

EXECUTIVE SUMMARY

Figure 1 Number of informal employment by sex in 2012

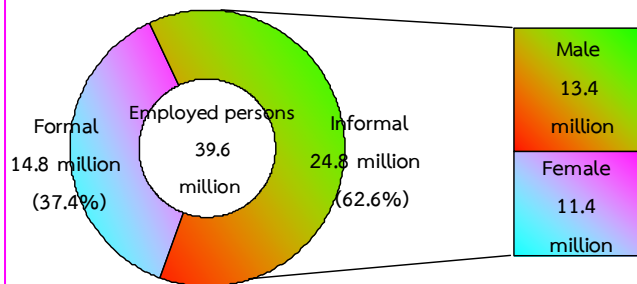


Figure 2 Percentage of informal employment by region in 2012

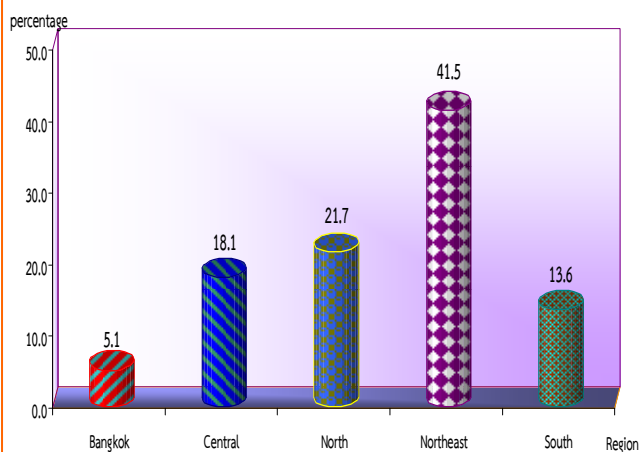
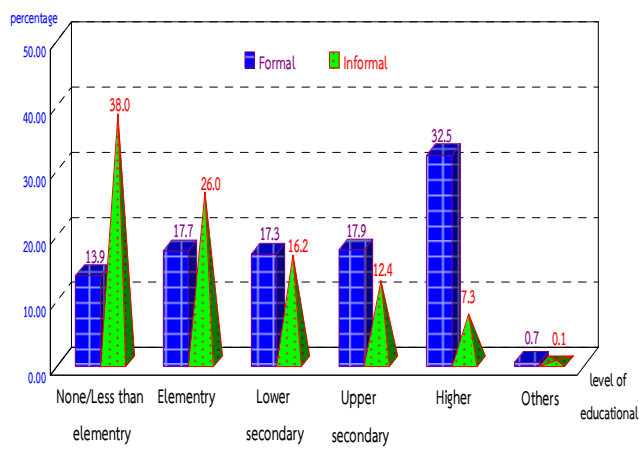


Figure 3 Comparison percentage of formal and informal employment by level of educational attainment in 2012



Informal employment refers to employed persons who are not protected and have no social security from work. The survey results in 2012 are summarized as follows.

1. Number of informal employment

The survey results in 2012, it was found that the total number of employed persons was 39.6 million persons. The number of employed persons who are not protected and have no social security from work or informal employment was about 24.8 million or 62.6%, while formal employment was about 14.8 million or 37.4%. Considering informal employment by sex, it was found that the numbers of male and female were not much different, that is, 13.4 million or 54.0% and 11.4 million or 46.0%, respectively. Considering by region, informal employment worked in the Northeast was the highest (41.5%), followed by the North (21.7%), the Central (18.1%), the South (13.6%) and Bangkok (5.1%).

2. Level of educational attainment of informal employment

The distribution of informal employment by level of educational attainment illustrated that the majority (about 15.9 million or 64.0%) had low level of education, followed by secondary level 7.1 million or 28.6% and 1.8 million or 7.3% in higher level. It should be noticed that the majority of informal employment completed at only low level. Hence, relevant agencies should be encouraged to support the education of informal employment to improve and elevate the status of workers for the better.

Figure 4 Comparison of formal and informal by economic groups in 2012

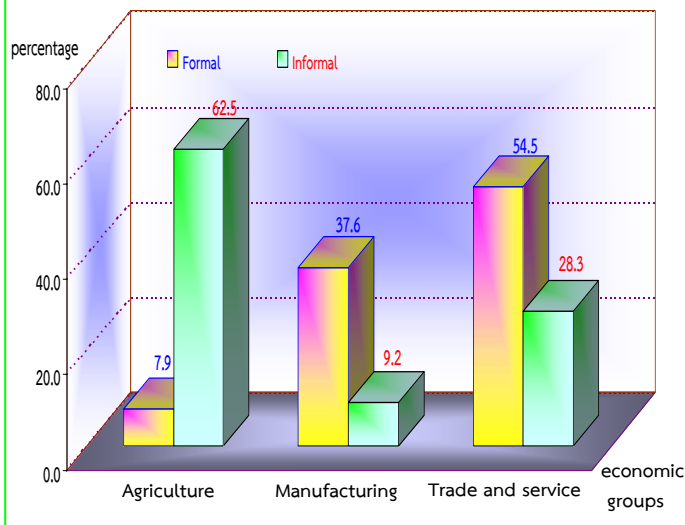


Figure 5 Percentage of informal employment by get hurt or accident from work in 2012

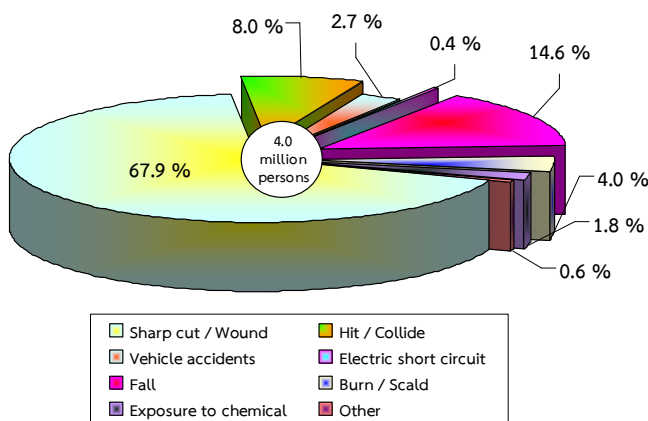
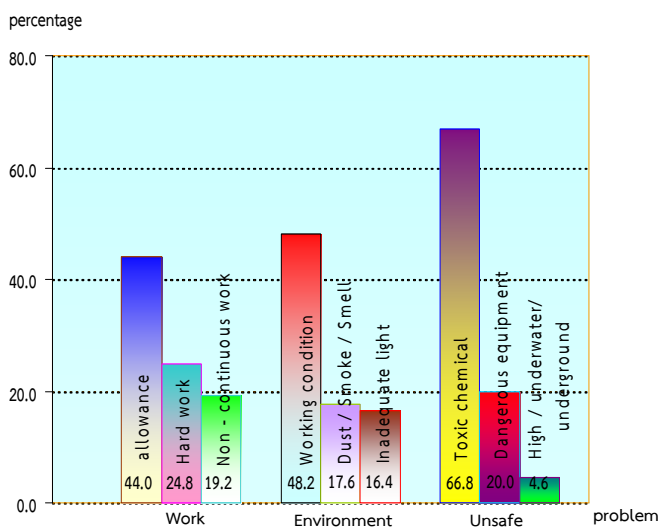


Figure 6 Percentage of informal employment by problem (problem at work, work environment, unsafe work) in 2012



3. The economic activity of informal employment

When considering about the economic activities of informal employment, it was found that more than half of informal employed persons worked in agriculture sector (about 15.5 million or 62.5%), followed by trade and service sector (28.3%) and manufacturing sector (9.2%).

4. Get hurt or accident from work

In 2012, about 4.0 million of informal employed persons had ever get hurt or accident from work. The majority of informal employed persons got hurt or accident from being sharp cut or wound (67.9%), followed by falls (14.6%), hit or collide (8.0%), burn (4.0%), vehicle accidents (2.7%), exposure to harmful chemicals (1.8%) and electric short circuit (0.6%).

Considering informal employment who got hurt or accident from work in 2012, it was found that the average number was 10,927 persons per day which increased from last year (10,003 persons). Since this amount was quite high, therefore, employers should pay more attention and safety for informal employment.

5. Problems of informal employment

The survey result about problems of informal employment can be classified into 3 dimensions. First, problem at work, the most problem was allowance (44.0%), followed by hard work (24.8%), non-continuous work (19.2%) and the rest were others.

Second, problems in the work environment, the most problem was working condition (body of work that is not healthy for a long time, causing inflammation and malfunction of various organs in the body), 48.2%, followed by smoke (17.6%), inadequate light (16.4%) and the rest were others.

