Statistics Finland

Suomen virallinen tilasto
Finlands officiella statistik
Official Statistics of Finland

Labour Market 2012

Labour Force Survey

Families and work in 2011

Mothers' use of family leaves has become slightly more general

According to the Labour Force Survey of Statistics Finland, the economic downturn that started at the end of 2008 was reflected in the employment of mothers of small children. The share of mothers on family leaves grew slightly and correspondingly, that of working mothers diminished somewhat between 2008 and 2010. The situation in 2011 has remained more or less the same as in 2010. These data derive from the annual Labour Force Survey review Families and work in 2011.

Working and family leaves of 20 to 59-year-old mothers with children aged under three in 2008-2011
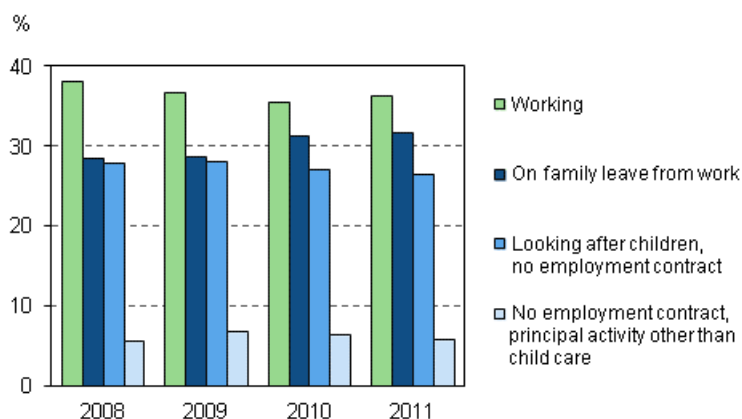
In 2011, over one-third of mothers of children aged under three were working and nearly one-third were on family leaves from work. Good one-quarter were taking care of their children at home without an employment contract.

However, mothers do not stay long at home to look after their children. Ninety per cent of the mothers of school-age children were working, which is almost the same as for fathers. When the youngest child is one to two years old, more than one half of the mothers are working. In fact, just eight per cent of the mothers whose youngest child was aged under one were working.

Working and family leaves among 20 to 59-year-old mothers by age of their youngest child in 2011-2009
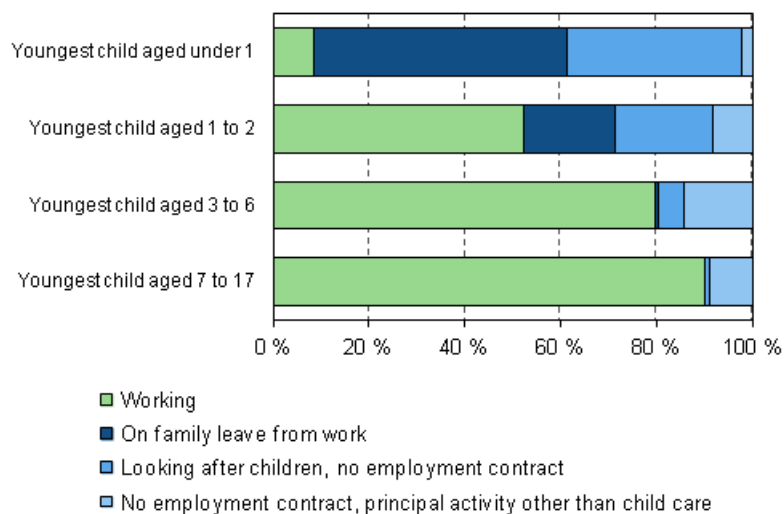
The concept 'working' used in this release differs from the concept of employed used in the Labour Force Survey. In the Labour Force Survey, persons on maternity or paternity leave from work as well as persons on other family leaves whose absence from work has lasted under three months are also classified as employed. Therefore, especially in the case of mothers of very small children the employed contain plenty of mothers who are actually at home looking after a child. The annual publication *Families and work in 2011* is based on the household section of the Labour Force Survey.

Links

Updated tables of the Labour Force Survey: http://tilastokeskus.fi/til/tyti/tau_en.html.

Changes in employment and employment relationships in 2011 are described in an earlier Labour Force Survey annual review Employment and unemployment in 2011

Contents

Tables

Appendix tables, time series 2010–2011

Figures

1. Introduction

This annual Labour Force Survey publication contains statistical data on family and work. The data are based on interview data derived from the household section of the Labour Force Survey. The publication is focused on the age group of those aged 20 to 59 as concerns both families and persons without children used as the comparison group, because over 99 per cent of the parents of children aged under 18 belong to this age group. In this review, women and men without children are those who do not have children aged under 18 living in their household.

At the end of 2011, families with children numbered 581,000. Families with children are families that have at least one child aged under 18 living in the same household. At the turn of the year, the average number of children living in a family with underage children was 1.83. Sixty-one per cent of families with underage children were families of married couples and 19 per cent those of cohabiting couples. Around one-fifth of families with children are single-parent families. (Source: Population and Cause of Death Statistics, Statistics Finland.)

The publication mainly examines changes that have taken place between 2004 and 2011 in employment and family leaves in families. The appendix tables apply to the years 2010 and 2011. There are corresponding tables for the years 2008 and 2009 in the annual publication Families and work in 2009.

2. Employment of fathers and mothers remained almost unchanged during the economic downturn

As a result of the economic downturn that began towards the end of 2008, men's unemployment increased more than women's did. Nevertheless, employment of parents of underage children stayed nearly unchanged. The temporary lay-offs, redundancies and job losses, which followed from the recession, affected more men without children than fathers of under 18-year-old children. Fathers of families with children have remained firmly in working life and their employment rate has stayed high and unemployment rate low despite the recession. (Figures 1 and 2 and Appendix tables 1–6.)

