0	0	0	0	0	0

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	Shikoku													Kansai																												
	Labour force													Labour force																												
	Self-employed worker			Family worker			Executive of company or separation			Regular employee			Non-regular employee			Unemployment			Non-labour force			Self-employed worker			Family worker			Executive of company or separation			Regular employee			Non-regular employee			Unemployment			Non-labour force		
	Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school	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	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	0	0	0	0	0	0					
	25-34 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	0	0	0	0	0	0					
	35-44 years old	6	5	0	0	3	2	44	26	6	6	6	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	7	4	0	0	0	0	7	4	32	33	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					
	55-64 years old	10	6	0	0	6	4	36	23	10	6	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					
	65-69 years old	8	3	0	0	5	2	7	3	10	4	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					
	70-74 years old	5	2	0	0	1	0	2	1	3	1	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					
	75 years old and over	4	2	0	0	0	0	0	1	0	1	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					
Female	15-19 years old	0	0	0	0	0	0	0	0	1	0	3	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	7	3	5	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					
	25-34 years old	0	0	0	0	0	0	21	16	12	8	0	0	0	1	3	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	30	13	30	13	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	4	1	4	1	4	1	4	1	44	10	35	8	4	1	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	3	1	5	1	0	0	27	6	46	1	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	3	0	5	0	2	0	2	0	16	1	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					
	70-74 years old	2	0	3	0	1	0	1	0	6	5	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					
	75 years old and over	2	0	3	0	0	0	0	0	0	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					

	Tohoku																								
	Labour force																								
	Self-employed worker			Family worker			Executive of company or separation			Regular employee			Non-regular employee			Unemployment			Non-labour force						
	Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school	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	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	2	1	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	25-34 years old	0	0	0	0	0	0	13	12	3	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	35-44 years old	3	2	0	0	0	0	18	14	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	45-54 years old	3	2	0	0	0	0	20	13	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	55-64 years old	3	2	0	0	3	2	12	6	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	65-69 years old	1	0	0	0	2	1	2	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	70-74 years old	1	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	75 years old and over	1	0	0	0	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	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20-24 years old	0	0	0	0	0	0	2	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25-34 years old	0	0	0	0	0	0	15	6	11	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	35-44 years old	0	0	0	0	0	0	17	4	13	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	45-54 years old	0	0	0	0	0	0	9	2	18	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	55-64 years old	1	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	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	70-74 years old	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	75 years old and over	1	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															Non-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	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	Attending school					
1558	773	485	113	1171	572	11464	6787	7601	2680	652	346	1218	5132	1305	1117		
Male	15 - 19 years old	1	0	0	0	0	0	51	0	116	0	5	0	90	0	122	
	20 - 24 years old	2	1	0	0	0	346	117	282	88	34	14	439	24	1	416	
	25 - 34 years old	60	59	15	15	22	1282	1223	223	213	77	74	72	93	41	33	
	35 - 44 years old	146	119	9	6	116	94	1736	1419	179	143	60	47	5	125	23	0
	45 - 54 years old	243	154	15	10	216	136	2137	1367	204	129	79	49	0	181	43	0
	55 - 64 years old	266	174	0	0	219	144	1233	813	425	280	76	50	0	293	121	0
	65 - 69 years old	182	75	6	0	192	82	201	85	396	163	32	12	0	552	150	0
	70 - 74 years old	108	45	0	0	44	18	49	20	136	54	8	1	0	181	52	0
75 years old and over	98	40	6	0	19	8	22	9	52	23	1	0	0	107	30	0	
Female	15 - 19 years old	0	0	0	0	0	0	27	0	157	0	8	0	110	5	0	138
	20 - 24 years old	0	0	0	0	2	1	280	121	237	101	20	10	454	25	3	392
	25 - 34 years old	30	22	12	8	3	2	948	724	482	369	51	38	48	362	177	16
	35 - 44 years old	68	31	45	21	41	19	1089	471	1002	435	45	20	0	581	285	0
	45 - 54 years old	99	23	81	19	91	21	1231	282	1626	372	77	18	0	780	173	0
	55 - 64 years old	97	19	112	19	93	17	689	125	1358	245	61	12	0	1123	186	0
	65 - 69 years old	70	7	86	7	77	7	97	9	531	46	15	1	0	455	20	0
	70 - 74 years old	41	2	49	4	23	1	29	1	156	15	3	0	0	144	0	0
75 years old and over	47	2	49	4	13	0	17	1	59	4	0	0	0	101	0	0	