Figure 7 Comparison percentage of formal and informal employment in 2007-2012

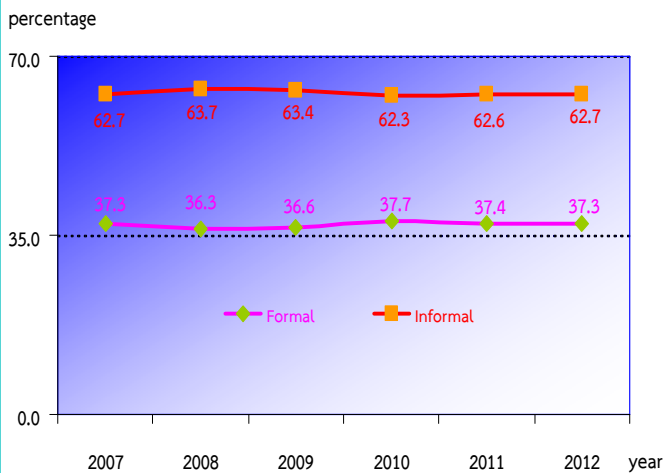


Figure 8 Comparison percentage of informal employment by level of educational attainment in 2007-2012

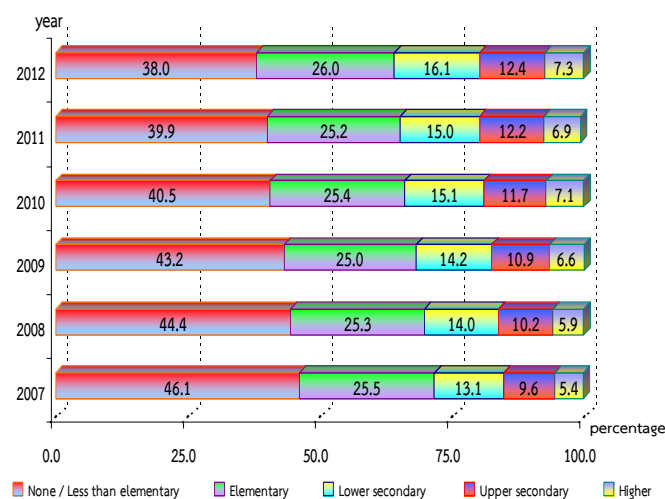
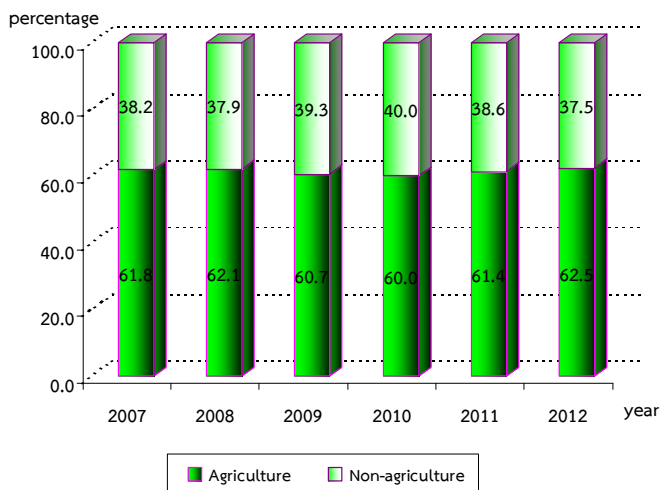


Figure 9 Comparison percentage of informal employment by agriculture and non-agriculture sector in 2007-2012



Finally, problem of unsafe work, the most problem was exposure to toxic chemical (66.8%), followed by dangerous equipment (20.0%) and be harmful to ears or eyes (4.6%).

6. Comparison the share of informal employment in 2007 - 2012

When comparison the share of informal employment in 2007 – 2012, it was found that the proportion of informal employment has maintained a constant rate. In 2008 – 2009, the proportion of informal employment was high (63.7% and 63.4%), in 2010 decreased by 62.3%, but increased by 62.6% and 62.7% in 2011 and 2012, respectively.

For level of educational attainment of informal employment during the past 6 years, it was found that the majority of informal employed persons had low educational level (elementary, lower elementary and none), followed by lower secondary level, upper secondary level and higher level, respectively.

Furthermore, it is noteworthy that in 2007-2012, the proportion of informal employment with at least elementary level has steadily increased though relatively slow rate. In contrast, the proportions of those with elementary and none tend to decline. In sum, during the last 6 years, the educational level of informal employment is relatively low.

Considering by sectors, namely, agriculture and non-agriculture the data since 2007 to 2012 showed that the proportion of informal employment in agriculture sector was approximately 37.5% to 40.0% and non-agriculture sector was about 60.0% to 62.5%.

Chapter 1

Introduction

1. Background and objective

As National Statistical Office (NSO) has realized the importance of informal employment data, the informal employment survey was conducted for the first time in 2005. In order to provide continuous data, the survey has been conducted annually. The survey has usually been conducted along with the labor force survey during the third quarter. The purposes of the survey include to serve information for the requirement of planning agencies and policy makers, as well as to create informal employment database, in order to extend social security coverage for all occupations. As a result, informal employed people will have access to social security and protection from their work. The results of this survey could further contribute for an improvement of their quality of life.

The informal employment survey has been conducted for collecting data about the number and characteristics of the population who are out of the coverage and have no social security as well as not covered by the labor law. The data obtained from the survey include.

- 1) The number of formal and informal employment
- 2) The important demographic and social aspects of formal and informal employment such as age, sex, level of educational attainment, occupation, industry, and hours of work, etc.
- 3) Other data, for instance, informal employed persons who get hurt or accident from work, right to medical treatment and problem from work, etc.

2. Coverage

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

3. Data collection

The survey, along with the labor force survey which was conducted during the 1st-12th of July-September 2012 was obtained through interviews head or member of households of 4,800 households in the Bangkok, 48,960 households in other municipal areas and 34,920 households in non-municipal areas or a total of 83,880 households throughout the kingdom. Enumerators with previous experience in survey operations were employed in the Bangkok and other provinces (Changwat).

4. Definition

4.1 Formal Employment refers to employed persons who are protected and 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.

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

4.3 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.

4.4 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.

4.5 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).

4.6 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.

4.7 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.

4.8 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.

4.9 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.

Chapter 2

Major Findings

This chapter presents a summary of the results of the 2012 informal employment survey conducted in the whole kingdom during the third quarter of the year (1st-12th of July-September 2012). The results describe the number of formal and informal employment, interesting characteristics in both population and social dimensions of informal employment. Meanwhile, problems and welfare of informal employed people are also discussed. The survey results are summarized below.

1. Labor force status of population

The result of the labor force status of population of the third quarter in 2012 revealed that the total labor force was estimated at 39.8 million persons, consisted of employed persons 39.6 million, unemployed persons 0.23 million, and seasonally inactive labor force 34 thousand. While, the number of persons not in the labor force (such as household work, studied, too young/old or incapable to work, etc.) was about 14.7 million.

Table A Number of population by labor force status and region: quarter 3,rd 2012

unit : thousand persons

Labor Force Status	Total	Region				
		Bangkok	Central	Northern	Northeastern	Southern
Persons over 15 years	54,581.1	5,613.4	13,158.7	10,122.3	18,300.2	7,386.6
Total labor force	39,843.3	3,898.2	9,628.4	7,430.0	13,363.2	5,523.5
1. Current labor force	39,809.1	3,897.3	9,625.1	7,424.5	13,340.7	5,521.6
1.1 Employed	39,578.3	3,871.6	9,562.8	7,382.9	13,278.3	5,482.8
1.2 Unemployed	230.8	25.7	62.3	41.6	62.4	38.8
2. Seasonally inactive labor force	34.2	0.9	3.3	5.5	22.5	1.9
Not in labor force	14,737.8	1,715.2	3,530.3	2,692.3	4,933.7	1,863.1
1. Household work	4,311.8	563.1	1,106.3	765.4	1,245.4	631.7
2. Studied	4,295.0	387.4	927.3	824.6	1,555.2	600.6
3. Too young/old or incapable to work	4,721.2	471.2	1,123.7	949.8	1,676.5	499.9
4. Others	1,409.8	293.5	373.0	152.5	459.9	130.9

2. Number of formal and informal employment

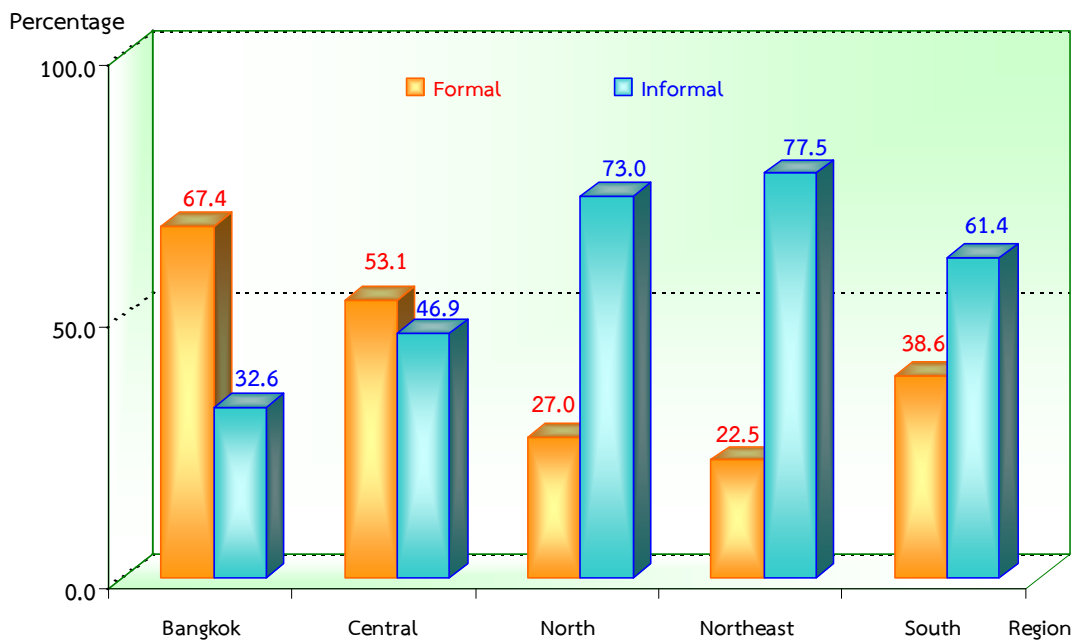
The survey result showed that the total number of employed persons was about 39.6 million who were formal employment 14.8 million (37.4%) and informal employment 24.8 million (62.6%). Considering by region, it was found that there were 3.9 million in Bangkok, of which 2.6 million (67.4%) were formal employment, while 1.3 million (32.6%) were informal employment. Central region had 9.6 million who were formal employment 5.1 million (53.1%) and informal employment 4.5 million (46.9%). There were 7.4 million in Northern region which was composed of 2.0 million formal employed people (27.0%), and 5.4 million informal employments (73.0%). Northeastern had 13.3 million who were formal employment 3.0 million (22.5%) and informal employment 10.3 million (77.5%). Southern region consisted of 5.5 million who were formal employment 2.1 million (38.6%) and informal employment 3.4 million (61.4%).