Figure 1. Employment rates for 20 to 59-year-old fathers and men without children in 2004-2011
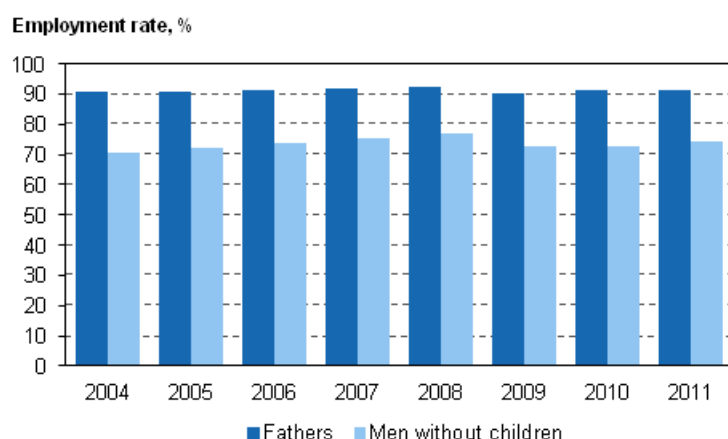
Figure 2. Unemployment rates for 20 to 59-year-old fathers and men without children in 2004-2011
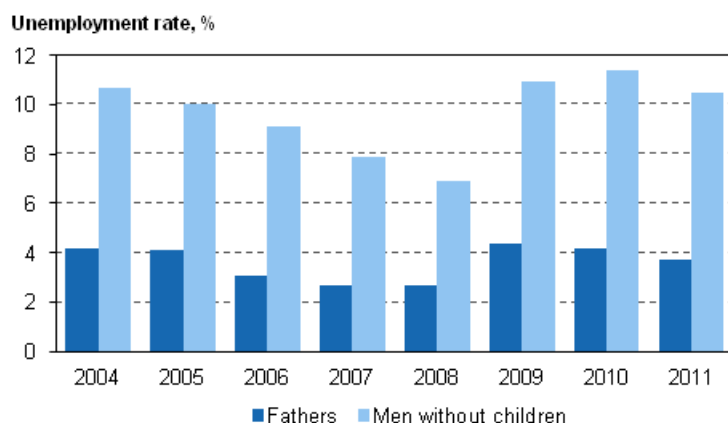
Unlike with men, the difference between the employment rates for women without children and for mothers was very small. The employment rates of mothers aged 20 to 59 and women without children in the same age group have remained between good 70 per cent and close on 80 per cent. The effect of the economic downturn on women's employment rates was also considerably smaller than for men. (Figure 3.) Compared with mothers of children aged under 18, the unemployment rate of women without children has been somewhat greater. However, the unemployment rate of women without children has been smaller than that of men without children of the same age. (Figure 4.)

Figure 3. Employment rates for 20 to 59-year-old mothers and women without children in 2004-2011
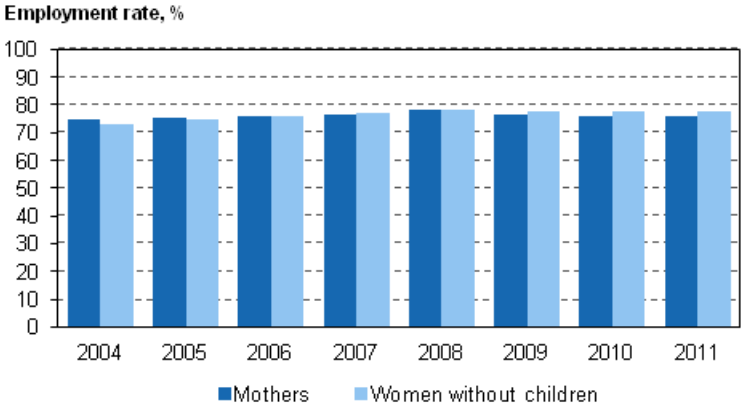
Employment rate, %

Figure 4.Unemployment rates for 20 to 59-year-old mothers and women without children in 2004-2011

Unemployment rate, %
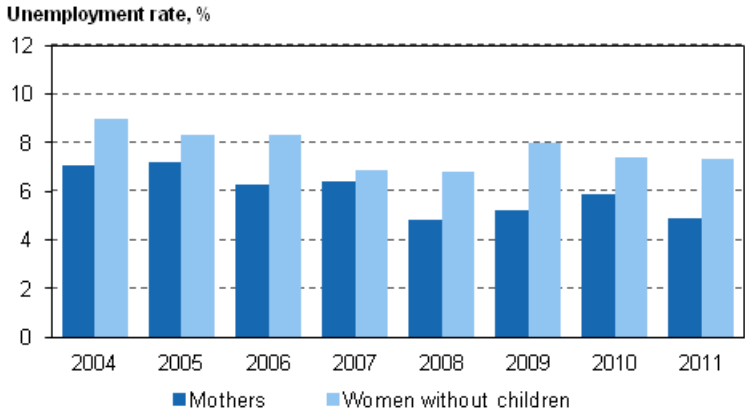
3. Mothers' use of family leaves has become slightly more widespread

The age of the youngest child in the family has a distinct effect on the employment of mothers aged 20 to 59 (Figure 5). Only about one-half of mothers are employed if their youngest child is aged under three. Mothers' employment rate rises to 90 per cent or so, i.e. to the same level as fathers', only once the youngest child has reached school age. Fathers' employment rate, in turn, remains equally high irrespective of the age of their children. This means that mothers still continue to take most of the long family leaves.

Figure 5. Employment rates for 20 to 59-year-old mothers by age of their youngest child in 2004-2011
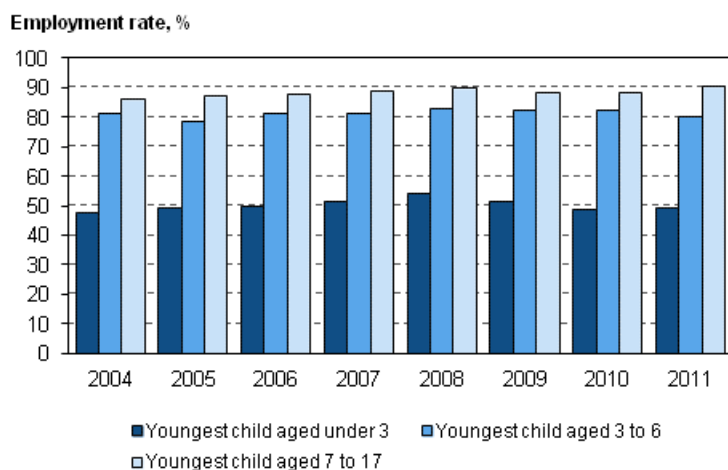
However, the employment rate alone does not describe the proportion of the parents of young children who actually work. Persons on maternity or paternity leave from work as well as persons whose absence from work has lasted under three months are classified as employed in the Labour Force Survey. Thus, especially in the case of mothers of very small children the employed contain many mothers who are actually at home looking after a child. Respectively, mothers on child care leave are mostly classified as inactive population (persons outside the labour force) because the care leave is often taken after the maternity leave and parental leave, which lengthens the total duration of the leave.

Figure 6 shows as a separate group those mothers of under three-year-old children who actually go to work. It also describes separately the mothers on family leave (maternity, parental or child care leave) from an employment relationship and the mothers without a valid employment contract who are looking after their children at home. The fourth group consists of those who have said their principal activity is something else than child care. This group includes such as students and unemployed persons.

**Figure 6. Working and family leaves of 20 to 59-year-old mothers
with children aged under three in 2008-2011**
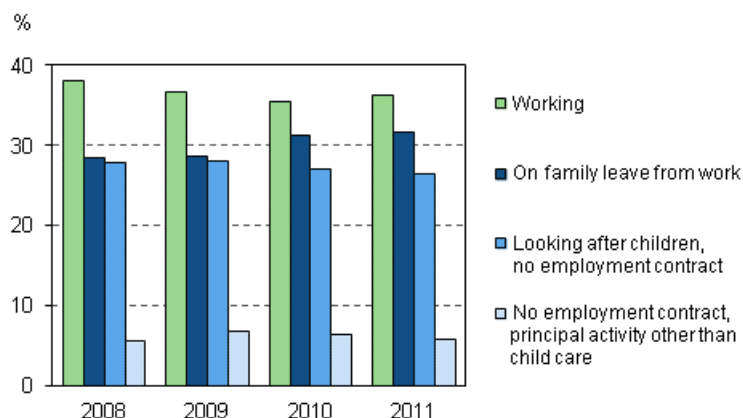
The economic downturn that started at the turn of 2008 and 2009 was reflected in the working of mothers of small children in that the share of those on family leaves grew slightly and correspondingly, that of those working fell to some extent. The situation in 2011 has remained more or less the same as in 2010. (Figure 6.)

