

Chapter 2

Statistical methodology

2.1 Target Population

Population reside in the private and group of employees household (worker's household).

2.2. Reference Period

Reference week refer to seven days before the interviewing date for example if the interviewing date was July 9, 2016 “ during 7 days before interviewing date ” was during July 2nd- 8th, 2016.

2.3. Definition

Formal Employment refers to employed persons who are protected or have social security from work.

1. Officer government, permanent employees of central government official, government authority and local government.
2. State employees.
3. Private school principals or teachers, according to the law schools.
4. Employees of foreign governments or international organizations.
5. Employees who are protected by labor laws.
6. Employed persons who are insure (article 33, 39 and 40) with the Social Security Office.

Informal Employment refers to employed persons who are not protected or have no social security from work like formal employment.

Employed persons are persons, 15 years of age and over who during the survey week,

1. Worked for at least one hour for wages/salary, profits, dividends or any other kind of payment, in kind; or
2. Did not work at all or worked less than one hour but
 - 2.1 receives wage/salary, profits from business enterprise or farm during the period of absence; or
 - 2.2 not receive wage/salary, profits from business enterprise or farm during the period of absence but had regular jobs or business that they would be return to work.
3. Worked for at least one hour without pay in business enterprises or on farms owned or operated by household heads or members.

Job; A job is defined as any of the following

1. Work for cash wages, salaries or for pay "in kind," or
2. Work for profit on own farm or in own or partly own business, or
3. Work without pay or profit on a farm or in a business owned or operated by the head or any member of the household.

Occupation refers to the kind of work performed by a person at his job. Most persons generally hold only one job. For a person having more than one job,

only the job at which he worked for the greater number of hours during the survey week was recorded. If the number of working hours for each job was exactly the same, the job which gave him the higher income was recorded. If the number of working hours and the income earned from each job were the same, the job for which he had preference was recorded. If the respondent could not give his preference, the job at which he had been working for the longest time was the one recorded.

The survey used the classification which was suitable to Thailand's occupation based on International Standard Classification of Occupation (ISCO-08) of the International Labor Organization (ILO).

Industry; The term "industry" as herein used refers to the nature of economic activity undertaken in the establishment in which a person worked or the nature of business in which he was engaged during the survey week. If a person had more than one job, the industry corresponding to the occupation recorded was asked.

The survey used the classification which was suitable to Thailand's industry based on Thailand Standard Industrial Classification, (TSIC) 2009 revised by National Statistical Office.

Work status refers to the status of person's occupation in the survey week. Work status was classified as follows

1. An employer is defined as a person who operates his own enterprise for profit or dividends and hires one or more employees in his enterprise.

2. An own account worker is a person who operated an enterprise on his own account or jointly with others in the form of a partnership either for profit or dividends but without engaging any employees.

3. An unpaid family worker is a person who works without pay on a farm or in a business enterprise owned or operated by the household head or any other member.

4. A government employee is defined as a person who works for pay in a government agency or government enterprise. Included in this category, therefore are civil servants, police, enterprise owned and operated by an employer.

5. A private employee is a person who works for pay a non-governmental municipal officers, and employees or government enterprises.

6. A member of a producers' cooperative is a person who hold a "self-employment" job in a cooperative producing goods and services, in which each member takes part on an equal footing with other members in determining the organization of production, sales and/or other work of the establishment, the investments and the distribution of the proceeds of the establishment amongst their members.

Since January 2001, the survey used the International Classification of Status in Employment, 1993 (ICSE-93) of the International Labor Organization (ILO) which add one more status to those used

in the previous year, that is a member of a producers' cooperative.

Hours worked mean hours actually worked during the survey week. For a person holding more than one job, his hours worked would be the sum total of hours worked on all jobs. For a person who had a regular job but was not at work during the survey week, the hours worked would be recorded zero.

Level of educational attainment

Educational levels are classified as follows:

1. None means all persons who have never attended school or had no education.

2. Less than elementary means all persons who have completed a grade lower than Pratom 6 (or formerly Pratom 7 or Matayom 3).

3. Elementary level means all persons who have completed Pratom 6 (or formerly Pratom 7 or Matayom 3) or higher but not lower secondary level.

4. Lower secondary level means all persons who have completed Matayom 3 (formerly Matayom 3 or Matayom 6) or higher but not upper secondary level.

5. Upper secondary level

5.1 Academic means all persons who completed Matayom 6 (formerly Matayom 5 or Matayom 8) in general education schools or completed higher but not higher level.

5.2 Vocational and technical means all persons who have completed a lower secondary and have then completed the three year course

required for this level in vocational and technical colleges or completed higher but not higher level.

5.3 Teacher training

means all persons who have completed the teacher training course and receiving a certificate equivalent to upper secondary level or completed higher but not higher level.

6. Higher level

6.1 Academic means all persons who completed a course receiving academic diploma, bachelor, master and doctoral degree level.

6.2 Higher technical education means all persons who completed vocational or technical education, and receiving vocational diploma and the degree of bachelor.

6.3 Teacher training means all persons who completed a course receiving educational diploma, bachelor degree level.

7. Short course vocational training means all persons who have completed a vocational course of less than twelve months duration and have received a certificate or other document certifying completion of such a course. The educational requirements for persons taking such courses vary, but the minimum requirements are completion of at least grade 4 (Pratom 4) or the equivalent.

8. Other means all persons who have completed types of education other than the aforementioned.

2.4 Sample Design

A stratified two-stage sampling was Adopted to the survey (see details in Appendix A). Bangkok Metroplolis and provinces were constituted strata. There were altogether 77 strata. Each stratum (excluding Bangkok Metropolis) was divided into two parts according to the type of local administration, namely municipal areas and non-municipal areas. The primary and secondary sampling units were enumeration areas (EAs) for municipal areas and non-municipal areas and private households persons in the collective households respectively.