Table B Number and percentage of formal and informal employment by sex and region in 2012

Employed Persons	Total	Region				
		Bangkok	Central	Northern	Northeastern	Southern
Number('000)						
Total	39,578.3	3,871.5	9,562.8	7,382.9	13,278.4	5,482.7
Male	21,366.5	1,970.1	5,106.6	3,981.7	7,293.3	3,014.7
Female	18,211.8	1,901.4	4,456.2	3,401.1	5,985.1	2,468.0
Formal Employment	14,778.8	2,609.1	5,076.1	1,996.5	2,981.3	2,115.9
Male	8,002.8	1,284.9	2,732.1	1,097.8	1,679.9	1,208.1
Female	6,776.0	1,324.2	2,344.0	898.7	1,301.4	907.8
Informal Employment	24,799.5	1,262.4	4,486.7	5,386.4	10,297.1	3,366.8
Male	13,363.7	685.2	2,374.5	2,883.9	5,613.4	1,806.6
Female	11,435.8	577.2	2,112.2	2,502.5	4,683.7	1,560.2
Percentage						
Total	100.0	100.0	100.0	100.0	100.0	100.0
Male	54.0	50.9	53.4	53.9	54.9	55.0
Female	46.0	49.1	46.6	46.1	45.1	45.0
Formal Employment	37.4	67.4	53.1	27.0	22.5	38.6
Male	20.2	33.2	28.6	14.8	12.7	22.0
Female	17.2	34.2	24.5	12.2	9.8	16.6
Informal Employment	62.6	32.6	46.9	73.0	77.5	61.4
Male	33.8	17.7	24.8	39.1	42.3	33.0
Female	28.8	14.9	22.1	33.9	35.2	28.4

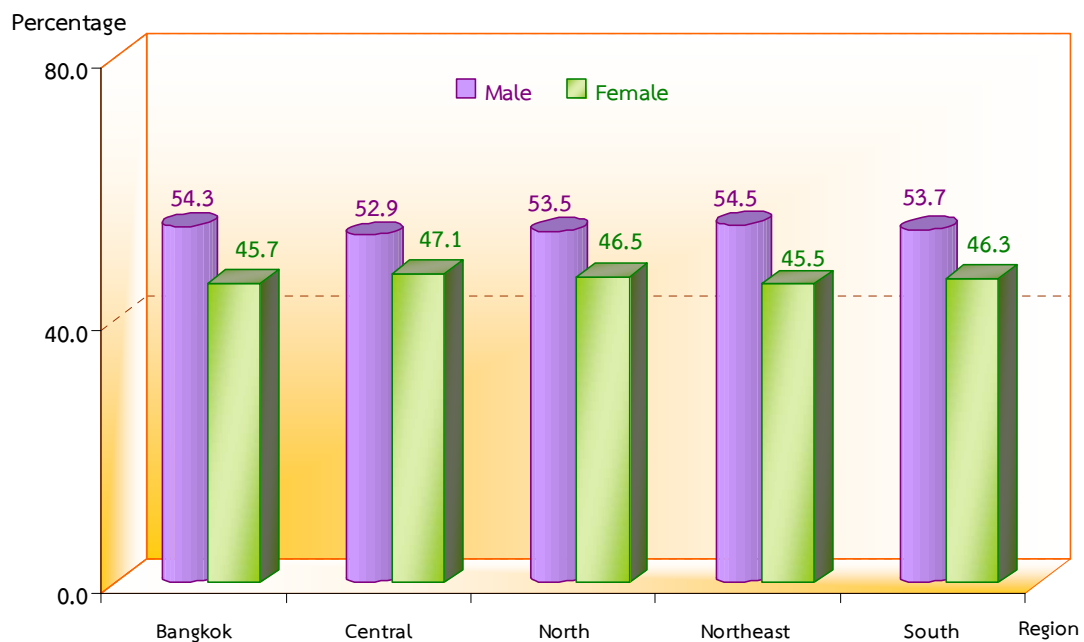
As can be observed in 2012, the proportion of informal employment was relatively large (62.6% of the total employed persons). Comparing the shares between formal and informal employment, it was showed that the majority of workers in the Northeast, the North and the South was informal employment (77.5%, 73.0% and 61.4%, respectively). Conversely, informal workers were less concentrated in Bangkok and the Central (32.6% and 46.9%, respectively).

Figure 1 Percentage of formal and informal employment by region in 2012



Considering by sex, it was found that the informal employment was primarily comprised of males, at 54.0%. Furthermore, all regions also had the same direction that is the number of males was higher than females.

Figure 2 Comparison of percentage of informal employment by sex and region in 2012



3. Age of formal and informal employment

Comparison between the age group of formal and informal employment, it was found that the structural characteristic of them was obviously difference.

Considering by age group, it was showed that the vast share of formal employment (57.9%) was in the age group of 20 – 39, while that of informal employment was only 37.2%. In contrast, more than half of informal employment (59.5%) aged at least 40 years old, while that of formal employment was only 39.1%. As a result, the majority of formal employment is in a group of young or middle age. However, as they become senior and accumulate more work experience, it is a great chance that they will enter the business market which is normally informal employment.

Table C Number and percentage of formal and informal employment by age group and sex in 2012

Age group	Total	Employed persons					
		Formal employment			Informal employment		
		Total	Male	Female	Total	Male	Female
Number('000)							
Total	39,578.3	14,778.8	8,002.8	6,776.0	24,799.5	13,363.7	11,435.8
15 - 19	1,234.8	437.3	277.3	160.1	797.5	527.8	269.7
20 - 24	3,508.7	1,597.5	883.6	714.0	1,911.2	1,168.4	742.8
25 - 29	4,520.5	2,314.3	1,174.2	1,140.1	2,206.2	1,312.1	894.0
30 - 34	4,805.1	2,414.0	1,231.6	1,182.4	2,391.2	1,327.0	1,064.2
35 - 39	4,965.6	2,230.5	1,158.9	1,071.6	2,735.1	1,415.4	1,319.7
40 - 44	4,962.3	1,870.1	979.4	890.7	3,092.1	1,525.2	1,566.9
45 - 49	4,907.4	1,593.4	904.3	689.1	3,314.0	1,679.7	1,634.3
50 - 54	3,981.3	1,202.3	693.8	508.4	2,779.1	1,401.9	1,377.2
55 - 59	3,288.7	773.4	484.2	289.2	2,515.3	1,292.3	1,223.0
60 years and over	3,403.9	346.0	215.5	130.6	3,057.9	1,713.8	1,344.1
Percentage							
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
15 - 19	3.1	3.0	3.5	2.4	3.2	3.9	2.4
20 - 24	8.9	10.8	11.0	10.5	7.7	8.7	6.5
25 - 29	11.4	15.7	14.7	16.8	8.9	9.8	7.8
30 - 34	12.1	16.3	15.4	17.4	9.6	9.9	9.3
35 - 39	12.5	15.1	14.5	15.8	11.0	10.6	11.5
40 - 44	12.5	12.7	12.2	13.1	12.5	11.4	13.7
45 - 49	12.4	10.8	11.3	10.2	13.4	12.6	14.3
50 - 54	10.1	8.1	8.7	7.5	11.2	10.5	12.0
55 - 59	8.3	5.2	6.1	4.3	10.1	9.7	10.7
60 years and over	8.6	2.3	2.7	1.9	12.3	12.8	11.8

4. Level of educational attainment of formal and informal employment

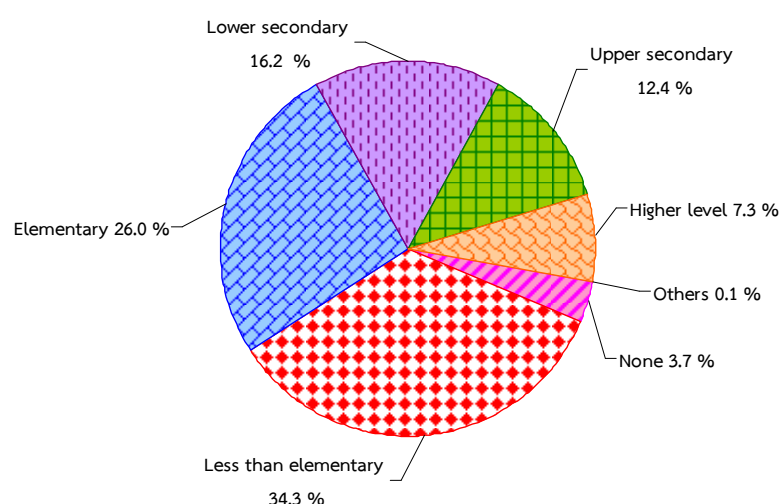
The distribution of informal employment by level of educational attainment illustrated that the majority had low level of education, at 63.9% (25.9% in elementary level, 34.3% in lower elementary level and 3.7% had none). Secondary level was 28.6% (16.2% in lower secondary level and 12.4% in upper secondary level), while the rest of 7.3% had higher level.

