

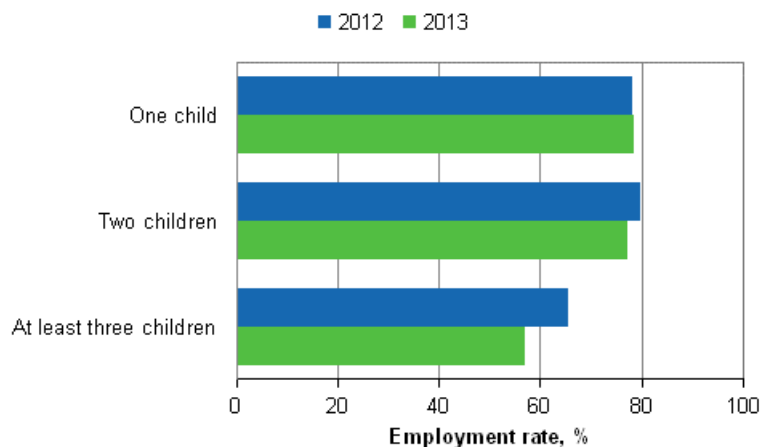
Labour Force Survey

Families and work in 2013

Employment of mothers of families with several children made a downturn

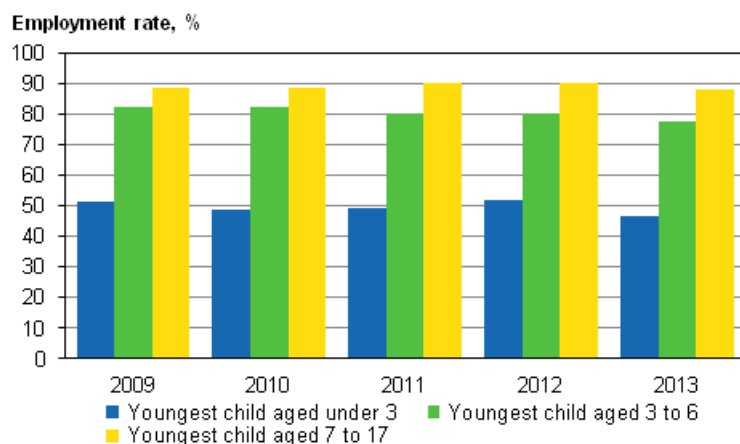
According to Statistics Finland's Labour Force Survey, the employment of mothers has decreased from 2012 to 2013. This is most clearly visible in families with several children and families with small children. These data derive from the annual Labour Force Survey review Families and work in 2013.

Employment rate of mothers aged 20 to 59 by number of children in 2012 and 2013



The employment of mothers of families with one child has remained unchanged from 2012 to 2013. By contrast, the employment of mothers of families with several children has declined and unemployment has increased. In families with at least three children, the employment rate of mothers has decreased by eight percentage points and the unemployment rate has risen by five percentage points. The number of children does not have much impact on the employment and unemployment rate of fathers.

Employment rate of mothers aged 20 to 59 by age of their youngest child in 2012 to 2013



In families where the youngest child is under three years old, the employment rate of mothers has declined by five percentage points from 2012 to 2013. When the youngest child is three years or older, the drop in the employment rate of mothers has been two percentage points. The unemployment rate of all mothers of families with children has increased somewhat. Unemployment has increased most among mothers with children under the age of three. Unemployment has also increased for fathers with children under the age of three even though unemployment has decreased slightly for other fathers.

Links

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

Changes in employment and employment relationships in 2013 are described in an earlier Labour Force Survey annual review [Employment and unemployment in 2013](#).

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1. Introduction

This Labour Force Survey publication contains statistical data on families 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, people without children are those who do not have children aged under 18 living in their household.

At the end of 2013, families with children numbered 576,000. 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 1.84. Sixty per cent of families with children were families of married couples and 19 per cent those of cohabiting couples. Around one-fifth of families with children were single-parent families. (Source: Population and Cause of Death Statistics, Statistics Finland.)

This publication examines the changes that have occurred in the employment of mothers and fathers of families with children and in the use of family leaves between 2009 and 2013. The appendix tables contain data for all of these years.