  

Collection count (final effective samples)																	
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	Below university	University or higher	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	Attending school					
2183	1209	576	129	1178	621	13119	10112	8831	3283	563	288	1840	7805	2855	1461		
Male	15 - 19 years old	2	0	3	0	0	0	9	0	11	2	4	0	156	58	6	309
	20 - 24 years old	22	11	8	2	15	8	289	313	140	80	22	14	486	86	40	349
	25 - 34 years old	96	61	37	14	44	34	1679	2469	394	293	54	60	86	171	106	40
	35 - 44 years old	230	124	53	26	111	77	2531	2482	391	222	54	35	51	208	86	10
	45 - 54 years old	274	167	33	10	209	120	2361	1472	294	134	61	35	37	236	61	5
	55 - 64 years old	299	213	10	3	214	140	1262	837	574	334	46	29	30	338	211	5
	65 - 69 years old	250	152	6	2	176	75	189	106	468	313	27	10	9	643	441	11
	70 - 74 years old	201	101	7	2	65	43	49	34	203	116	6	8	8	462	348	8
75 years old and over	98	99	6	0	16	45	16	15	85	68	1	4	6	264	205	3	
Female	15 - 19 years old	7	0	2	0	4	0	30	0	53	2	3	0	215	38	2	282
	20 - 24 years old	30	15	6	2	14	8	348	321	292	106	32	11	621	152	51	352
	25 - 34 years old	77	36	27	8	30	12	1160	1058	821	448	59	36	48	565	239	33
	35 - 44 years old	126	67	44	13	36	13	1115	558	1181	443	56	21	27	726	317	11
	45 - 54 years old	148	59	81	16	69	15	1239	298	1682	359	62	15	36	944	202	17
	55 - 64 years old	133	60	115	21	95	17	698	126	1375	258	59	9	15	1322	286	11
	65 - 69 years old	82	23	82	6	49	8	97	16	550	79	15	1	6	967	168	9
	70 - 74 years old	63	12	40	4	21	2	32	6	269	19	2	0	1	390	54	4
75 years old and over	45	9	16	0	10	4	15	1	48	7	0	0	2	235	32	2	

  

Excess/deficiency count																	
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	Below university	University or higher	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	Attending school					
625	436	91	16	7	49	1655	3325	1230	603	(89)	(58)	622	2673	1550	344		
Male	15 - 19 years old	1	0	3	0	0	0	(42)	0	(105)	2	(1)	0	66	58	6	187
	20 - 24 years old	20	10	8	2	15	8	(57)	196	(122)	(8)	(12)	0	47	62	39	(67)
	25 - 34 years old	36	2	22	(1)	22	12	397	1246	171	80	(23)	(14)	14	78	65	7
	35 - 44 years old	84	5	44	20	(5)	(17)	795	1063	212	79	(6)	(12)	46	83	63	10
	45 - 54 years old	31	13	18	0	(7)	(16)	224	105	90	5	(18)	(14)	37	55	18	5
	55 - 64 years old	33	39	10	3	(5)	(4)	29	24	149	54	(30)	(21)	30	45	90	5
	65 - 69 years old	68	77	0	2	(16)	(7)	(12)	21	72	150	(5)	(2)	9	91	291	11
	70 - 74 years old	93	56	7	2	21	25	0	14	67	62	(2)	7	8	281	296	8
75 years old and over	0	59	0	0	(3)	37	(6)	6	33	45	0	4	6	157	175	3	
Female	15 - 19 years old	7	0	2	0	4	0	3	0	(104)	2	(5)	0	105	33	2	144
	20 - 24 years old	30	15	6	2	12	7	68	200	55	5	12	1	167	127	48	(40)
	25 - 34 years old	47	14	15	0	27	10	212	334	339	79	8	(2)	0	203	62	17
	35 - 44 years old	58	36	(1)	(8)	(5)	(6)	26	87	179	8	11	1	27	145	32	11
	45 - 54 years old	49	36	0	(3)	(22)	(6)	8	16	56	(13)	(15)	(3)	36	164	29	17
	55 - 64 years old	36	41	3	2	2	0	9	1	17	13	(2)	(3)	15	199	100	11
	65 - 69 years old	12	16	(4)	(1)	(28)	1	0	7	19	33	0	0	6	512	148	9
	70 - 74 years old	22	10	(9)	0	(2)	1	3	5	113	4	(1)	0	1	246	54	4
75 years old and over	(2)	7	(33)	(4)	(3)	4	(2)	0	(11)	3	0	0	2	134	32	2	