For level of educational attainment of formal employment, it was showed that the most of them completed secondary, at 35.2% (17.9% in upper secondary level and 17.3% in lower secondary level), followed by higher level were (32.5%), elementary level (17.7%). Unlike informal employment, the proportions of those with elementary level and no education were only 11.3% and 2.6%, respectively.

Table D Number and percentage of formal and informal employment by level of educational attainment and sex in 2012

level of educational attainment	Total	Employed persons					
		Formal employment			Informal employment		
		Total	Male	Female	Total	Male	Female
Number('000)							
Total	39,578.3	14,778.8	8,002.8	6,776.0	24,799.5	13,363.7	11,435.8
1. None	1,301.1	377.3	196.6	180.7	923.8	378.6	545.2
2. Less than elementary	10,182.8	1,675.3	955.1	720.2	8,507.5	4,254.2	4,253.3
3. Elementary	9,044.9	2,615.6	1,586.2	1,029.4	6,429.3	3,530.3	2,899.0
4. Lower secondary	6,558.4	2,554.2	1,550.4	1,003.9	4,004.2	2,388.9	1,615.2
5. Upper secondary	5,717.6	2,651.2	1,524.9	1,126.3	3,066.3	1,782.7	1,283.7
6. Higher level	6,606.1	4,797.6	2,123.8	2,673.7	1,808.6	995.3	813.3
7. Others and Unknown	167.4	107.6	65.7	41.8	59.8	33.7	26.1
Percentage							
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1. None	3.3	2.6	2.5	2.7	3.7	2.8	4.8
2. Less than elementary	25.7	11.3	11.9	10.6	34.3	31.8	37.2
3. Elementary	22.9	17.7	19.8	15.2	26.0	26.4	25.4
4. Lower secondary	16.6	17.3	19.4	14.8	16.2	17.9	14.1
5. Upper secondary	14.4	17.9	19.1	16.6	12.4	13.3	11.2
6. Higher level	16.7	32.5	26.5	39.5	7.3	7.5	7.1
7. Others and Unknown	0.4	0.7	0.8	0.6	0.1	0.3	0.2

Figure 3 Percentage of informal employment by level of educational attainment in 2012



5. Occupation of formal and informal employment

From the distribution of informal employment by occupation, it was showed that, skilled agricultural and fishery workers constituted the bulk (59.4%), the next was service workers and shop and market sales workers (19.9%), craftsmen and related trades workers (7.4%), elementary occupations workers (7.2%), plant and machine operators and assemblers (2.9%), legislator senior officials and manager (1.5%), technicians and associate professionals (0.7%), professionals (0.6%) and clerks (0.5%).

For formal employment, plant and machine operators and assemblers comprised the most (16.1%), followed by craftsmen and related trades workers (15.7%), elementary occupations workers (14.5%), shop and market sales workers (14.4%) and professionals (11.4%).

Table E Number and percentage of formal and informal employment by occupation and sex in 2012

Occupation	Total	Employed persons					
		Formal employment			Informal employment		
		Total	Male	Female	Total	Male	Female
Number('000)							
Total	39,578.3	14,778.8	8,002.8	6,776.0	24,799.5	13,363.7	11,435.8
1. Legislators, senior officials and managers	1,176.3	797.4	563.3	234.1	378.9	281.0	97.9
2. Professionals	1,824.4	1,684.0	658.5	1,025.5	140.4	72.2	68.2
3. Technicians and associate professionals	1,330.4	1,165.0	566.0	599.0	165.4	90.3	75.1
4. Clerks	1,394.9	1,281.8	365.3	916.6	113.1	35.2	77.8
5. Service workers and shop sales workers	7,067.4	2,130.7	1,032.3	1,098.4	4,936.8	1,889.5	3,047.2
6. Skilled agricultural and fishery workers	15,587.6	850.6	508.7	341.9	14,737.0	8,196.6	6,540.4
7. Craft and related trades workers	4,155.5	2,315.1	1,760.8	554.3	1,840.5	1,234.4	606.0
8. Plant and machine operators	3,092.3	2,382.4	1,517.8	864.6	709.8	598.7	111.1
9. Elementary occupations	3,918.3	2,141.2	1,014.7	1,126.5	1,777.1	965.3	811.8
Percentage							
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1. Legislators, senior officials and managers	3.0	5.4	7.0	3.5	1.5	2.1	0.9
2. Professionals	4.6	11.4	8.2	15.1	0.6	0.5	0.6
3. Technicians and associate professionals	3.4	7.9	7.1	8.8	0.7	0.7	0.7
4. Clerks	3.5	8.7	4.6	13.5	0.5	0.3	0.7
5. Service workers and shop sales workers	17.9	14.4	12.9	16.2	19.9	14.1	26.6
6. Skilled agricultural and fishery workers	39.4	5.8	6.4	5.0	59.4	61.3	57.2
7. Craft and related trades workers	10.5	15.7	22.0	8.2	7.4	9.2	5.3
8. Plant and machine operators	7.8	16.1	19.0	12.8	2.9	4.5	1.0
9. Elementary occupations	9.9	14.5	12.7	16.6	7.2	7.2	7.1

6. Industry of formal and informal employment

The survey result by industry reported that workers with informal employment were mostly in the agriculture (62.5%), followed by wholesale and retail trade (15.2%), accommodation and food service (6.5%) and manufacturing (4.8%) sectors. The rest shared in other industries.

On the other hand, workers with formal employment were mostly in the manufacturing, wholesale and retail trade and public administration and defence sectors (27.8%, 13.9% and 10.3%, respectively).

Table F Number and percentage of formal and informal employment by industry and sex in 2012

Industry	Total	Employed persons					
		Formal employment			Informal employment		
		Total	Male	Female	Total	Male	Female
Number('000)							
Total	39,578.3	14,778.8	8,002.8	6,776.0	24,799.5	13,363.7	11,435.8
1) Agriculture, forestry & fishing	16,663.5	1,173.1	693.2	479.9	15,490.4	8,629.0	6,861.4
2) Mining and quarrying	63.3	60.1	46.3	13.8	3.3	1.7	1.6
3) Manufacturing	5,284.1	4,105.6	2,048.2	2,057.3	1,178.5	508.5	670.0
4) Electricity, gas, steam supply	95.1	94.7	75.7	19.1	0.3	0.3	
5) Water supply	55.5	43.8	31.2	12.7	11.7	8.2	3.4
6) Construction	2,339.9	1,249.5	1,020.1	229.4	1,090.4	915.9	174.5
7) Wholesale and retail trade	5,807.6	2,048.2	1,171.9	876.3	3,759.4	1,759.1	2,000.4
8) Transportation storage	962.3	482.7	366.8	115.9	479.6	450.5	29.1
9) Accommodation and food service	2,318.9	716.2	264.7	451.6	1,602.7	540.6	1,062.1
10) Information and communication	213.6	180.6	109.8	70.9	32.9	23.1	9.8
11) Financial & insurance activities	385.9	363.8	159.5	204.3	22.1	9.6	12.5
12) Real estate activities	131.7	93.6	35.6	58.0	38.1	20.6	17.5
13) Professional, scientific and technical	236.9	167.4	77.7	89.6	69.6	49.3	20.3
14) Administrative and support services	381.0	298.0	186.1	111.9	83.0	46.8	36.2
15) Public administration and defence	1,657.4	1,515.8	980.7	535.1	141.6	88.9	52.7
16) Education	1,177.3	1,067.4	393.0	674.5	109.9	35.6	74.3
17) Human health and social work	653.9	582.9	156.3	426.7	71.0	13.3	57.7
18) Arts, entertainment	224.0	94.2	49.8	44.5	129.7	75.7	54.1
19) Other service activities	635.5	187.9	82.5	105.4	447.6	172.5	275.0
20) Activities of household as employers	246.9	210.7	36.4	174.3	36.2	14.0	22.2
21) Activities of extraterritorial	6.1	5.7	1.4	4.2	0.5	-	0.5
22) Unknown	37.9	36.9	16.3	20.6	1.0	0.5	0.5
Percentage							
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1) Agriculture, forestry & fishing	42.1	7.9	8.7	7.1	62.5	64.6	60.0
2) Mining and quarrying	0.2	0.4	0.6	0.2	0.0	0.0	0.0
3) Manufacturing	13.4	27.8	25.6	30.4	4.8	3.8	5.9
4) Electricity, gas, steam supply	0.2	0.6	0.9	0.3	0.0	0.0	-
5) Water supply	0.1	0.3	0.4	0.2	0.0	0.1	0.0
6) Construction	5.9	8.5	12.7	3.4	4.4	6.9	1.5
7) Wholesale and retail trade	14.7	13.9	14.6	12.9	15.2	13.2	17.5
8) Transportation storage	2.4	3.3	4.6	1.7	1.9	3.4	0.3
9) Accommodation and food service	5.9	4.8	3.3	6.7	6.5	4.0	9.3
10) Information and communication	0.5	1.2	1.4	1.0	0.1	0.2	0.1
11) Financial & insurance activities	1.0	2.5	2.0	3.0	0.1	0.1	0.1
12) Real estate activities	0.3	0.6	0.4	0.9	0.2	0.2	0.2
13) Professional, scientific and technical	0.6	1.1	1.0	1.3	0.3	0.4	0.2
14) Administrative and support services	1.0	2.0	2.3	1.7	0.3	0.4	0.3
15) Public administration and defence	4.2	10.3	12.3	7.9	0.6	0.7	0.5
16) Education	3.0	7.2	4.9	10.0	0.4	0.3	0.6
17) Human health and social work	1.7	3.9	2.0	6.3	0.3	0.1	0.5
18) Arts, entertainment	0.6	0.6	0.6	0.7	0.5	0.6	0.5
19) Other service activities	1.6	1.3	1.0	1.6	1.8	1.3	2.4
20) Activities of household as employers	0.6	1.4	0.5	2.6	0.1	0.1	0.2
21) Activities of extraterritorial	0.0	0.0	0.0	0.1	0.0	-	0.0
22) Unknown	0.1	0.2	0.2	0.3	0.0	0.0	0.0

7. Hours of work of formal and informal employment

The data summarized by hours work revealed that the majority of informal employed persons (37.2%) worked 50 hours or more per week, of which the proportion of males was higher than that of females (39.0% and 35.2%, respectively).