When the mothers on family leaves are separated from those working, it can be seen that in reality only about one-third of the mothers of under three-year-olds were working in 2011. However, the groups of mothers of under one-year-olds and mothers of one to two-year-olds are very different (Figure 7). Of the mothers whose youngest child was aged under one, good eight per cent were working, over one-half were on family leave and good one-third were at home caring for the child and did not have a valid employment contract. When the youngest child was aged between one and two, as many as over one-half of the mothers were working. Thus, the share of mothers who work rises fast as the youngest child grows older when the mothers either return from family leave or find employment.

**Figure 7. Working and family leaves among 20 to 59-year-old mothers
by age of their youngest child in 2011**
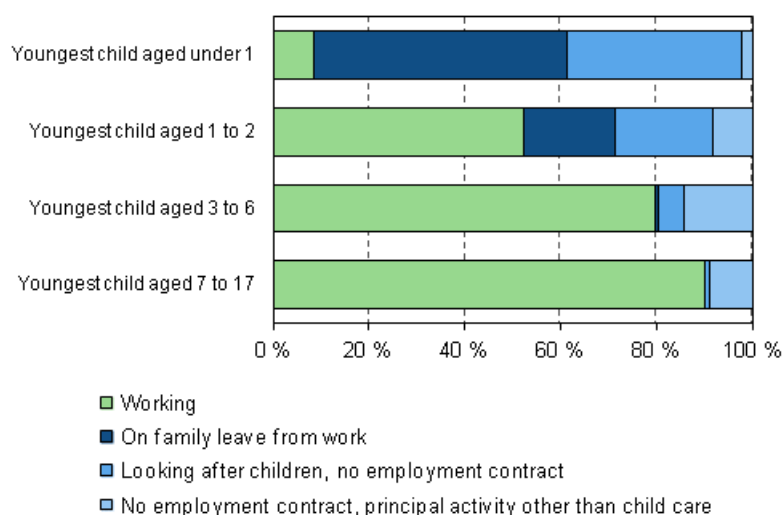
Fathers usually take shorter family leaves than mothers do. During the paternity leave, the "daddy" month or the care leave of under three months, fathers are classified as employed so family leaves have little impact on the employment rate of fathers. The picture of the employment of fathers hardly changes when the fathers on family leave are separated from the fathers who are working, because only two per cent of the fathers of under three-year-olds were on a family leave during the survey week in 2011.

4. More mothers stay at home after the arrival of third child

Apart from the age of children, their number also influences the employment of mothers (Figure 8). In 2011, 79 per cent of the mothers of two children were employed but only 64 per cent of mothers were still employed if there were at least three children. In 2009, the respective figures were 82 and 65 per cent. The number of children had no impact on the employment of fathers. In 2009, 92 per cent of the fathers of two children and 88 per cent of the fathers of three children were employed. The figures concern the age group of those aged 20 to 59.

Figure 8. Employment rates of fathers and mothers aged 20 to 59 by number of children in 2011
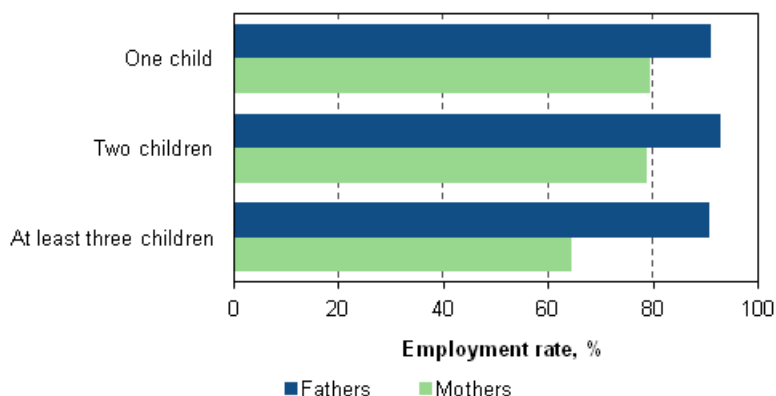
Indeed, staying at home is clearly more usual for the mothers of families with three or more children than among the mothers of families with one or two children. Around one in five of the mothers of families with at least three children were looking after their children at home and had no valid employment contract in 2011 (Figure 9). Working and looking after children were nearly equally common among the mothers of one or two children. Those mothers who did not have a valid employment contract said their principal activity was either child care or something else. Here mothers who have not had a valid employment contract and who said they primarily took care of they children were interpreted as being stay-at-home mothers.

Figure 9. Working and family leaves among 20 to 59-year-old mothers by number of children in 2011
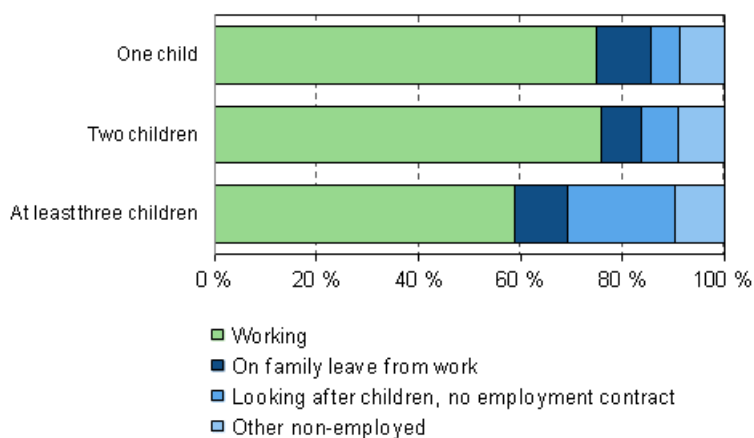
5. Both parents of families with children are usually employed

Both the father and the mother were employed in 70 per cent of the two-carer families with children in 2011. When the children are small, the father usually works and the mother stays at home caring for the children. However, this arrangement lasts for a relatively short time period and the so-called dual-earner model becomes usual when the youngest child grows older. When the youngest child is three to six years old, in 76 per cent of the two-parent families, both parents are employed and this was so for as many as 83 per cent of the parents of school-age children. (Figure 10).