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

\* 11 samples are excluded from the above collection count for this year survey due to their overseas emigration

## Reference (3) Calculation method of weighted values of the survey

### <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  
However, 70 - 74 /75 years old and over cells will be included in one cell with 70 years old and over.
  - I-ii.
    - Calculate number of persons for each cell in case of collection of 56,053 can be made up according to the population, multiplying 56,053 excluded 11 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
- The calculation was handled in the following 3 patterns: As for unemployment and non-labour force, the weighted value calculated with Pattern A is to be used; As for labour force of ages between 15 and 24, and 65 or over (excluding completely unemployed persons), the weighted value calculated with Pattern B is to be used; As for labour force of ages between 25 and 64, the weighted value calculated with Pattern C 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 for other age groups by gender, stratified age group, status of employment, education background.

Pattern C: 1,056 cells for 25 - 64 years old by gender, stratified age group, status of employment, education background and areas.

# Japanese Panel Study of Employment Dynamics 2021

## Pattern A \* Hokkaido only as an example

Collection count (final example)

	Hokkaido											
	Labour force			Non-labour force			Unemployment			Non-labour force		
	Below university	University or higher	Attending school	Below university	University or higher	Attending school	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	0	0	0	0
	20-24 years old	0	0	0	0	0	0	0	0	0	0	0
	25-34 years old	10	4	1	0	1	0	103	76	24	12	5
	35-44 years old	26	9	4	2	10	4	208	170	44	24	8
	45-54 years old	19	8	4	0	8	1	223	184	37	18	5
	55-64 years old	13	10	0	0	12	10	57	42	23	17	2
	65-69 years old	7	5	0	0	8	11	5	24	6	2	0
	70 years old and over	11	2	1	0	2	4	1	9	7	1	0
Female	15-19 years old	1	0	0	0	0	0	3	0	2	0	0
	20-24 years old	0	2	0	0	0	0	12	10	11	3	2
	25-34 years old	5	1	2	0	2	0	30	25	37	19	3
	35-44 years old	4	1	2	0	6	30	23	33	19	8	1
	45-54 years old	7	2	3	0	5	0	40	30	45	15	0
	55-64 years old	6	6	0	0	8	0	10	63	7	4	0
	65-69 years old	5	1	0	0	1	0	2	1	36	3	0
	70 years old and over	3	1	2	1	1	0	3	0	18	1	0

Ideal count of persons in case collection can be made according to the population construction

	Hokkaido											
	Labour force			Non-labour force			Unemployment			Non-labour force		
	Below university	University or higher	Attending school	Below university	University or higher	Attending school	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	0	0	0	0
	20-24 years old	0	0	0	0	0	0	16	5	3	11	0
	25-34 years old	2	2	3	2	0	0	38	35	10	10	5
	35-44 years old	6	3	0	0	0	2	61	50	4	1	3
	45-54 years old	12	8	0	0	0	0	46	44	9	4	3
	55-64 years old	9	6	0	0	0	0	32	34	21	14	3
	65-69 years old	4	2	1	0	0	0	4	11	5	15	3
	70 years old and over	7	3	2	1	0	2	7	3	14	0	1
Female	15-19 years old	0	0	0	0	0	0	0	1	0	4	2
	20-24 years old	0	0	0	0	0	0	11	5	8	3	0
	25-34 years old	0	3	2	0	0	0	28	22	20	15	3
	35-44 years old	4	0	4	2	0	2	39	17	39	17	0
	45-54 years old	4	1	0	0	4	1	50	11	66	19	4
	55-64 years old	4	4	1	0	4	0	38	5	42	4	0
	65-69 years old	3	0	3	0	5	0	5	0	21	7	0
	70 years old and over	1	1	0	1	2	0	5	0	17	3	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 & Pattern C \* All over the Country and Hokkaido as an example

Collection count (final effective examples)