In contrast, most of formal employment (52.0%) worked between 40 and 49 hours per week, of which the proportion of males was lower than that of females (51.0% and 53.1%, respectively).

Table G Number and percentage of formal and informal employment by hours of work and sex in 2012

hours work	Total	Employed persons					
		Formal employment			Informal employment		
		Total	Male	Female	Total	Male	Female
Number('000)							
Total	39,578.3	14,778.8	8,002.8	6,776.0	24,799.5	13,363.7	11,435.8
00 Hour	134.2	57.8	32.9	24.9	76.4	47.5	28.9
1-9 Hours	168.7	14.1	5.6	8.5	154.6	73.8	80.8
10-19 Hours	1,042.0	126.8	58.0	68.8	915.2	453.5	461.7
20-29 Hours	3,120.5	520.8	267.2	253.6	2,599.7	1,286.7	1,313.0
30-39 Hours	5,955.1	2,216.7	1,102.6	1,114.1	3,738.3	1,909.7	1,828.6
40-49 Hours	15,770.6	7,692.4	4,084.7	3,607.7	8,078.2	4,381.8	3,696.4
50 Hours and over	13,387.3	4,150.3	2,451.9	1,698.4	9,236.9	5,210.6	4,026.3
Percentage							
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
00 Hour	0.3	0.4	0.4	0.4	0.3	0.4	0.3
1-9 Hours	0.4	0.1	0.1	0.1	0.6	0.6	0.7
10-19 Hours	2.6	0.9	0.7	1.0	3.7	3.4	4.0
20-29 Hours	7.9	3.5	3.3	3.7	10.5	9.6	11.5
30-39 Hours	15.0	15.0	13.8	16.4	15.1	14.3	16.0
40-49 Hours	39.8	52.0	51.0	53.2	32.6	32.8	32.3
50 Hours and over	33.8	28.1	30.6	25.1	37.2	39.0	35.2

8. Work status of formal and informal employment

When considering about work status of formal and informal employment, it was found that half of informal employed persons was own-account workers, followed by unpaid family workers (37.7%), private employees who were not insured with the Social Security Office and worked for less than 3 months (7.5%), employers who were not insured with the Social Security Office (3.2%), government employees (the contractors who were not insured with the Social Security Office), at 1.2%, and members of producers cooperatives (0.2%). For formal employment the most work status was private employees (74.8%), followed by government employees (21.7%), own-account workers (1.7%) and employers and unpaid family workers were equally at 0.9%.

Table H Number and percentage of formal and informal employment by work status and sex in 2012

Work status	Total	Employed persons					
		Formal employment			Informal employment		
		Total	Male	Female	Total	Male	Female
Number('000)							
Total	39,578.3	14,778.8	8,002.8	6,776.0	24,799.5	13,363.7	11,435.8
Employers	934.7	128.9	90.8	38.1	805.8	595.2	210.6
Government employees	3,514.7	3,211.7	1,697.6	1,514.2	303.0	139.6	163.5
Private employees	12,928.2	11,059.8	6,016.8	5,043.0	1,868.4	1,165.6	702.8
Own-account workers	12,660.1	244.2	149.4	94.8	12,415.9	7,848.2	4,567.7
Unpaid family workers	9,491.1	132.0	46.9	85.1	9,359.2	3,585.9	5,773.2
Members of Producers Cooperatives	49.5	2.3	1.4	0.9	47.2	29.2	18.0
Percentage							
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Employers	2.4	0.9	1.1	0.6	3.2	4.5	1.8
Government employees	8.9	21.7	21.2	22.3	1.2	1.0	1.4
Private employees	32.7	74.8	75.2	74.4	7.5	8.7	6.1
Own-account workers	32.0	1.7	1.9	1.4	50.1	58.7	39.9
Unpaid family workers	24.0	0.9	0.6	1.3	37.7	26.8	50.5
Members of Producers Cooperatives	0.1	0.0	0.0	0.0	0.2	0.2	0.2

9. Wages or salaries of formal and informal employment

Data on wages or salaries have been collected in respect of all employees (government employees and private employees) in accordance with the payment scheme applicable to each case (hourly, daily, weekly, etc.) and converted into the equivalent monthly wages and salaries.

The survey result found that informal wage employment received an average monthly wage of 5,045 Baht. Considering by industry, the number of informal employed people in agricultural sector was the highest despite the lowest average monthly wage of only 3,870 Baht. In contrast, informal employees in information and communication the highest average monthly wage of 10,000 Baht, followed by activities of extraterritorial (9,000 Baht/month) and human health and social work (7,743 Baht/month). (Table I)

Comparison of average wages or salaries between employees in informal and formal employment, it was found that they were clearly different. Formal employed persons earned an average monthly wage of 12,118 Baht which was approximately 2.5 times higher than that of employees in informal employment. As classified by industry, it was found that the average monthly wages of informal employment were less than that of formal employment in almost sectors. For instance, agricultural sector where the number of informal workers was rather high but received a low average monthly wage of 3,870 Baht/month, while formal employed persons earned higher wage (5,784 Baht/month). Except activities of household as employers, the average monthly wage of informal employment was higher than that of formal employment (7,511 and 6,842 Bath/month, respectively). Thus, we have seen that average wage of informal employment is relatively low compared with formal employment.

Table I Wage or salary of formal and informal employment by industry and sex in 2012^{1/}

Unit : Bath/month

Industry	Wage or salary					
	Formal employment			Informal employment		
	Total	Male	Female	Total	Male	Female
Total	12,118	12,447	11,731	5,045	5,242	4,749
1) Agriculture, forestry & fishing	5,784	6,011	5,452	3,870	4,111	3,593
2) Mining and quarrying	20,672	23,840	10,141	5,359	7,618	3,375
3) Manufacturing	10,416	11,705	9,142	5,204	6,235	4,516
4) Electricity, gas, steam supply	28,916	30,524	22,310	5,546	5,546	-
5) Water supply	12,409	13,070	10,770	5,847	5,614	6,760
6) Construction	8,945	8,934	8,991	5,540	5,640	5,087
7) Wholesale and retail trade	10,383	10,102	10,768	5,403	5,866	4,782
8) Transportation storage	15,394	14,556	17,899	6,336	6,188	7,000
9) Accommodation and food service	8,605	9,567	8,039	5,358	6,357	5,014
10) Information and communication	24,099	25,301	22,250	10,000	14,045	5,382
11) Financial & insurance activities	22,478	22,771	22,248	5,568	6,319	5,335
12) Real estate activities	14,631	19,293	11,995	7,000	-	7,000
13) Professional, scientific and technical	18,599	18,966	18,292	7,739	5,023	11,896
14) Administrative and support services	11,217	12,229	9,553	6,395	6,509	5,843
15) Public administration and defence	14,616	14,620	14,608	6,865	7,262	6,212
16) Education	20,819	23,153	19,467	7,586	9,539	6,811
17) Human health and social work	14,738	14,517	14,818	7,743	7,407	7,817
18) Arts, entertainment	9,121	9,804	8,333	4,184	4,472	3,203
19) Other service activities	8,642	8,436	8,801	4,272	4,040	5,319
20) Activities of household as employers	6,842	8,180	6,560	7,511	4,309	9,880
21) Activities of extraterritorial	47,357	58,268	43,310	9,000	-	9,000
22) Unknown	14,114	14,240	14,018	2,000	-	2,000

^{1/} wage or salaries of government employees and private employees only.

10. Informal employment that get hurt or accident from work

From the number of informal employment of 24.8 million persons, 20.8 million (83.9%) had never get hurt or accident. On the other hand, about 4.0 million (16.1%) had ever get hurt or accident.

Considering by type of hurt or accident, the majority of informal employed persons got hurt or accident from being sharp cut or wound 2.7 million (67.9%), followed by falls 0.6 million (14.6%), hit or collide with object 0.3 million (8.0%), burn or scald 0.2 million (4.0%), vehicle accidents 0.1 million (2.7%), exposure to harmful chemical 74 thousand (1.8%) and electric short circuit 15 thousand (0.4%). The rest were others.