In addition to persons that are working, 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 plenty of mothers who are actually at home looking after a child. Respectively, mothers on child care leave are mostly classified as 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. Sections 2 and 3 of this publication describe the employment of the parents of families with children and Sections 4 and 5 explain their actual activity in more detail.

The concepts used in this review and the household data for the Labour Force Survey are described in more detail in Sections 6 and 7.

2. Mothers' employment made a downturn

Men's **employment rate** has conventionally been slightly higher than women's. In 2013, the employment rate was 79 per cent, on average, for men aged between 20 and 59, and 77 per cent for women. However, the variation by type of family is large especially for men: in 2013, the employment rate for fathers of families with children was 91 per cent while for men without children it was 73 per cent. Fathers of families with children are still more firmly in working life than other men.

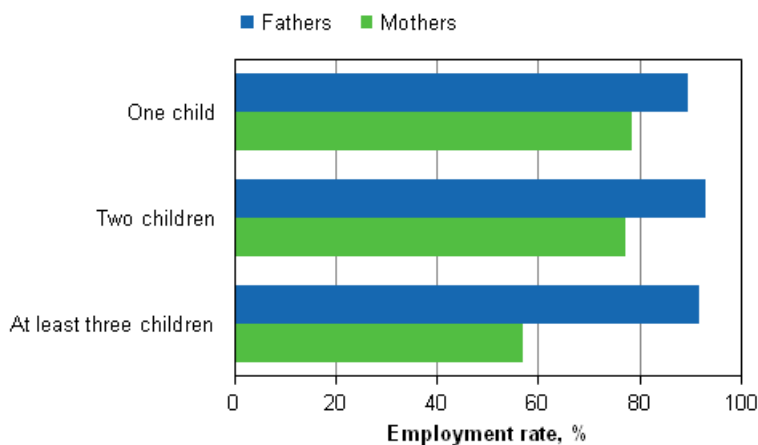
Women's employment is more even by family type than men's but the employment rate of women without children has been slightly higher in recent years than that of mothers with children aged under 18. In 2013, the employment rate of women without children was 78 per cent and that of mothers of families with children was 74 per cent. Between 2009 and 2013, the employment rate of mothers has decreased by nearly three percentage points, while it has not changed much for other women.

Among fathers with children aged under 18 the **unemployment rate** was clearly lower than for men who did not have underage children. The unemployment rate of fathers remained unchanged from 2012 to 2013, while among other men the unemployment rate rose slightly. By contrast, the development for women has been the opposite during the same period. The unemployment rate of mothers grew, while it remained almost unchanged for other women.

3. Labour market position of parents in families with children

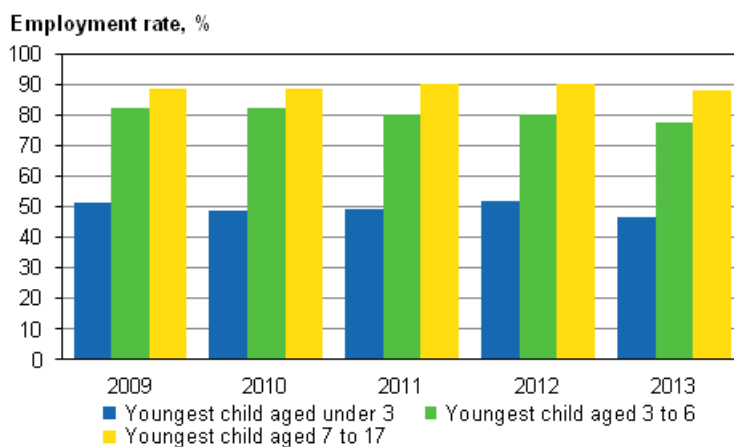
The number of children in the family affects the employment of mothers more clearly than that of fathers. The employment rate of fathers has for several consecutive years been around 90 per cent regardless of the number of children. In 2013, altogether about 78 per cent of mothers with one or two children were employed, while of mothers with at least three children 57 per cent were employed. (Figure 1.) The reduction in the employment of mothers from 2012 to 2013 is clearly visible in families with several children. In 2012, as many as 65 per cent of mothers with three or more children were employed.