	All over the country											
	Labour force			Non-labour force			Hokkaido Labour force			Non-labour force		
	Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school
Male	15-19 years old	26450	15642	1860	7805	2855	1461	1891	879	65	421	123
	20-24 years old	29	2	156	58	6	209	1	0	0	0	12
	25-34 years old	666	429	489	86	40	349	20	12	14	5	3
	35-44 years old	2304	2931	86	171	106	40	144	92	3	10	9
	45-54 years old	3370	2966	51	208	86	10	454	325	4	32	13
	55-64 years old	3232	1838	27	238	41	5	296	188	0	11	1
	65-69 years old	1536	1536	30	338	211	5	107	85	0	19	7
	70 years old and over	1116	658	9	643	441	11	52	17	0	29	22
Female	15-19 years old	352	535	14	728	353	11	20	13	1	39	22
	20-24 years old	99	2	215	38	2	282	6	0	0	1	0
	25-34 years old	722	483	621	152	51	352	25	17	18	6	1
	35-44 years old	2174	1258	40	565	239	33	104	52	2	23	11
	45-54 years old	2558	1115	27	728	317	11	102	44	1	35	9
	55-64 years old	3281	762	36	944	202	17	153	28	0	62	3
	65-69 years old	2425	461	15	1322	286	11	115	17	0	78	15
	70 years old and over	875	133	6	967	168	9	49	5	0	58	6

Ideal count of persons in case collection can be made according to the population construction

	All over the country											
	Labour force			Non-labour force			Hokkaido Labour force			Non-labour force		
	Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school
Male	15-19 years old	187	0	85	0	0	0	0	0	0	0	0
	20-24 years old	611	208	416	22	3	263	22	2	15	3	1
	25-34 years old	1590	1518	67	87	38	31	59	56	2	6	2
	35-44 years old	2124	1727	5	116	21	0	81	66	0	9	2
	45-54 years old	2744	1720	0	132	42	0	102	65	0	8	2
	55-64 years old	2103	1387	0	277	114	0	95	63	0	11	4
	65-69 years old	956	396	0	584	170	0	43	18	0	27	8
	70 years old and over	1020	426	0	342	103	0	44	18	0	162	47
Female	15-19 years old	181	0	105	80	0	103	0	0	0	4	3
	20-24 years old	314	220	429	25	4	373	18	0	15	1	0
	25-34 years old	1444	1105	46	344	130	16	54	41	2	13	1
	35-44 years old	2173	941	0	553	271	0	89	38	0	24	12
	45-54 years old	3042	897	0	738	162	0	128	29	0	29	6
	55-64 years old	2728	412	0	1894	137	0	95	13	0	57	9
	65-69 years old	834	72	0	1194	68	0	36	3	0	56	3
	70 years old and over	825	80	0	682	391	0	39	3	0	340	19

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

Pattern B: For labor force of 15 - 24 years old and 65 years old and over (excluding unemployment) in blue frames, the weighted value calculated in all areas of the country is used.

Pattern C: For labor force of 25 - 64 years old (excluding unemployment) in red frames, the weighted value calculated in each area is 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 2021

The population produced in Reference (1)-I

		All over the country									
		Labour force							Non-labour force		
n	previously graduated	Family worker	Executive of company or corporation	Regular employee	Non-regular employee	Unemployment	Attending school	previously graduated	Attending school	previously graduated	Attending school
Male	15-19 years old	1552	0.0	0.0	0.0	0.2	0.1	0.0	0.2	0.1	2.1
	20-24 years old	1646	0.1	0.0	0.1	0.9	0.4	0.0	0.7	0.0	0.7
	25-34 years old	3511	0.2	0.1	0.1	4.4	0.8	0.2	0.0	0.2	0.1
	35-44 years old	4420	0.4	0.1	0.2	5.8	0.7	0.2	0.0	0.3	0.0
	45-54 years old	4681	0.7	0.1	0.5	5.7	0.6	0.2	0.0	0.4	0.0
	55-64 years old	3915	0.8	0.0	0.5	3.1	1.4	0.1	0.0	0.8	0.0
	65-69 years old	2456	0.7	0.0	0.3	0.4	1.1	0.1	0.0	1.7	0.0
	70 years old and over	5473	0.8	0.0	0.3	0.3	0.9	0.0	0.0	7.5	0.0
Female	15-19 years old	1484	0.0	0.0	0.0	0.1	0.2	0.0	0.2	0.1	1.9
	20-24 years old	1573	0.1	0.0	0.0	0.7	0.5	0.0	0.7	0.0	0.8
	25-34 years old	3340	0.2	0.0	0.0	2.5	1.7	0.1	0.0	1.1	0.0
	35-44 years old	4318	0.3	0.1	0.1	2.8	2.7	0.1	0.0	1.7	0.0
	45-54 years old	4584	0.4	0.2	0.1	2.3	3.2	0.1	0.0	1.7	0.0
	55-64 years old	3980	0.3	0.2	0.2	1.2	2.5	0.1	0.0	2.4	0.0
	65-69 years old	2541	0.2	0.1	0.1	0.2	1.1	0.0	0.0	2.8	0.0
	70 years old and over	7848	0.3	0.1	0.1	0.8	0.9	0.0	0.0	12.2	0.0