Table J Number and percentage of informal employment by get hurt or accident from work and sex in 2012

Get hurt or accident	Informal employment					
	Number('000)			Percentage		
	Total	Male	Female	Total	Male	Female
Total	24,799.5	13,363.7	11,435.8	100.0	100.0	100.0
No	20,811.3	11,060.0	9,751.3	83.9	82.8	85.3
Yes	3,988.2	2,303.7	1,684.5	16.1	17.2	14.7
1. Fall	582.7	326.2	256.5	2.3	2.4	2.2
2. Sharp cut/ wound	2,708.2	1,552.3	1,155.9	10.9	11.6	10.1
3. Burn/ scald	158.7	62.7	96.0	0.6	0.5	0.8
4. Vehicle accidents	109.9	83.3	26.6	0.4	0.6	0.2
5. Electric shock	14.8	11.7	3.1	0.1	0.1	0.0
6. Hit/ collide with object	317.9	208.2	109.7	1.3	1.6	1.0
7. Exposure to chemical	73.7	45.4	28.3	0.3	0.3	0.2
8. Others	22.4	13.8	8.6	0.1	0.1	0.1

11. Medical treatments and medical benefits of informal employment

From the number of informal employment who got hurt or accident of 4.0 million persons, 2.8 million (69.2%) got minor hurt or accident and had no medical treatment, 0.9 million (23.6%) bought medicine from drug store, 0.2 million (5.0%) stayed in hospital for less than 3 days, 85 thousand (2.1%) stayed in hospital for at least 3 days, and 3.4 thousand (0.1%) lost some organs.

Table K Number and percentage of informal employment by medical treatments and sex in 2012

Medical treatments	Informal employment					
	Number('000)			Percentage		
	Total	Male	Female	Total	Male	Female
Total	3,988.2	2,303.7	1,684.5	100.0	100.0	100.0
1. No medical treatment	2,757.6	1,557.7	1,199.9	69.1	67.6	71.2
2. Buy medicine from drug store	941.6	543.1	398.5	23.6	23.6	23.7
3. Stay in hospital for less than 3 days	198.4	134.6	63.9	5.0	5.8	3.8
4. Stay in hospital for at least 3 days	85.5	64.6	20.9	2.1	2.8	1.2
5. Lose some organs	3.4	2.0	1.4	0.1	0.1	0.1

For informal employed persons who got serious hurt or accident and received medical treatment in hospital, most of them (79.2%) used medical benefit. Of this group, 0.2 million persons (69.0% of injured informal employed persons) used universal health insurance, followed by private health insurance (19 thousand or 6.7%) and welfare from official/ state enterprise (6.9 thousand or 2.4% While 20.8% did not use any benefit which comprised of own payment (19.0%), followed by payment from parents, relatives, or friends (1.1%) and employer's payment (0.8%).

Table L Number and percentage of informal employment by the benefits paid for medical expenses and sex in 2012

The benefits paid for medical expenses	Informal employment					
	Number('000)			Percentage		
	Total	Male	Female	Total	Male	Female
Total	287.3	201.1	86.2	100.0	100.0	100.0
Without medical benefit	59.8	42.5	17.3	20.8	21.1	20.1
1. Employer's payment	2.3	1.9	0.4	0.8	0.9	0.5
2. Parents, relatives, friends	3.1	2.8	0.3	1.1	1.4	0.3
3. Own payment	54.5	37.9	16.6	19.0	18.8	19.3
With medical benefit	227.5	158.6	68.9	79.2	78.9	79.9
4. Universal health insurance	198.4	137.2	61.2	69.0	68.2	71.0
5. Social security/ compensation fund	-	-	-	-	-	-
6. Welfare from official/ State enterprise	6.9	3.8	3.1	2.4	1.9	3.6
7. Private health insurance	19.1	15.6	3.6	6.7	7.7	4.2
8. Others	3.1	2.1	1.0	1.1	1.0	1.2

12. Problems of informal employment

The survey result about problems of informal employment can be classified into 3 dimensions, namely, problem at work, problem of unsafe work, and problem in the work environment. The survey result found that among the total number of 24.8 million informal employed persons, 7.1 million or 28.5% suffered from at least 1 problem, while the rest or 17.7 million (71.5%) did not face any problems.

12.1 Problem at work

The number of informal employed persons who had problem at work was 4.7 million. The most problem was allowance (2.1 million), followed by hard work (1.2 million), non-continuous work (0.9 million), no security (0.3 million), irregular hours of work (0.1 million), no holiday (97 thousand), too long hours of work (52 thousand) and no vacation (26 thousand).

Table M Number and percentage of informal employment by problem at work and sex in 2012

Problem at work	Informal employment					
	Number('000)			Percentage		
	Total	Male	Female	Total	Male	Female
Total	4,745.6	2,649.8	2,095.8	100.0	100.0	100.0
1. Allowance	2,089.7	1,145.1	944.6	44.1	43.2	45.1
2. Hard work	1,175.3	651.9	523.3	24.8	24.6	25.0
3. Irregular hours of work	108.7	57.2	51.6	2.3	2.2	2.5
4. Non continuous work	911.9	554.9	357.0	19.2	21.0	17.0
5. Too long hour of work	52.4	26.9	25.5	1.1	1.0	1.2
6. No holiday	96.9	47.3	49.6	2.0	1.8	2.4
7. No vacation	26.4	12.5	14.0	0.6	0.5	0.7
8. No security	282.2	152.1	130.2	6.0	5.7	6.2
9. Unknown	2.0	2.0	-	0.0	0.0	-

12.2 Problem of unsafe work

The number of informal employed persons who had problem of unsafe work was 2.9 million persons. The most problem was exposure to toxic chemical (2.0 million), followed by dangerous equipment (0.6 million) and be harmful to ears or eyes and high or underwater or underground workplace (0.1 million).

Table N Number and percentage of formal and informal employment by problem of unsafe work and sex 2012

Problem of unsafe work	Informal employment					
	Number('000)			Percentage		
	Total	Male	Female	Total	Male	Female
Total	2,932.3	1,767.5	1,164.8	100.0	100.0	100.0
1. Toxic chemical	1,957.6	1,140.7	817.0	66.8	64.5	70.1
2 Dangerous equipment	586.0	378.5	207.5	20.0	21.4	17.8
3. Be harmful to ears/ eyes	120.3	69.5	50.8	4.1	3.9	4.4
4. High/ underwater/ underground workplace	134.6	99.8	34.8	4.6	5.6	3.0
5. Others	51.3	28.6	22.7	1.7	1.6	2.0

12.3 Problem in the work environment

The number of informal employed persons who had problems in the work environment was 3.2 million persons. The most problem was working condition (body of work that is not healthy for a long time, causing inflammation and malfunction of various organs in the body) (1.5 million), followed by dust/ smoke/ smell (0.6 million), inadequate light (0.5 million), dirty workplace (0.4 million), noise (55 thousand), restricted workplace (47 thousand) and poor ventilation in the workplace (30 thousand).

Table O Number and percentage of informal employment by problems in the work environment in 2012

Problems in the work environment	Informal employment					
	Number('000)			Percentage		
	Total	Male	Female	Total	Male	Female
Total	3,190.1	1,774.6	1,415.5	100.0	100.0	100.0
1. Restricted workplace	46.5	28.3	18.2	1.5	1.6	1.3
2. Dirty workplace	390.9	214.1	176.8	12.3	12.1	12.5
3. Poor ventilation in the workplace	30.0	13.6	16.4	0.9	0.8	1.2
4. Working condition	1,536.2	807.0	729.3	48.2	45.5	51.5
5. Dust/ smoke/ smell	560.9	345.9	215.0	17.6	19.5	15.2
6. Noise	54.5	34.1	20.3	1.7	1.9	1.4
7. Inadequate light	523.9	302.3	221.6	16.4	17.1	15.7
8. Others	45.3	27.5	17.8	1.4	1.5	1.3
9. Unknown	1.8	1.8	-	0.0	0.0	-

APPENDIX A

METHODOLOGY

1. Sample design

A Stratified Two - Stage Sampling was adopted for the survey. Provinces were constituted strata. The primary and secondary sampling units were enumeration areas (EAs) for municipal and non - municipal areas and private households and persons in the group of employees households respectively.

Stratification

Provinces were constituted strata. There were altogether 77 strata. Each stratum was divided into two parts according to the type of local administration, namely municipal areas and non - municipal areas.

Selection of primary sampling unit

The sample selection of enumeration areas were performed separately and independently in each part by using probability proportional to size - total number of households. The total sample enumeration areas was 5,970 from 127,460 EAs.

The total number of sample enumeration areas selected for enumeration by region and type of local administration was as follows :

Region / Stratum	Total	Municipal Areas	Non - Municipal Areas
Bangkok Metropolis	300	300	-
Central (Excluding Bangkok Metropolis)	1,902	900	1,002
North	1,278	630	648
Northeast	1,476	732	744
South	1,014	498	516
Total	5,970	3,060	2,910

Selection of secondary sampling unit

Private households were our ultimate sampling units. A new listing of private households were made for every sample enumeration areas to serve as the sampling frame. In each sample EAs, a systematic sample of private households were selected with the following sample size :

Municipal areas : 16 sample households per EAs

Non - municipal areas : 12 sample households per EAs

Before selecting sample private households in each sample EAS, the list of private households was rearranged by household ' s size - member of the households.

All group of employees households located within the sample areas were included in the sample and the persons in the group of employees household were systematically selected for the interviewing.

The total number of sample private households selected for enumeration by region and type of local administration was as follows :

Region / Stratum	Total	Municipal Areas	Non - Municipal Areas
Bangkok Metropolis	4,800	4,800	-
Central (Excluding Bangkok Metropolis)	26,424	14,400	12,024
North	17,856	10,080	7,776
Northeast	20,640	11,712	8,928
South	14,160	7,968	6,192
Total	83,880	48,960	34,920

2. Method of estimation

The survey results were presented at provincial level and regional level. At regional level, the results were presented separately for the Bangkok Metropolis and the remaining 76 provinces were classified by region, municipal areas and non-municipal areas.