Figure 1. Employment rates of fathers and mothers aged 20 to 59 by number of children in 2013



The age of the youngest child in a family affects mothers' employment. The employment rate of mothers with children aged under three was 46 per cent in 2013. Once the youngest child goes to school the employment rate of mothers has risen almost to the same level as that of fathers. The decline in the employment rate of mothers from 2012 to 2013 was highest among mothers with children aged under three. (Figure 2.)

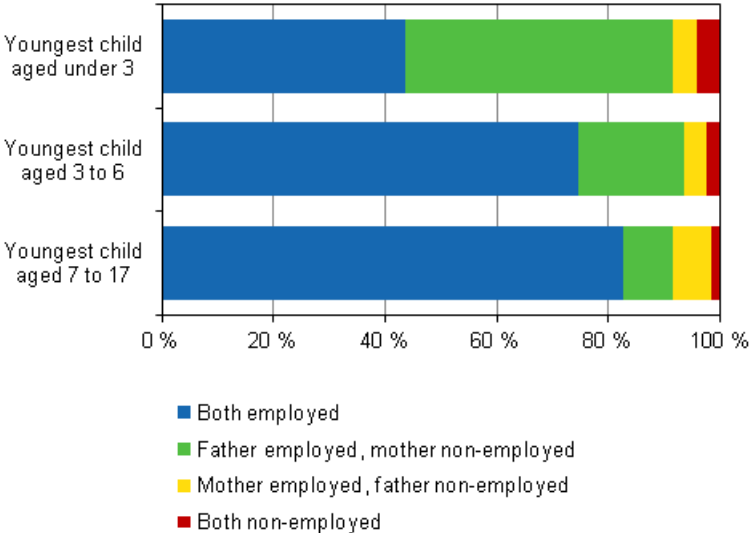
Figure 2. Employment rates for 20 to 59-year-old mothers by age of their youngest child in 2009–2013



Fathers usually take shorter family leaves than mothers. During the paternity leave or the other family leaves under three months, fathers are classified as employed, so family leaves have little impact on the employment rate of fathers.

Both the father and the mother were employed in 68 per cent of the two-carer families with children in 2013. When the youngest child is between three and six years old, in 74 per cent of the two-parent families both parents are employed and this is so for as many as 82 per cent of the parents of school-age children. When the youngest child grows, the number of families with children where both parents are non-employed decreases. When the youngest child is under three years old, both parents are non-employed in seven per cent of two-parent families, while among parents of school-age children this is so for only two per cent of families. (Figure 3.)

Figure 3. Labour market position of parents in families with children with two carers aged 20 to 59 by age of youngest child in 2013



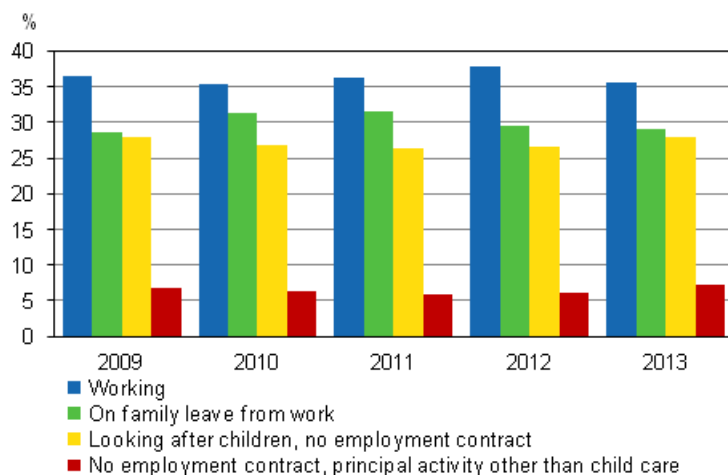
4. Large share of mothers at home caring for children without employment contract

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 plenty of mothers who are actually at home looking after a child. Respectively, mothers on child care leave are mostly classified as persons outside the labour force because the care leave is often taken after the maternity leave and parental leave, which means the total duration of the leave is over three months.

Figure 4 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 employment and those without employment contract who are looking after their children at home. The fourth group consists of those who have said that their principal activity is something else than child care. This group includes such as students and unemployed persons.