		All over the country									
		Labour force							Non-labour force		
n	previously graduated	Family worker	Executive of company or corporation	Regular employee	Non-regular employee	Unemployment	Attending school	previously graduated	Attending school	previously graduated	Attending school
Male	15-19 years old	301	0.0	0.0	0.0	0.1	0.2	0.0	0.2	0.1	2.1
	20-24 years old	317	0.0	0.0	0.0	0.8	0.6	0.1	0.7	0.0	0.7
	25-34 years old	668	0.2	0.1	0.1	4.5	0.7	0.2	0.0	0.2	0.1
	35-44 years old	847	0.5	0.0	0.3	5.8	0.6	0.2	0.0	0.3	0.0
	45-54 years old	899	0.7	0.0	0.5	5.8	0.6	0.2	0.0	0.4	0.0
	55-64 years old	750	0.8	0.0	0.6	3.2	1.3	0.1	0.0	0.8	0.0
	65-69 years old	473	0.8	0.0	0.4	0.4	1.0	0.1	0.0	1.7	0.0
	70 years old and over	1061	0.9	0.0	0.3	0.2	0.7	0.0	0.0	7.5	0.0
Female	15-19 years old	289	0.0	0.0	0.0	0.1	0.3	0.0	0.2	0.2	1.9
	20-24 years old	304	0.0	0.0	0.0	0.7	0.6	0.0	0.7	0.1	0.8
	25-34 years old	640	0.1	0.0	0.0	2.7	1.6	0.2	0.0	1.1	0.0
	35-44 years old	830	0.2	0.1	0.1	2.5	2.8	0.1	0.0	1.7	0.0
	45-54 years old	884	0.3	0.2	0.2	2.4	3.2	0.1	0.0	1.7	0.0
	55-64 years old	766	0.2	0.2	0.2	1.2	2.5	0.1	0.0	2.4	0.0
	65-69 years old	481	0.2	0.2	0.1	0.2	0.9	0.0	0.0	2.8	0.0
	70 years old and over	1514	0.3	0.3	0.1	0.2	0.6	0.0	0.0	12.2	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 2021 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 2021

Statistics Bureau, Ministry of Internal Affairs and Communications "Labour Force Survey (Basic Tabulation)" December, 2020

		n (persons)	(%)	
			Regular employee	Non-regular employee
Male	15-24 years old	1263	44.9	55.1
	25-34 years old	2918	84.3	15.7
	35-44 years old	3431	89.0	11.0
	45-54 years old	3693	90.2	9.8
	55-64 years old	2649	69.8	30.2
	65 years old and over	1483	23.8	76.2
Female	15-24 years old	1277	35.9	64.1
	25-34 years old	2392	63.0	37.0
	35-44 years old	2796	50.7	49.3
	45-54 years old	3311	43.0	57.0
	55-64 years old	2238	33.6	66.4
	65 years old and over	1311	14.3	85.7

		n (x 10,000 persons)	(%)	
			Regular employee	Non-regular employee
Male	15-24 years old	275	51.3	48.7
	25-34 years old	559	85.3	14.7
	35-44 years old	649	91.2	8.8
	45-54 years old	723	91.4	8.6
	55-64 years old	508	74.8	25.2
	65 years old and over	279	29.7	70.3
Female	15-24 years old	273	45.4	54.6
	25-34 years old	474	66.7	33.3
	35-44 years old	553	51.7	48.3
	45-54 years old	650	43.2	56.8
	55-64 years old	450	33.8	66.2
	65 years old and over	234	17.5	82.5