At the first stage, the EAs based on the 2010 census frame was updated from othe sample surveys and selected separately and independently in each stratum by using probability proportional to seize, giving the total number of households.

The total number of sampled EAs was 5,970 from 127,460 EAs.

At the second stage, private households and persons in the collective households were our ultimate sampling units. A new listing of private households was made for every sampled EA to serve as the sampling frone. In each sampled EA, a systematic sample of rivate households were selected with the following sample size: Municipal areas : 16 sample households per EA Non-municipal areas : 12sample households per EA

Before selecting sample private households in each sampled EA, the list of private households was rearranged by

household's size which was the member of the household.

In the case of collective households, each household member from every household were selected systematically.

2.5 Data Items

Questionaie in this project includes 5 major sections :

Section 1 : Characteristics of member household

Section 2 : Education

Section 3 : Work

Section 4 : The Need of additional work

Section 5 : Income of employee

Section 6 : Informal Employment

Section 7 : Being Wound / Sick / Problem from work

2.6 Data Collection

This survey was conducted throughout country during the date of 1-12 in July, August and September 2016. The data collection was face-to-face interview with head of household or members of the household by the high experienced interviewers. In total, there were 44 interviewers in Bangkok and 830 interviewers in all other provinces.

Face-to-face data collection was historically paper-based, but in 2013, NSO has started using tablet offering the advantages of data entry during the interview and consistency

2.7 Data Processing

This survey was a sample survey. So to refer to population, a weight for each sample unit was needed. There were 3 steps:

1. Calculation design weight or base weight and inverse selection probabilities for each state of selected sampling unit were calculated.

2. Adjustment for non-response and base weights were adjusted to compensate for non-response households

3. Post-stratification calibration adjustment was the final step. The base weight adjusted by non-response data was further adjusted by using projected population, classified by grouped age, sex, region and administration.

Before the weighting process, row data was checked relating to structural check and possible code checks. All fields were then checked by a data dictionary which included. Each record was checked by certain conditions.

Any error would be listed for correction, ensuring both accuracy and completeness.

2.8 Data Limitation

Table 2.1 Estimation of Coeficiency of Variation of Total formal and informal employment by age group sex and region.

Region	Age Group	Coeficiency of Variation of Total (percentage) (C.V. %)								
		Total			Formal			Informal		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
Whole Kingdom	รวม	0.15	0.17	0.26	0.38	0.50	0.57	0.32	0.41	0.48
	15-17	3.72	4.17	7.74	7.43	8.61	14.32	4.62	5.19	9.66
	18-19	2.13	2.30	4.44	3.95	4.67	7.11	3.30	3.61	7.05
	20-24	0.77	0.87	1.40	1.41	1.87	2.14	1.72	1.97	3.27
	25-29	0.39	0.40	0.72	0.85	1.17	1.23	1.47	1.84	2.45
	30-34	0.33	0.33	0.61	0.82	1.11	1.21	1.20	1.52	1.94
	35-39	0.28	0.23	0.53	0.84	1.16	1.23	0.95	1.29	1.41
	40-49	0.25	0.22	0.46	0.80	1.06	1.22	0.59	0.80	0.87
	50-59	0.31	0.32	0.55	1.01	1.29	1.62	0.54	0.74	0.80
	60 and over	0.70	0.88	1.15	2.83	3.49	4.82	0.77	0.97	1.23
Municipal	รวม	0.23	0.27	0.38	0.47	0.64	0.69	0.59	0.80	0.87
	15-17	6.60	7.48	12.75	11.57	14.04	*	8.48	8.78	17.59
	18-19	3.43	4.00	6.21	5.27	6.54	8.76	5.73	6.10	11.92
	20-24	1.21	1.63	1.79	1.70	2.40	2.42	3.21	4.10	5.13
	25-29	0.60	0.65	1.04	1.07	1.49	1.54	2.89	3.72	4.57
	30-34	0.50	0.50	0.89	1.06	1.44	1.57	2.43	3.10	3.86
	35-39	0.43	0.34	0.81	1.07	1.47	1.55	1.86	2.55	2.71
	40-49	0.40	0.37	0.72	1.03	1.39	1.52	1.07	1.50	1.54
	50-59	0.51	0.57	0.89	1.25	1.62	1.96	1.04	1.43	1.50
	60 and over	1.18	1.56	1.81	3.78	4.85	6.02	1.36	1.86	1.99
Non-municipal	รวม	0.20	0.22	0.36	0.61	0.79	0.95	0.37	0.47	0.58
	15-17	4.51	5.02	9.73	9.64	10.69	*	5.50	6.24	11.51
	18-19	2.72	2.81	6.19	5.82	6.59	11.45	4.01	4.39	8.71
	20-24	1.01	0.99	2.09	2.25	2.81	3.66	2.03	2.23	4.12
	25-29	0.50	0.47	0.96	1.38	1.88	2.04	1.63	1.98	2.80
	30-34	0.44	0.45	0.82	1.28	1.74	1.89	1.25	1.58	2.01
	35-39	0.36	0.31	0.67	1.37	1.87	2.00	1.03	1.36	1.58
	40-49	0.31	0.26	0.59	1.27	1.63	2.00	0.69	0.91	1.04
	50-59	0.38	0.36	0.70	1.68	2.07	2.83	0.63	0.84	0.93
	60 and over	0.87	1.06	1.49	4.28	5.01	7.89	0.93	1.14	1.55

Remark : * c.v. more than 20%