Figure 10. Labour market position of parents in families with children with two carers aged 20 to 59 by age of youngest child in 2011
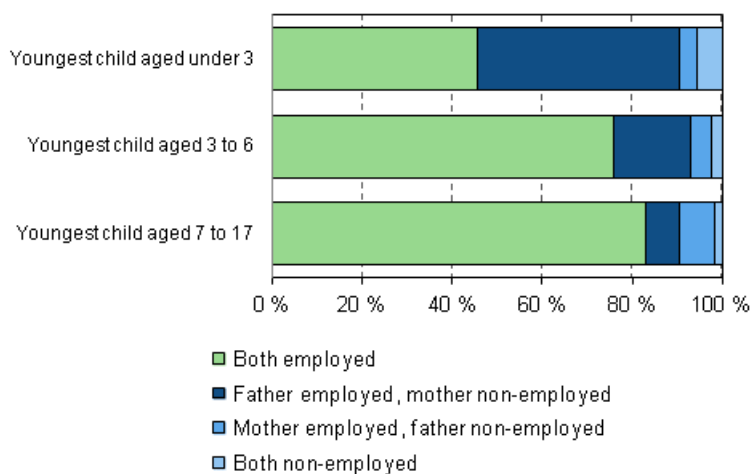
In four out of five of the two-parent families where the youngest child was aged under one the father was working and the mother was either on family leave or otherwise caring for children at home. When the youngest child was one to two years old, in every second family the mother had returned to work and only around one third of the mothers were on family leave or otherwise caring for children at home.

Thus, in respect of the parents' participation in working life the set-up is still very traditional in the majority of families with small children. The mother was working while the father cared for the children in four per cent of the families with children aged under three in 2011.

6 Concepts

Parents of families with children are women and men with their own or their spouse's children aged under 18 living in the same household.

Women and men without children are women and men without children aged under 18 living in the same household. Thus they include

- Persons without any children
- So-called remote parents whose child lives or is registered at the address of the other parent and
- Parents whose children are aged over 18 or have already moved into their own household.

More than 99 per cent of the parents of children aged under 18 locate in the age group of those aged 20 to 59, so this article examines parents belonging to that age group. Women and men of the same age without any children are used as their comparison group in order to make these groups comparable in respect of age and stage in life.

Family leaves comprise maternity and paternity leave, parental leave (incl. so-called "daddy" month) and child care leave. They are leaves for which the parents of small children are entitled to take by law from work in order to care for the child until the youngest child reaches the age of three. The employment contracts of the parents remain valid during these family leaves. Persons on maternity or paternity leave and persons on leaves lasting under three months are classified as employed in the Labour Force Survey.

A person is *employed* if he/she has during the survey week been in gainful employment for at least one hour against pay in money or fringe benefits, or to make a profit, or has been temporarily absent from work. Persons absent from work during the survey week are classified as employed if the reason for absence is maternity or paternity leave or own illness or the absence has lasted for under three months. Employed persons can be employees, self-employed or unpaid workers in enterprises of a family member.

The *employment rate* is the ratio of employed persons to the population of the same age. The employment rate of the total population is calculated as the ratio of employed persons aged 15 to 64 to the population of the same age.

The *unemployment rate* is the ratio of unemployed persons to the active population (labour force) of the same age, i.e. employed and unemployed persons. The employment rate of the total population is calculated as the ratio of unemployed persons aged 15 to 74 to the active population (labour force) of the same age.

Caring for children, no employment relationship: These persons do not have an employment relationship and in the interview they have reported child care as their principal activity.

No employment relationship, principal activity other than child care: These persons do not have an employment relationship and in the interview they have reported other than child care as their principal activity. This group includes such as students and unemployed persons.

7. The household section of the Labour Force Survey provides data on employment in families

The data presented in this publication are based on the interview data obtained in the Labour Force Survey. The data collected with the Labour Force Survey are used to compile statistics on labour force participation, employment, unemployment and working hours of the population aged between 15 and 74. The data content of the survey is based on an EU Regulation. In most European countries the Labour Force Survey data are collected from a sample of households, which means that all members of a household living at the same address are interviewed at the same time. Besides Finland, Sweden, Denmark and Switzerland are the only other countries where the sample is based on individual persons, i.e. only the target persons drawn into the sample are interviewed.

However, the EU regulation also requires data concerning households and in Finland this has been solved by exploiting the panel nature of the Labour Force Survey. In the Labour Force Survey the same person is usually interviewed five times during 18 months. In addition to the basic interview, a household interview is conducted on the fifth interview round to ascertain the members who belong to the household of the interviewee and the activity of the household members aged 15 to 74 on the labour market. The data obtained in this way enable examinations of, for instance, employment in the family and the joint status of both spouses on the labour market. However, this publication centres only on families whose parents belong to the age group of those aged 20 to 59.

In 2011, the household data comprised approximately 55,000 persons who formed 23,000 households. The household data for the Labour Force Survey have been collected by the present method since 2003 and the data can mainly be published starting from the year 2004.

Appendix tables, time series 2010–2011

Appendix table 1. Employment rates by age of youngest child 2010 - 2011, population aged 20-59

| | | Year | |
| | | 2010 | 2011 |
		Employment rate, %	Employment rate, %
Both sexes	Total	78,2	78,5
	Parents of children under 18 years total	83,4	83,5
	- youngest child under 3 years	69,7	69,5
	- youngest child between 3 and 6 years	87,7	86,3
	- youngest child between 7 and 17 years	89,7	90,8
	No children under 18 years	75,2	75,7
Males	Total	79,3	80,1
	Parents of children under 18 years total	91,6	91,5
	- youngest child under 3 years	91,2	90,4
	- youngest child between 3 and 6 years	93,3	92,8
	- youngest child between 7 and 17 years	91,1	91,6
	No children under 18 years	72,8	74,1
Females	Total	77,1	76,9
	Parents of children under 18 years total	75,7	76,1
	- youngest child under 3 years	48,7	49,2
	- youngest child between 3 and 6 years	82,4	80,1
	- youngest child between 7 and 17 years	88,4	90,2
	No children under 18 years	77,9	77,4

Appendix table 2. Employment rates by number of children 2010 - 2011, population aged 20-59

| | | Year | |
| | | 2010 | 2011 |
		Employment rate, %	Employment rate, %
Both sexes	Total	78,2	78,5
	Parents of children under 18 years total	83,4	83,5
	- 1 child	83,9	84,7
	- 2 children	85,5	85,6
	- 3 or more children	78,7	77,2
	No children under 18 years	75,2	75,7
Males	Total	79,3	80,1
	Parents of children under 18 years total	91,6	91,5
	- 1 child	90,7	90,8
	- 2 children	92,1	92,7
	- 3 or more children	92,5	90,5
	No children under 18 years	72,8	74,1
Females	Total	77,1	76,9
	Parents of children under 18 years total	75,7	76,1
	- 1 child	77,7	79,3
	- 2 children	79,1	78,8
	- 3 or more children	65,2	64,3
	No children under 18 years	77,9	77,4

Appendix table 3. Activity rates by age of youngest child 2010 - 2011, population aged 20-59