<Unemployment rate by region>

Japanese Panel Study of Employment Dynamics 2021

Statistics Bureau, Ministry of Internal Affairs and Communications "Labour Force Survey (Basic Tabulation)" October - December 2020 (Seasonally adjusted values)

Hokkaido	Tohoku	Minami kanto	Kitakanto /koshin	Hokuriku	Tokai	Kinki	Chugoku/ Shikoku	Kyusyu/ Okinawa
3.0	3.0	3.0	2.4	1.6	2.4	2.8	1.6	2.8

Hokkaido	Tohoku	Minami kanto	Kitakanto /koshin	Hokuriku	Tokai	Kinki	Chugoku/ Shikoku	Kyusyu/ Okinawa
3.3	3.0	3.3	2.5	2.5	2.6	3.2	2.9	3.1

## Additional Survey Design of Japanese Panel Study of Employment Dynamics

### 1. Outline of the Survey

Purpose of the Survey	Clarify the work condition and work environment under the effects of COVID-19
Items surveyed	Employment condition and life condition under the effects of COVID-19
Survey volume	about 20 questions

### 2. Period of the Survey

Survey period	January 14 ~ February 5, 2021
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### 3. Coverage of the Survey

Survey districts	All over the country
Conditions of persons	Male and female ages between 20 and 59 who were employed as of December 2019
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	Extract samples applicable to target people described above among valid respondents of the JPSED2020 main survey, temporary follow-up survey conducted in June 2020, and JPSED2021 main survey
Effective collection count/effective collection rate	9,016 samples Persons requested: 9,324 Effective collection rate: 96.7%

### 5. Aggregation Method

Weighted sampling aggregation	Perform weight back aggregation to aggregate according to the composition of the population
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# Reference (5) Calculation method of the weight back value of the additional survey

## < Calculation method >

- I . Create population data
- II . Calculate the number of people of each cell when collected according to the composition of the population
- III . Calculate the weight back value

## < Details of calculation procedure >

### I . Create population data

**Create the population data using a plural number of official data matching the cell of the target allocation**

#### I - i . Create the core data

##### < Data to use >

“Table 2. Population aged 15 years old and over by labour force status, status in employment, type of employment, marital status and age” of October to December 2019 from the Statistical Bureau, Ministry of Internal Affairs and Communications “Labour Force Survey (Basic Tabulation) Regional Results”

- From the above data, extract numbers of the gender/age of each area (10-year old increment) × self-employed workers, family workers, executives, regular staff/employees, and non-regular staff/employees
- Aggregate Hokkaido, Tohoku, North Kanto/Koshin, and Hokuriku as “East Japan” and Chugoku, Shikoku, Kyushu, and Okinawa as “West Japan”.
- Create data with results and five areas of South Kanto, Tokai, Kinki, East Japan, and West Japan × Five areas

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

#### I - ii . Change the 10-year old increment to 5-year old increment and aggregate the employment condition

##### < Data to use >

“Table I-2. Population aged 15 years old and over by labour force status, status in employment, type of employment (employee in non-agricultural industries by number of persons engaged in enterprise), duration of employment contract, main activity, agri-/non-agriculture, type of household, family type of household and age” of October to December 2019 from the Statistical Bureau, Ministry of Internal Affairs and Communications “Labour Force Survey (Basic Tabulation) Whole Japan”

- Since the regional data of I-i is in a 10-year old increment, divide the data of ages 15 - 24 to 15 - 19, 20 - 24 to 55 - 64, 55 - 59 to 60 - 64 based on the above data (Obtain the percentage of ages 20 to 24 among the ages of 15 to 24, and multiply that percentage to the data of ages 15 to 24 to obtain the number of persons. Same for the ages between 55 and 59)  
\*Using the uniform national data
- Aggregate self-employed workers, family workers, and executives as “Others”
- Through this, it will be the cell described below (Do not use the data of ages 15 to 19, and 60 to 64)

		Regular employee	Non-regular employee	Others
Male	15 - 24 years old			
	25 - 34 years old			
	35 - 44 years old			
	45 - 54 years old			
	55 - 64 years old			
Female	15 - 24 years old			
	25 - 34 years old			
	35 - 44 years old			
	45 - 54 years old			
	55 - 64 years old			