When the youngest child of a family is under three years old, a majority of mothers are either on family leave from employment or otherwise caring for their children without employment contract. Good one-third of mothers with children of this age are working. From 2012 to 2013, the share of mothers that are working has decreased and the share of mothers on family leave from employment has remained almost unchanged. By contrast, the share of those staying at home without an employment contract has increased slightly. This group includes both mothers that primarily care for children at home and those whose main activity is something else besides caring for a child. (Figure 4.)

Figure 4. Working and family leaves of 20 to 59-year-old mothers with children aged under three in 2009 to 2013



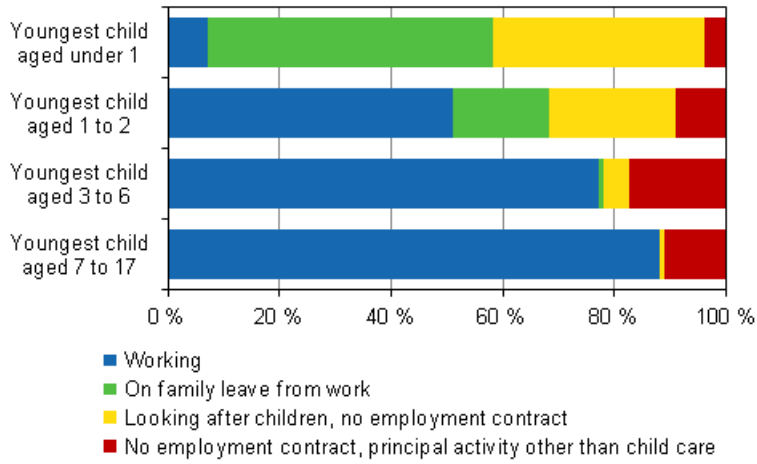
Only a few mothers with children under the age of one are working but more than one-half of mothers with children aged between one and two are at work (Figure 5). When the youngest child is aged three to six, a majority of mothers have returned to work. Among all mothers of school-age children already nearly 90 per cent are working.

Mothers' education has an impact on employment. Mothers with tertiary level education more often have an employment contract throughout their family leave and they return to work faster than other mothers.

More than one-half of mothers with tertiary and upper secondary level education are at work when their youngest child turns three. When the youngest child is aged three to six, as many as 86 per cent of mothers with tertiary level education are working, while this is so for 69 per cent among mothers with upper secondary level education. Among mothers with less than upper secondary level education around one half are at work at this stage and as many are totally outside the working life. The working of fathers

remains relatively stable regardless of the age of their children because fathers often take shorter child care leaves than mothers.

Figure 5. Working and family leaves among mothers aged 20 to 59-year-old by age of their youngest child in 2013

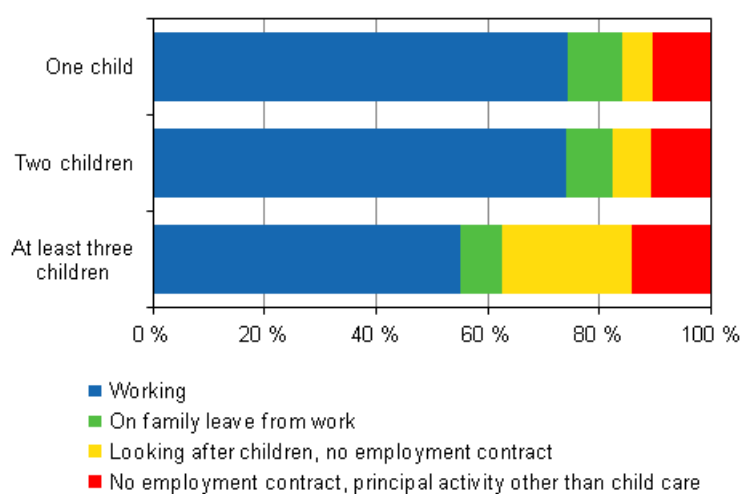


5. Mothers of families with several children stay at home more often than before

Apart from the age of children, their number also influences the employment of mothers (Figure 6). In families with one and two children, around three in four mothers are working. When there are at least three children, only slightly over one-half of mothers are working.