		Year	
		2010	2011
		Activity rate, %	Activity rate, %
Both sexes	Total	84,8	84,6
	Parents of children under 18 years total	87,8	87,2
	- youngest child under 3 years	74,2	73,2
	- youngest child between 3 and 6 years	92,7	91,1
	- youngest child between 7 and 17 years	93,8	94,1
	No children under 18 years	83,0	83,1
Males	Total	86,8	87,0
	Parents of children under 18 years total	95,6	95,0
	- youngest child under 3 years	95,7	94,4
	- youngest child between 3 and 6 years	97,2	95,8
	- youngest child between 7 and 17 years	94,9	95,0
	No children under 18 years	82,1	82,8
Females	Total	82,7	82,2
	Parents of children under 18 years total	80,5	80,0
	- youngest child under 3 years	53,0	52,6
	- youngest child between 3 and 6 years	88,4	86,6
	- youngest child between 7 and 17 years	92,9	93,2
	No children under 18 years	84,1	83,5

Appendix table 4. Activity rates by number of children 2010 - 2011, population aged 20-59

		Year	
		2010	2011
		Activity rate, %	Activity rate, %
Both sexes	Total	84,8	84,6
	Parents of children under 18 years total	87,8	87,2
	- 1 child	88,3	88,8
	- 2 children	90,2	88,7
	- 3 or more children	82,3	81,2
	No children under 18 years	83,0	83,1
Males	Total	86,8	87,0
	Parents of children under 18 years total	95,6	95,0
	- 1 child	95,1	94,7
	- 2 children	96,3	95,4
	- 3 or more children	95,5	94,7
	No children under 18 years	82,1	82,8
Females	Total	82,7	82,2
	Parents of children under 18 years total	80,5	80,0
	- 1 child	82,4	83,6
	- 2 children	84,3	82,2
	- 3 or more children	69,6	68,2
	No children under 18 years	84,1	83,5

Appendix table 5. Unemployment rates by age of youngest child 2010 - 2011, population aged 20-59

| | | Year | |
| | | 2010 | 2011 |
		Unemployment rate, %	Unemployment rate, %
Both sexes	Total	7,8	7,2
	Parents of children under 18 years total	5,0	4,2
	- youngest child under 3 years	6,0	5,1
	- youngest child between 3 and 6 years	5,4	5,2
	- youngest child between 7 and 17 years	4,4	3,4
	No children under 18 years	9,4	8,9
Males	Total	8,6	7,9
	Parents of children under 18 years total	4,2	3,7
	- youngest child under 3 years	4,7	4,2
	- youngest child between 3 and 6 years	4,0	3,1
	- youngest child between 7 and 17 years	4,0	3,6
	No children under 18 years	11,4	10,5
Females	Total	6,8	6,4
	Parents of children under 18 years total	5,9	4,9
	- youngest child under 3 years	8,3	6,5
	- youngest child between 3 and 6 years	6,8	7,4
	- youngest child between 7 and 17 years	4,8	3,2
	No children under 18 years	7,4	7,3

Appendix table 6. Unemployment rates by number of children 2010 - 2011, population aged 20-59

| | | Year | |
| | | 2010 | 2011 |
		Unemployment rate, %	Unemployment rate, %
Both sexes	Total	7,8	7,2
	Parents of children under 18 years total	5,0	4,2
	- 1 child	5,1	4,6
	- 2 children	5,2	3,5
	- 3 or more children	4,5	5,0
	No children under 18 years	9,4	8,9
Males	Total	8,6	7,9
	Parents of children under 18 years total	4,2	3,7
	- 1 child	4,6	4,2
	- 2 children	4,4	2,8
	- 3 or more children	3,1	4,5
	No children under 18 years	11,4	10,5
Females	Total	6,8	6,4
	Parents of children under 18 years total	5,9	4,9
	- 1 child	5,6	5,1
	- 2 children	6,1	4,2
	- 3 or more children	6,3	5,7
	No children under 18 years	7,4	7,3

Quality Description: Labour force survey

1. Relevance of statistical information

The Labour Force Survey is a sample survey used in the compilation of monthly, quarterly and annual statistics on participation in the labour market, employment, unemployment and working hours among the population aged between 15 and 74. The data content of the Survey is based on an EU regulation, and approximately 12,000 persons are interviewed for it every month. The information provided by the respondents is used to draw a picture of the activities of the entire population aged between 15 and 74 on the labour market during one week. In the basic classification of labour market status, the population is divided into the employed, the unemployed and the economically inactive. The active population (labour force) consists of the employed and the unemployed.

The Survey provides an up-to-date and comprehensive picture of the active population (labour force) and changes on the labour market. Public attention focuses each month especially on the changes in employment and unemployment from the corresponding month of the previous year. Seasonally adjusted figures are used to monitor the trend of the changes. The Survey also provides information about persons of working age who are not employed or job seekers. Since 2003, information has also been obtained from a subsample about the structure of households and the activities of all household members aged 15 to 74 relative to the labour market. A description of the data content of the Labour Force Survey is available at: http://tilastokeskus.fi/til/tyti/tyti_2008-02-19_tlu_001_en.html.

The monthly and quarterly results of the Labour Force Survey describe the seasonal and trend variation of employment. The Labour Force Survey time series describe long term changes in the labour market. Annual averages describe the active population, that is, the employed and the unemployed, and the economically inactive persons by, for instance, industry, occupation, education, age, gender and area.

The results of the Survey are used in preparing, among other things, labour market projections and plans, as support for decision-making and in the monitoring of the effects of different measures on employment. Key users of the results are ministries, authorities responsible for regional planning, employers' and employees' organisations, universities and research institutes, international organisations and the European Union. At Statistics Finland the data are used in, for instance, calculations of National Accounts. The Statistical Office of the European Communities, Eurostat, steers the content of the Survey and monitors its quality. Eurostat produces structural indicators and other statistics from the quarterly data that are submitted to it.

The concepts and definitions used in the Survey comply with the recommendations of ILO, the International Labour Organisation of the UN, and the regulations of the European Union on official statistics. The current data content of the Labour Force Survey is mainly based on the EU Regulations concerning Labour Force Surveys (Nos 577/98, 2257/2003 and 430/2005). A detailed description of the EU Labour Force Survey is available at: http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_unemployment_lfs/introduction. Since 1999 a harmonised EU ad hoc survey with an annually changing topic has been conducted in connection with the Labour Force Survey. Further information about the ad hoc surveys can be found (in Finnish) at: http://tilastokeskus.fi/til/tyti/tyti_2011-11-28_men_001.html.

Concepts:

- A person is **employed** if he/she has during the survey week been in gainful employment for at least one hour against pay in money or fringe benefits, or to make a profit, or has been temporarily absent from work. Persons absent from work during the survey week are classified as employed if the reason for absence is own illness or maternity or paternity leave or the absence has lasted for under three months. The employed are divided into employees, self-employed or unpaid family workers.

- A person is **unemployed** if he/she is without work during the survey week, has actively sought employment in the past four weeks as an employee or self-employed and would be available for work within two weeks. A person who is without work and waiting for an agreed job to start within three months is also classified as unemployed, if he/she could start work within two weeks.