Let $g = 1, 2, 3, \dots, 20$ (age - sex group)
 $k = 1, 2, 3, \dots, m_{hij}$ (sample EAs)
 $j = 1, 2$ (type of local administration)
 $i = 1, 2, 3, \dots, A_h$ (province)
 $h = 1, 2, 3, 4, 5$ (region)

Estimate of the total number of persons with characteristic X

1. Adjusted estimate of the total number of persons with characteristic X for the g^{th} age - sex group, j^{th} area, i^{th} province, h^{th} region was based on the formula :

$$x''_{hijg} = \frac{x'_{hijg}}{y'_{hijg}} Y_{hijg} = r_{hijg} Y_{hijg} \dots\dots\dots (1)$$

where x'_{hijg} is the ordinary estimate of the total number of persons with characteristic X for the g^{th} age - sex group, j^{th} area, i^{th} province, h^{th} region.

y'_{hijg} is the ordinary estimate of the total population for the g^{th} age - sex group, j^{th} area, i^{th} province, h^{th} region.

$Y_{hijg}^{1/}$ is the estimate, based on the population projection of the total population for the g^{th} age - sex group, j^{th} area, i^{th} province, h^{th} region.

r_{hijg} is the ratio of the estimate of the total number of persons with characteristic X to the estimate of the total population for the g^{th} age - sex group, j^{th} area, i^{th} province, h^{th} region.

^{1/} Population Projections for Thailand 2000 - 2030, National Economic and Social Development Board, The Tenth National Economic and Social Development Planning, October 2007.

The formula of the estimate from a stratified two-stage sampling was as follows.

$$i) \quad x'_{hijg} = \frac{1}{m_{hij}} \sum_{k=1}^{m_{hij}} \frac{1}{P_{hijk}} \frac{N_{hijk}}{n_{hijk}} x_{hijk} \quad \dots\dots\dots (2)$$

where x_{hijk} is the total number of persons with characteristic X for the g^{th} age-sex group, k^{th} sample block / village, j^{th} area, i^{th} province, h^{th} region.

N_{hijk} is the total number of listing households in the k^{th} sample EAs, j^{th} area, i^{th} province, h^{th} region.

n_{hijk} is the total number of sample households in the k^{th} sample EAs, j^{th} area, i^{th} province, h^{th} region.

P_{hijk} is the probability of selection of the k^{th} sample EAs, j^{th} area, i^{th} province, h^{th} region.

m_{hij} is the total number of sample EAs in the j^{th} area, i^{th} province, h^{th} region.

$$ii) \quad y'_{hijg} = \frac{1}{m_{hij}} \sum_{k=1}^{m_{hij}} \frac{1}{P_{hijk}} \frac{N_{hijk}}{n_{hijk}} y_{hijk} \quad \dots\dots\dots (3)$$

where y_{hijk} is the total number of the population enumerated for the g^{th} age - sex group, k^{th} sample EAs, j^{th} area, i^{th} province, h^{th} region.

2. Adjusted estimate of the total number of persons with characteristic X for the j^{th} area, i^{th} province, h^{th} region was based on the formula :

$$x''_{hij} = \sum_{g=1}^{20} x''_{hijg} \quad \dots\dots\dots (4)$$

3. Adjusted estimate of the total number of persons with characteristic X for the g^{th} age - sex group, i^{th} province, h^{th} region was based on the formula :

$$x''_{hig} = \sum_{j=1}^2 x''_{hijg} \quad \dots\dots\dots (5)$$

4. Adjusted estimate of the total number of persons with characteristic X for the i^{th} province, h^{th} region was based on the formula :

$$x''_{hi} = \sum_{j=1}^2 x''_{hij} = \sum_{g=1}^{20} x''_{hig} \quad \dots\dots\dots(6)$$

5. Adjusted estimate of the total number of persons with characteristic X for the g^{th} age - sex group, j^{th} area, h^{th} region was based on the formula :

$$x''_{hijg} = \sum_{i=1}^{A_h} x''_{hijg} \quad \dots\dots\dots(7)$$

where A_h is the total number of provinces in the h^{th} region and $\sum_{h=1}^5 A_h = 76$

6. Adjusted estimate of the total number of persons with characteristic X for the j^{th} area, h^{th} region was based on the formula :

$$x''_{hj} = \sum_{i=1}^{A_h} x''_{hij} = \sum_{g=1}^{20} x''_{hijg} \quad \dots\dots\dots(8)$$

7. Adjusted estimate of the total number of persons with characteristic X for the g^{th} age - sex group, h^{th} region was based on the formula :

$$x''_{hg} = \sum_{i=1}^{A_h} x''_{hig} = \sum_{j=1}^2 x''_{hijg} \quad \dots\dots\dots(9)$$

8. Adjusted estimate of the total number of persons with characteristic X for the h^{th} region was based on the formula :

$$x''_h = \sum_{i=1}^{A_h} x''_{hi} = \sum_{j=1}^2 x''_{hj} = \sum_{g=1}^{20} x''_{hg} \quad \dots\dots\dots(10)$$

9. Adjusted estimate of the total number of persons with characteristic X for the j^{th} area was based on the formula :

$$x_j'' = \sum_{h=1}^5 x_{hj}'' \quad \dots\dots\dots(11)$$

10. Adjusted estimate of the total number of persons with characteristic X for the g^{th} age - sex group of the whole kingdom was based on the formula :

$$x_g'' = \sum_{h=1}^5 x_{hg}'' \quad \dots\dots\dots(12)$$

11. Adjusted estimate of the total number of persons with characteristic X for the whole kingdom was based on the formula :

$$x'' = \sum_{h=1}^5 x_h'' = \sum_{j=1}^2 x_j'' = \sum_{g=1}^{20} x_g'' \quad \dots\dots\dots(13)$$

Estimate of Variance of the Total Number of Persons with Characteristic X

1. The estimate variance of x_{hijg}'' was

$$\hat{V}(x_{hijg}'') = \left[\frac{Y_{hijg}}{y_{hijg}'} \right]^2 \frac{m_{hij}}{m_{hij} - 1} \sum_{k=1}^{m_{hij}} z_{hijkg}^2 \quad \dots\dots\dots (14)$$

where

$$z_{hijkg} = \bar{x}_{hijkg}' - r_{hijg} \bar{y}_{hijkg}'$$

$$\bar{x}_{hijkg}' = \frac{1}{m_{hij}} \frac{1}{P_{hijk}} \frac{N_{hijk}}{n_{hijk}} x_{hijkg}$$

$$\bar{y}_{hijkg}' = \frac{1}{m_{hij}} \frac{1}{P_{hijk}} \frac{N_{hijk}}{n_{hijk}} y_{hijkg}$$

2. The estimate variance of x''_{hij} was

$$\hat{V}(x''_{hij}) = \sum_{g=1}^{20} \hat{V}(x''_{hijg}) \quad \dots\dots\dots (15)$$

3. The estimate variance of x''_{hig} was

$$\hat{V}(x''_{hig}) = \sum_{j=1}^2 \hat{V}(x''_{hijg}) \quad \dots\dots\dots (16)$$

4. The estimate variance of x''_{hi} was

$$\hat{V}(x''_{hi}) = \sum_{j=1}^2 \hat{V}(x''_{hij}) = \sum_{g=1}^{20} \hat{V}(x''_{hig}) \quad \dots\dots\dots (17)$$

5. The estimate variance of x''_{hjpg} was

$$\hat{V}(x''_{hjpg}) = \sum_{i=1}^{A_h} \hat{V}(x''_{hijg}) \quad \dots\dots\dots (18)$$

6. The estimate variance of x''_{hj} was

$$\hat{V}(x''_{hj}) = \sum_{i=1}^{A_h} \hat{V}(x''_{hij}) = \sum_{g=1}^{20} \hat{V}(x''_{hjpg}) \quad \dots\dots\dots (19)$$

7. The estimate variance of x''_{hg} was

$$\hat{V}(x''_{hg}) = \sum_{i=1}^{A_h} \hat{V}(x''_{hig}) = \sum_{j=1}^2 \hat{V}(x''_{hjpg}) \quad \dots\dots\dots (20)$$

8. The estimate variance of x''_h was

$$\hat{V}(x''_h) = \sum_{i=1}^{A_h} \hat{V}(x''_{hi}) = \sum_{j=1}^2 \hat{V}(x''_{hj}) = \sum_{g=1}^{20} \hat{V}(x''_{hg}) \quad \dots\dots\dots (21)$$

9. The estimate variance of x_j'' was

$$\hat{V}(x_j'') = \sum_{h=1}^5 \hat{V}(x_{hj}'') \quad \dots\dots\dots(22)$$

10. The estimate variance of x_g'' was

$$\hat{V}(x_g'') = \sum_{h=1}^5 \hat{V}(x_{hg}'') \quad \dots\dots\dots (23)$$

11. The estimate variance of x'' was

$$\hat{V}(x'') = \sum_{h=1}^5 \hat{V}(x_h'') = \sum_{j=1}^2 \hat{V}(x_j'') = \sum_{g=1}^{20} \hat{V}(x_g'') \quad \dots\dots\dots (24)$$

Estimate of Coefficient of Variation of the Total Number of Persons with Characteristic X