# Reference (5) Calculation method of the weight back value of the additional survey

I - iii. Divide into less than university degree, university degree or higher, and in school  
 <Data to use>

“Table I-2. Population aged 15 years old and over by labour force status, age, main activity, agri-/non-agriculture, whether wishing to work, marital status, type of household, relationship to the head of household and education” of October to December 2019 from the Statistical Bureau, Ministry of Internal Affairs and Communications “Labour Force Survey (Detailed Tabulation) Whole Japan”

- From above data, calculate the percentage of “Less than university degree”, “University degree or higher”, and “In school” in gender/age (10-year old increment). Multiply the percentage to the regional data created in I-ii, and obtain the number of persons in gender/age × employment condition (regular/non-regular/others) of less than university degree, university degree or higher, and in school  
 \*The percentage is the same in all employment conditions since there is no data of each employment condition  
 \*National data is used since there is no regional data
- Through this, the data of the number of people in the population is completed (Create cells below in five areas)

		Minami Kanto								
		Regular employee			Non-regular employee			Others		
		Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school
		638	360	30	311	114	29	98	51	1
Male	20 - 24 years old	17	5	12	19	5	14	1	0	1
	25 - 34 years old	90	74	2	16	13	0	4	4	0
	35 - 44 years old	113	81	0	13	10	0	18	13	0
	45 - 54 years old	137	80	0	12	7	0	28	16	0
	55 - 59 years old	44	27	0	5	3	0	14	9	0
Female	20 - 24 years old	16	6	14	16	6	14	0	0	0
	25 - 34 years old	68	46	1	29	20	1	3	2	0
	35 - 44 years old	66	25	0	59	22	0	8	3	0
	45 - 54 years old	65	13	0	103	21	0	14	3	0
	55 - 59 years old	22	4	0	36	6	0	8	1	0

## II. Calculate the number of persons of each cell when it was collected according to the composition of the population

- II - i .  
 • Calculate the entire composition ratio of each cell using the data of the number of persons in the population created in I
- II - ii .  
 • Multiply the entire composition ratio of the population to the number of valid respondents (9,016) of the additional survey and calculate the number of persons of each cell when it was collected according to the composition of the population

# Reference (5) Calculation method of the weight back value of the additional survey

## III. Calculation of weight back value

- Calculate the coefficient (weight back value) to make the number of the actual collected amount of each cell to the number of people in each cell calculated in II-ii
- For calculating the weight back value, set with 450 cells of the gender/age (10 categories), each employment condition (3 categories), academic background (3 categories), and area (5 categories)

✂as an example South Kanto

		Minami Kanto								
		Regular			Non-regular employee			Others		
		Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school
		932	868	9	454	175	58	180	113	9
Male	20-24 years old	12	29	0	7	8	22	5	1	3
	25-34 years old	100	256	3	33	31	3	13	14	1
	35-44 years old	189	231	3	26	15	0	19	21	0
	45-54 years old	245	139	0	30	13	0	38	23	0
	55-59 years old	83	55	1	17	10	0	17	25	0
Female	20-24 years old	13	26	0	7	5	29	4	0	3
	25-34 years old	62	57	0	52	28	0	7	3	0
	35-44 years old	84	42	0	82	26	2	13	6	0
	45-54 years old	105	25	1	144	28	0	24	15	0
	55-59 years old	39	8	1	56	11	2	10	5	2

		Minami Kanto								
		Regular			Non-regular employee			Others		
		Below university	University or higher	Attending school	Below university	University or higher	Attending school	Below university	University or higher	Attending school
		1113	628	52	542	198	51	171	85	2
Male	20-24 years old	30	8	21	34	10	24	2	0	1
	25-34 years old	157	129	4	28	23	1	8	6	0
	35-44 years old	197	141	0	23	17	0	32	23	0
	45-54 years old	240	139	0	21	12	0	49	28	0
	55-59 years old	76	48	0	10	6	0	25	15	0
Female	20-24 years old	27	11	24	29	11	25	0	0	0
	25-34 years old	118	80	2	50	34	1	5	3	0
	35-44 years old	115	43	0	104	39	0	14	5	0
	45-54 years old	113	23	0	180	36	0	25	5	0
	55-59 years old	38	6	0	63	10	0	13	2	0

Calculate the coefficient to make the number in the left table to be the number in the right table = Weight back value of the additional survey