- The **active population (labour force)** comprises all persons who are employed or unemployed during the survey week.

- The **economically inactive population** consists of persons who are not employed or unemployed during the survey week. The economically inactive population can also be referred as persons outside the labour force. Explanations for other concepts of the Labour Force Survey can be found at: http://tilastokeskus.fi/til/tyti/kas_en.html.

The classifications used in the Labour Force Survey in 2011 include the Standard Industrial Classification (TOL 2008, NACE Rev. 2), the Classification of Occupations 2010 (ISCO-08), the Classification of Socio-economic Groups 1989 and the Classification of Education 1997 (ISCED 1997) as well as the regional classification into Major Regions, Regional State Administrative Agencies (AVI), Centres for Economic Development, Transport and the Environment (ELY Centre) and Regions.

2. Methodological description of the statistical survey

The population of the Labour Force Survey consists of persons aged between 15 and 74 who are permanent residents of Finland. The population also comprises persons residing temporarily (for under one year) abroad as well as foreign nationals registered in the Finnish Population Information System whose stay in Finland will last for at least one year (http://www.vrk.fi/default.aspx?id=48).

The sample of the Labour Force Survey is drawn twice a year as a stratified random sample from Statistics Finland's population database, which is based on the Central Population Register. The survey is a panel survey in which one person is interviewed five times. The interviews are conducted every three months, apart from the fourth interview which is conducted six months after the third interview. The first and last interviews are 15 months apart. The sample of each month consists of approximately 12,000 persons, which is, on the average, every 300th person in the population. The sample for one survey month consists of five rotation groups which have entered the survey at different points of time. The sample changes gradually so that different persons answer the questions during three consecutive months. In consecutive quarters three-fifths of the respondents are the same. In consecutive years the overlap is two-fifths. The data are collected from all weeks of the year.

In most European countries the Labour Force Survey data are collected from a sample of households, which means that all members of a household living at the same address are interviewed at the same time. Besides Finland, Sweden, Denmark and Switzerland are the only other countries were the sample is based on individual persons, i.e. only the target persons drawn into the sample are interviewed. However, the EU regulation also requires data concerning households and in Finland this has been solved by exploiting the panel nature of the Labour Force Survey. In addition to the basic interview, a household interview is conducted on the fifth interview round to ascertain the members who belong to the household of the interviewee and the activity of the household members aged 15 to 74 on the labour market. So that the data would describe the whole population, a supplementing sample is added to it of households in which all members are aged 75 or over. Children under the age of 15 and persons aged over 75 are not interviewed in the Labour Force Survey, but certain data are imputed for them to describe their status on the labour market.

The household data enable examinations of, for instance, employment in the family and the joint status of both spouses on the labour market. In 2011, the household data comprised approximately 55,000 persons who formed 23,000 households. The household data for the Labour Force Survey have been collected by the present method since 2003 and the data can mainly be published starting from the year 2004.

The data content of the survey varies by survey round. Certain basic pieces of information are inquired in the first round and checks are then made in subsequent rounds to see whether they have remained unchanged. The data content is wider in the last, or the fifth, survey round which includes the household module, the annual ad hoc module with variable topics, as well as certain additional questions concerning the main job.

Statistics Finland's interviewers collect the data with computer-assisted telephone interviews. Approximately 109,000 interviews were conducted in 2011. On the average, the non-response rate of this survey was 24 per cent.

The results from the sample are weighted to correspond to the entire population aged between 15 and 74. The effects of non-response on the results are corrected by using so called weight calibration, in which weighting is used to produce the correct population distributions by area, gender and age. Information from the job seeker register of the Ministry of Employment and the Economy is also used as supplementary data.

Like all figures collected with a sample survey, the figures of the Labour Force Survey are so called estimates. An **estimate** is an estimation of a quality of the population derived by applying a mathematical procedure (estimation) to sample observations. For example, the number of the unemployed in January 2011, 215,000 persons, is an estimate of the number of unemployed persons aged between 15 and 74 obtained by such a procedure.

Quarterly and annual estimates are averages of monthly estimates. Working days and hours worked are estimated basing on the number of calendar days in the month concerned. Quarterly and annual estimates of working days and hours worked are sums of monthly estimates.

The employment and unemployment figures of the Labour Force Survey vary relatively regularly in different months of the year. So-called trends are also published from the Labour Force Survey. Variation which occurs annually in similar ways has been removed from these trends. The direction of long-term developments and cyclical variations are easier to see from a trend than from unadjusted monthly data. Due to the method used, the last data of the trend become slightly revised when the data of the following month are inserted into the time series. This preliminary nature of trends should be taken into account when drawing conclusions. Starting from June 2007, the trend components of the time series have been calculated with the Tramo/Seats method recommended by Eurostat, the Statistical Office of the European Communities. Further information about the trend and limitations in its use can be found at: http://tilastokeskus.fi/til/tramo_seats_en.html.

3. Correctness and accuracy of data

The reliability of the figures of the Labour Force Survey is affected by non-response (see above), measurement errors and random variation due to sampling.

Measurement errors arise from, among other things, differences in interpreting or understanding of the questions, respondents' inability to recall or unwillingness to give certain information, or erroneous recording of answers. Development and testing of the questions, interviewer instructions and the user interface, and training of interviewers are measures used to contain measurement errors.

Random variation due to sampling means that figures calculated from different samples deviate somewhat from each other. When evaluating roughly the magnitude of random variation due to sampling in different situations, the main principle is that **1) the larger the sample is from which the figures are calculated and 2) the larger the population described by the figures is, the less uncertainty due to sampling there will be in the figures.** For instance, quarterly figures are more accurate than monthly figures in describing the same phenomenon, as quarterly data have been collected by interviewing three times the number of persons interviewed for monthly data. Annual figures are the most accurate. The latter principle means that the figures of the employed and the unemployed, that is the estimates, based on a sample of the same size are the more accurate the larger the subgroup they apply to. As the relevant subgroup becomes smaller, random variation due to sampling increases. Therefore e.g. the numbers of the unemployed in different age groups or in different areas are not as reliable as the number of all the unemployed.

Inaccuracy due to sampling is assessed with the standard error of the estimate. The magnitude of the standard error is influenced by the size of the sample and the variance of the variable being investigated. Standard error can be used to calculate the **confidence interval**, within which the value of the population lies with a certain probability. The **95 per cent confidence interval** used in the Labour Force Survey **is the interval within which the real value of the characteristic being investigated lies with 95 per cent probability.** For example, the confidence interval of the number of the unemployed in January 2011 is

215,000 ± 17,000, i.e. 198,000 – 232,000. The share to be added to the estimate or deducted from it, in this case 17,000, is obtained by multiplying the estimate's standard error, here 8,500 persons, with the 1.96 coefficient of the 95 per cent confidence interval.