1. The estimate coefficient of variation of x_{hijg}'' was

$$cv(x_{hijg}'') = \frac{\sqrt{\hat{V}(x_{hijg}'')}}{x_{hijg}''} \times 100\% \quad \dots\dots\dots (25)$$

2. The estimate coefficient of variation of x_{hij}'' was

$$cv(x_{hij}'') = \frac{\sqrt{\hat{V}(x_{hij}'')}}{x_{hij}''} \times 100\% \quad \dots\dots\dots(26)$$

3. The estimate coefficient of variation of x_{hig}'' was

$$cv(x_{hig}'') = \frac{\sqrt{\hat{V}(x_{hig}'')}}{x_{hig}''} \times 100\% \quad \dots\dots\dots(27)$$

4. The estimate coefficient of variation of x_{hi}'' was

$$cv(x_{hi}''') = \frac{\sqrt{\hat{V}(x_{hi}''')}}{x_{hi}'''} \times 100\% \quad \dots\dots\dots (28)$$

5. The estimate coefficient of variation of x_{hig}'' was

$$cv(x_{hig}'') = \frac{\sqrt{\hat{V}(x_{hig}'')}}{x_{hig}''} \times 100\% \quad \dots\dots\dots (29)$$

6. The estimate coefficient of variation of x_{hj}'' was

$$cv(x_{hj}'') = \frac{\sqrt{\hat{V}(x_{hj}'')}}{x_{hj}''} \times 100\% \quad \dots\dots\dots (30)$$

7. The estimate coefficient of variation of x_{hg}'' was

$$cv(x_{hg}'') = \frac{\sqrt{\hat{V}(x_{hg}'')}}{x_{hg}''} \times 100\% \quad \dots\dots\dots (31)$$

8. The estimate coefficient of variation of x_h'' was

$$cv(x_h'') = \frac{\sqrt{\hat{V}(x_h'')}}{x_h''} \times 100\% \quad \dots\dots\dots (32)$$

9. The estimate coefficient of variation of x_j'' was

$$cv(x_j'') = \frac{\sqrt{\hat{V}(x_j'')}}{x_j''} \times 100\% \quad \dots\dots\dots (33)$$

10. The estimate coefficient of variation of x_g'' was

$$cv(x_g'') = \frac{\sqrt{\hat{V}(x_g'')}}{x_g''} \times 100\% \quad \dots\dots\dots (34)$$

11. The estimate coefficient of variation of x'' was

$$cv(x'') = \frac{\sqrt{\hat{V}(x'')}}{x''} \times 100\% \quad \dots\dots\dots (35)$$

3. Data Collection

Labor force information for this survey quarterly which was conducted during the 1st-12th of July-September 2012 was obtained through interviews head or member of households of 4,800 households in the Bangkok, 48,960 households in other municipal areas and 34,920 households in non-municipal areas or a total of 83,880 households throughout the kingdom. Forty four enumerators with previous experience in survey operations were employed in Bangkok, while in the other provinces (changwats), the field staff comprised 830 enumerators.

4. In round figures

In the statistical tables, all absolute figures are independently rounded to the nearest thousand; hence the group total may not always be equal to the sum of the individual figures.

Table Coefficient of variation (CV) of the total number of informal employment by region, age group, sex and areas

Region	Age group (Years)	Coefficient of variation of the total number (Percentage) (C.V. %)								
		The number of informal employment								
		Total			Municipal area			Non-municipal area		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
Whole kingdom	Total	0.28	0.38	0.43	0.55	0.77	0.80	0.33	0.43	0.50
	15-17	3.49	4.11	6.56	6.10	6.96	11.74	4.04	4.74	7.63
	18-19	2.73	3.08	5.31	4.28	5.03	7.88	3.20	3.59	6.22
	20-24	1.39	1.68	2.40	2.36	2.94	3.92	1.61	1.94	2.79
	25-29	1.09	1.35	1.82	1.91	2.47	3.03	1.29	1.58	2.19
	30-34	0.91	1.20	1.40	1.75	2.37	2.58	1.06	1.38	1.65
	35-39	0.75	1.02	1.10	1.62	2.30	2.29	0.83	1.11	1.25
	40-49	0.53	0.76	0.75	1.16	1.68	1.59	0.59	0.83	0.85
	50-59	0.51	0.69	0.76	1.07	1.51	1.52	0.58	0.77	0.87
	60 and over	0.76	0.95	1.24	1.45	1.98	2.13	0.90	1.09	1.50
Bangkok	Total	1.98	2.72	2.88	1.98	2.72	2.88			
	15-17	*	*	*	*	*	*			
	18-19	19.01	*	*	19.01	*	*			
	20-24	12.82	16.38	*	12.82	16.38	*			
	25-29	8.27	10.13	14.05	8.27	10.13	14.05			
	30-34	5.55	6.92	9.21	5.55	6.92	9.21			
	35-39	4.99	7.11	6.96	4.99	7.11	6.96			
	40-49	3.93	5.71	5.36	3.93	5.71	5.36			
	50-59	3.69	4.95	5.53	3.69	4.95	5.53			
	60 and over	5.89	8.38	8.24	5.89	8.38	8.24			
Central region	Total	0.59	0.80	0.88	1.05	1.44	1.54	0.71	0.95	1.07
	15-17	6.97	7.72	14.66	13.67	16.00	*	7.99	8.71	17.51
	18-19	4.99	5.52	10.15	8.10	10.34	12.96	6.08	6.48	13.06
	20-24	2.87	3.65	4.63	4.69	5.89	7.70	3.50	4.45	5.69
	25-29	2.22	2.58	4.07	3.94	5.34	5.85	2.67	2.95	5.32
	30-34	2.07	2.85	2.99	3.70	5.08	5.38	2.49	3.44	3.59
	35-39	1.76	2.38	2.60	3.23	4.62	4.52	2.10	2.77	3.18
	40-49	1.19	1.65	1.71	2.13	2.85	3.14	1.43	2.02	2.02
	50-59	1.07	1.54	1.50	2.00	2.94	2.72	1.27	1.80	1.79
	60 and over	1.48	1.88	2.34	2.64	3.34	4.11	1.79	2.27	2.85

Remark : * C.V. more than 20%

Table Coefficient of variation (CV) of the total number of informal employment by region, age group, sex and areas

Region	Age group (Years)	Coefficient of variation of the total number (Percentage) (C.V. %)								
		The number of informal employment								
		Total			Municipal area			Non-municipal area		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
Northern region	Total	0.53	0.69	0.82	0.94	1.25	1.43	0.62	0.80	0.97
	15-17	7.43	7.98	15.38	13.43	15.88	*	8.20	8.84	16.62
	18-19	5.79	6.80	10.35	10.00	12.18	17.33	6.54	7.68	11.66
	20-24	2.61	3.09	4.59	4.95	6.28	8.05	2.94	3.46	5.20
	25-29	1.96	2.29	3.43	4.11	4.85	7.04	2.22	2.59	3.90
	30-34	1.99	2.61	3.06	3.39	4.58	5.05	2.34	3.06	3.62
	35-39	1.39	1.84	2.10	3.11	3.59	5.11	1.55	2.12	2.28
	40-49	0.96	1.36	1.35	1.77	2.41	2.57	1.12	1.61	1.57
	50-59	0.91	1.17	1.40	1.68	2.32	2.44	1.06	1.34	1.66
	60 and over	1.46	1.79	2.44	2.17	2.93	3.24	1.78	2.14	3.03
Northeastern region	Total	0.46	0.61	0.71	0.73	0.99	1.08	0.53	0.70	0.82
	15-17	5.82	7.20	9.59	7.79	9.42	12.94	6.76	8.45	10.90
	18-19	4.50	4.98	9.06	6.46	7.68	11.78	5.13	5.66	10.39
	20-24	2.32	2.79	4.06	3.75	4.51	6.68	2.64	3.19	4.58
	25-29	1.87	2.33	3.10	2.50	3.32	3.80	2.20	2.72	3.67
	30-34	1.40	1.80	2.18	2.33	3.05	3.58	1.60	2.06	2.53
	35-39	1.11	1.46	1.68	1.75	2.54	2.40	1.28	1.67	1.96
	40-49	0.80	1.12	1.15	1.31	1.86	1.85	0.93	1.29	1.34
	50-59	0.83	1.10	1.24	1.51	1.98	2.28	0.95	1.26	1.42
	60 and over	1.29	1.56	2.18	2.03	2.68	3.13	1.48	1.78	2.52
Southern region	Total	0.68	0.90	1.02	1.20	1.71	1.67	0.80	1.05	1.22
	15-17	7.56	8.15	15.82	13.78	*	18.29	8.64	8.84	*
	18-19	6.55	7.39	12.30	12.26	12.99	*	7.50	8.59	13.73
	20-24	3.05	3.76	5.17	5.75	7.94	8.28	3.48	4.20	6.04
	25-29	2.42	3.22	3.66	4.66	6.54	6.47	2.78	3.66	4.26
	30-34	2.07	2.73	3.17	3.69	5.96	4.35	2.45	3.06	3.96
	35-39	1.75	2.48	2.48	3.14	4.25	4.67	2.08	2.99	2.90
	40-49	1.24	1.76	1.76	2.20	3.12	3.11	1.48	2.09	2.10
	50-59	1.32	1.71	2.03	2.42	3.24	3.60	1.56	2.00	2.42
	60 and over	1.82	2.27	2.94	3.41	5.02	4.50	2.13	2.54	3.55

Remark : * C.V. more than 20%