Examples of the accuracy of the number of the employed and the unemployed by size of subgroup

To illustrate the magnitude of random variation, examples of the estimates of different numbers of the employed and the unemployed, their 95 per cent confidence intervals and other key figures of reliability are presented in the following tables 1-3. The magnitude of random variation in the examples is a rough estimate of the upper boundary of random variation, when the figure being investigated is **a correspondingly large estimate of the number of the employed or the unemployed by gender, age or region**. In correspondingly large subgroups by industry, the confidence interval is wider. The examples in table 1 refer to monthly estimates. Tables 2-3 include the corresponding data for quarterly and annual estimates.

Table 1. Examples of the accuracy of monthly estimates of different sizes: the numbers of the employed and the unemployed by gender, age and region.[1]

	Monthly estimate	Monthly estimate's 95% confidence interval	Standard error	Relative standard error
	persons	persons	persons	%
Employed	2 400 000	± 27 800	14 200	0,6
	1 200 000	± 21 000	10 700	0,9
	600 000	± 15 300	7 800	1,3
	300 000	± 11 600	5 900	2,0
	100 000	± 6 700	3 400	3,4
	50 000	± 4 700	2 400	4,8
	10 000	± 2 900	1 500	15,0
Unemployed	230 000	± 15 100	7 700	3,3
	120 000	± 11 800	6 000	5,0
	90 000	± 10 800	5 500	6,1
	60 000	± 9 000	4 600	7,7
	30 000	± 6 900	3 500	11,7
	20 000	± 5 100	2 600	13,0
	10 000	± 3 700	1 900	19,0

1) The data can be used as indicative estimates of the accuracy of comparable numbers of the employed and unemployed by gender, are and region.

We can see from table 1 that if the monthly estimate of the employed in the subgroup is 300,000 persons, the real number of the employed lies, with a probability of 95 per cent, within the range 300,000 ± 11,600 persons. The size of this confidence interval relative to the size of the estimate is clearly larger than the corresponding share in the large estimate on the first row of the table. For estimates of less than 300,000 persons the confidence intervals are relatively even wider.

A comparison of data in tables 1–3 illustrates also that annual and quarterly data are more accurate than monthly data. The 95 per cent confidence interval corresponding to the estimate of the employed in a subgroup of 300,000 persons examined above, that is 300,000 ± 6,700 persons (table 2), is clearly narrower than the confidence interval of the monthly estimate. Annual estimated are even more accurate than quarterly estimates (table 3). This difference in accuracy is, however, not as large as the corresponding difference between monthly and quarterly data.

Table 2. Examples of the accuracy of quarterly estimates of different sizes: the numbers of the employed and the unemployed by gender, age and region.[1]

	Quarterly estimate	Quarterly estimate's 95% confidence interval	Standard error	Relative standard error
	persons	persons	persons	%
Employed	2 400 000	± 16 100	8 200	0,3
	1 200 000	± 12 500	6 400	0,5
	600 000	± 8 800	4 500	0,8
	300 000	± 6 700	3 400	1,1
	100 000	± 4 700	2 400	2,4
	50 000	± 3 900	2 000	4,0
	10 000	± 2 000	1 000	10,0
Unemployed	230 000	± 8 800	4 500	2,0
	120 000	± 6 900	3 500	2,9
	90 000	± 6 100	3 100	3,4
	60 000	± 5 100	2 600	4,3
	30 000	± 3 500	1 800	6,0
	20 000	± 3 100	1 600	8,0
	10 000	± 2 400	1 200	12,0

1) The data can be used as indicative estimates of the accuracy of comparable numbers of the employed and unemployed by gender, are and region.

Table 3. Examples of the accuracy of annual estimates of different sizes: the numbers of the employed and the unemployed by gender, age and region.[1]

	Annual estimate	Annual estimate's 95% confidence interval	Standard error	Relative standard error
	persons	persons	persons	%
Employed	2 400 000	± 15 700	8 000	0,3
	1 200 000	± 11 400	5 800	0,5
	600 000	± 7 800	4 000	0,7
	300 000	± 6 100	3 100	1,0
	100 000	± 3 300	1 700	1,7
	50 000	± 2 500	1 300	2,6
	10 000	± 800	400	4,0
Unemployed	230 000	± 7 100	3 600	1,6
	120 000	± 5 700	2 900	2,4
	90 000	± 4 500	2 300	2,6
	60 000	± 3 500	1 800	3,0
	30 000	± 2 400	1 200	4,0
	20 000	± 2 000	1 000	5,0
	10 000	± 1 600	800	8,0

1) The data can be used as indicative estimates of the accuracy of comparable numbers of the employed and unemployed by gender, are and region.

Statistical description of the reliability of estimation

The estimation procedure of the Labour Force Survey is based on the calibration of weights in which the original sample weights calculated on the basis of the sample design are adjusted with a regression model to get the desired population distributions.

The accuracy of estimates is evaluated on the basis of their standard error. **Standard error** (the square root of the sample variance) describes how neatly the value of the parameter estimated from the observations is concentrated around the parameter of the population. The magnitude of the standard error is affected by sample design, the number of observations in the relevant population or subgroup, variation due to the distribution of the research variable as well as properties of the mathematical formula.

Key figures of reliability derived from the standard error are the confidence intervals and relative standard error. **Confidence interval** describes the width of the range in which the real value of the parameter is relative to the estimate calculated from the sample. When calculating the confidence interval, the desired level of risk is fixed. The 5 per cent risk level applied in the Labour Force Survey means that if the samples were drawn again, in 95 cases out of one hundred the real value of the parameter would be within the confidence interval and in 5 cases out of one hundred it would be outside the confidence interval.

Relative standard error (variation coefficient) is the percentage share of the standard error of the estimate. Proportioning the standard error to the estimate's size removes the effect of the scale of the variable. Hence the values of the relative standard error of different variables and the values of the standard error of the same variable in different subgroups are easy to compare with one another.

In the monthly and quarterly data of the Labour Force Survey, the estimator of the standard error is the variance estimator of the generalised regression estimator (GREG). The statistical accuracy of the annual estimates and its evaluation is also affected by the fact that the sample of the Labour Force Survey changes gradually during the year. In consecutive quarters 60 per cent of the respondents are the same. During one year 90 per cent of the interviewees have been interviewed at least twice. The responses given by the same persons in different interviews during the year correlate to one another if the person's labour market status does not change between interviews. To account for this co-dependence of responses, the Labour Force Survey uses an approximation of single stage cluster sampling in which a cluster internal variance is calculated for persons interviewed several times during the year. Clusters are formed on the basis of interviewee's age. Cluster internal variance is zero it the interviewee's labour market status does not change during the year between different interviews.

For example, the standard error calculated for annual estimate of the unemployed in a subgroup of 230,000 persons is 3,600 persons and the confidence interval is 230,000 ± 7,100 persons. If the interviews on which the annual estimate is based had all been with different persons, the standard error of the estimate of the unemployed would have been 2,300 persons and the confidence interval 230,000 ± 4,500 persons. Interviewing the same persons again in different quarters of the year explains why the difference in the accuracy of the annual and quarterly data of the Labour Force Survey is not as large as could be expected on the basis of the number of interviews conducted.

4. Timeliness and promptness of published data

The results of the Labour Force Survey are released monthly, quarterly and annually. Quarterly and annual results are the averages of monthly results, i.e. they describe the situation on an "average" week during the survey period. Data on labour input are sums of the results of periods. The released data are final. Only seasonal adjustment slightly alters the latest seasonally adjusted monthly results. Monthly data are released approximately three weeks from the end of the survey month. Quarterly data are released simultaneously with the last monthly data of each quarter. Quarterly data are statistically more reliable than monthly data and contain more detailed data on, among other things, employment and labour input by industry and more specific regional data. The most detailed results are published in annual statistics. Quarterly deliveries of data are made to the Eurostat, the Statistical Office of the European Communities, which are used to compile statistics on EU Member States.

5. Accessibility and transparency/clarity of data

The results of the Labour Force Survey are published in the Labour market series of Official Statistics of Finland. The key monthly, quarterly and annual results are released on predefined days on the Internet on the home page of the Labour Force Survey http://tilastokeskus.fi/til/tyti/index_en. The links on the home page lead to, among other things, a description of the statistics, concepts and definitions as well as the

free of charge tables from the statistical databases of the Labour Force Survey (StatFin). Data are also available over the Internet from Statistics Finland's chargeable time series database (ASTIKA). Eurostat publishes quarterly and annual Labour Force Survey data on its own website.

The printed annual publication of Labour Force Statistics contains a review of the past statistical reference year, definitions of key concepts, descriptions of the classifications used, time series and annual tables as well as this Quality description of Labour Force Survey. In addition, Labour Force Survey data are published regularly in the Statistical Yearbook of Finland and in the Bulletin of Statistics. Chargeable special compilations can be requested from the Labour Force Survey information service.

Labour Force Survey data are not released outside Statistics Finland in identifiable form (Statistics Act 280/2004, Personal Data Act 523/1999). Data can be released only on the basis of a separate application for licence to use statistical data and without identifiers for scientific research and statistical surveys. Data adjusted for the EU Labour Force Survey are delivered to Eurostat, the Statistical Office of the European Communities without identifiers. The Labour Force Survey data are protected according to the protection class defined in Statistics Finland's data protection guidelines. A register description can be found (in Finnish) at: http://www.tilastokeskus.fi/meta/rekisteriselosteet/rekisteriseloste_tyovoimatutkimusty81.html

Information service: tyovoimatutkimus@stat.fi and tel. +358 9 17341.

6. Comparability of statistics

A monthly Labour Force Survey, initially called Labour Force Inquiry, has been conducted since 1959. During this time the data content, data collection methods and methodology have been revised on several occasions. A comparable time series of the key data exists since 1989.

Initially, the inquiry with a somewhat limited data content was conducted as a postal survey. In 1976 the data content was expanded and the methodology modernised. During 1977–1993 the survey consisted of a monthly inquiry and supplementary annual interviews conducted over the telephone. The data collection of the monthly inquiry was changed in 1983 from a postal survey to telephone interviews, as a result of which non-response dropped from 30 to 4 per cent.

When Finland joined the European Union the Labour Force Survey was harmonised with the EU Labour Force Survey. At the beginning in 1995–1998, the data for the EU Labour Force Survey were collected as a separate interview survey in March-May. The monthly survey was gradually revised to correspond to the EU Labour Force Survey. The contents of the monthly survey were extended, computer-assisted telephone interviews (CATI) were introduced in the data collection and the concepts and definitions were harmonised to correspond better than before to the EU and ILO guidelines and recommendations. The definition of an unemployed person was revised in May 1998 and the published time series were retrospectively revised to correspond with the new definitions starting from 1989.

In April 1999 the Labour Force Survey's data content was widened again with the combining of the monthly survey and the EU Labour Force Survey into a single, continuous Labour Force Survey. As of the beginning of 2000 the survey changed over into a continuous survey week, whereas previously data for each month had been collected in one survey week. This changeover affected data on working days and hours worked, which are not fully comparable with earlier data starting from the beginning of the year 2000. Starting from 2003 the data content of the survey widened with the so-called household module which is collected from a subsample. A new data collection questionnaire was introduced in 2008. In consequence of this the data content of the survey became slightly revised and collection of some of the data was started from a subsample, whose data are only used as annual data.

7. Coherence and consistency/uniformity

In addition to the Labour Force Survey Statistics Finland's statistics related to the labour market include the Job Vacancy Survey, the Quality of Work Life Survey, statistics on labour disputes, statistics on accidents at work as well as register-based employment statistics (RES).

Of these the RES provide data on the labour market activities of the population. The data in them differ from those of the Labour Force Survey due to the data collection method and the definitions of the employed

and the unemployed. The RES are based on total data derived from the administrative data of different authorities. The RES data on a person's activities mainly describe the last week of the year. RES data on unemployment are based on the Ministry of Employment and the Economy's register of unemployed job seekers. The statistics take good 18 months to complete; preliminary data are ready within about a year. Since the employment statistics represent total data, they offer better regional data (incl. data by municipality) as well as better data on small population groups, e.g. small industries and occupations, than the Labour Force Survey. The concepts of the employment statistics based on administrative registers are not internationally comparable.

Statistics Finland uses the Labour Force Survey data in the compiling of National Accounts. This is among the reasons why the definitions of the key concepts in the Labour Force Survey, such as population, employment and working hours, follow as closely as possible the recommendations for National Accounts (the UN System of National Accounts, SNA, and the European System of Accounts, ESA). The Labour Force Survey definition of the public sector is somewhat different from the classification of sectors in National Accounts. In National Accounts, conscripts are classified as employed according to ILO recommendations, whereas in the Labour Force Survey conscripts are outside the labour force.

The results from the Finnish Labour Force Survey published by Eurostat, the Statistical Office of the European Communities, differ from those published in Finland in that conscripts are not included in the statistics published by Eurostat. In most EU countries conscripts are not included in the target group of the Labour Force Survey, i.e. population living in private households. This causes differences especially in the results concerning the 15 to 24 age group. In the figures published by Finland persons performing their conscript duty are included in the population outside the labour force. In some cases differences can arise from the fact that Eurostat's figures include the whole population living in private household whereas in Finland the figures only include those between the ages of 15 and 74.

The Ministry of Employment and the Economy also publishes data on unemployed job seekers. The Ministry's data derive from register-based Employment Service Statistics, which describe the last working day of the month. The definition of unemployed applied in the Employment Service Statistics is based on legislation and administrative orders which make the statistical data internationally incomparable. In the Employment Service Statistics an unemployed person is not expected to seek work as actively as in the Labour Force Survey. There are also differences in the acceptance of students as unemployed. More detailed information about differences between the statistics is available in Finnish at: http://tilastokeskus.fi/til/tyti/tyti_2008-02-19_men_002.html.

Inquiries