Mothers who have no employment contract and who said their principal activity was child care can be considered stay-at-home mothers. Interpreted like this, six per cent of mothers with one or two children can be classified as stay-at-home mothers. Almost one in four of mothers with more children are stay-at-home mothers. Among all families with children, around one-fifth have at least three children.

Figure 6. Working and family leaves among 20 to 59-year-old mothers by number of children in 2013



6 Concepts

Parents of families with children - mothers and fathers - 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.

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 unemployment 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.

A description of *levels of education* (Classification of Education 2011, levels of education) in Finnish is available at the link: http://tilastokeskus.fi/meta/luokitukset/_linkki/koulastem.html.

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 2013, the household data comprised approximately 53,000 persons who formed 20,000 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 2009–2013

Appendix table 1. Employment rates by age of youngest child in 2009 - 2013, population aged 20-59

		Employment rate, %				
		Year				
		2009	2010	2011	2012	2013
Both sexes	Total	78,1	78,2	78,5	78,9	77,9
	Parents of children under 18 years total	83,1	83,4	83,5	83,2	82,1
	- youngest child under 3 years	70,4	69,7	69,5	71,3	67,5
	- youngest child between 3 and 6 years	86,3	87,7	86,3	84,9	85,0
	- youngest child between 7 and 17 years	89,3	89,7	90,8	90,1	89,9
	No children under 18 years	75,2	75,2	75,7	76,4	75,5
Males	Total	78,9	79,3	80,1	80,2	79,2
	Parents of children under 18 years total	90,2	91,6	91,5	90,6	91,2
	- youngest child under 3 years	89,9	91,2	90,4	91,4	89,1
	- youngest child between 3 and 6 years	90,6	93,3	92,8	90,0	92,6
	- youngest child between 7 and 17 years	90,3	91,1	91,6	90,4	91,9
	No children under 18 years	72,9	72,8	74,1	74,7	73,0
Females	Total	77,2	77,1	76,9	77,5	76,5
	Parents of children under 18 years total	76,5	75,7	76,1	76,2	73,6
	- youngest child under 3 years	51,3	48,7	49,2	51,6	46,4
	- youngest child between 3 and 6 years	82,3	82,4	80,1	80,1	77,8
	- youngest child between 7 and 17 years	88,4	88,4	90,2	89,9	88,1
	No children under 18 years	77,7	77,9	77,4	78,4	78,3

Appendix table 2. Employment rates by number of children in 2009 - 2013, population aged 20-59

		Employment rate, %				
		Year				
		2009	2010	2011	2012	2013
Both sexes	Total	78,1	78,2	78,5	78,9	77,9
	Parents of children under 18 years total	83,1	83,4	83,5	83,2	82,1
	- 1 child	82,8	83,9	84,7	83,5	83,7
	- 2 children	86,9	85,5	85,6	85,5	84,8
	- 3 or more children	76,7	78,7	77,2	78,3	74,0
	No children under 18 years	75,2	75,2	75,7	76,4	75,5
Males	Total	78,9	79,3	80,1	80,2	79,2
	Parents of children under 18 years total	90,2	91,6	91,5	90,6	91,2
	- 1 child	89,2	90,7	90,8	89,6	89,5
	- 2 children	92,3	92,1	92,7	91,4	92,8
	- 3 or more children	88,4	92,5	90,5	91,3	91,6
	No children under 18 years	72,9	72,8	74,1	74,7	73,0
Females	Total	77,2	77,1	76,9	77,5	76,5
	Parents of children under 18 years total	76,5	75,7	76,1	76,2	73,6
	- 1 child	77,0	77,7	79,3	78,0	78,4
	- 2 children	81,8	79,1	78,8	79,7	77,2
	- 3 or more children	65,3	65,2	64,3	65,5	57,0
	No children under 18 years	77,7	77,9	77,4	78,4	78,3

Appendix table 3. Activity rates by age of youngest child in 2009 - 2013, population aged 20-59

		Activity rate, %				
		Year				
		2009	2010	2011	2012	2013
Both sexes	Total	84,6	84,8	84,6	84,9	84,3
	Parents of children under 18 years total	87,3	87,8	87,2	87,1	86,5
	- youngest child under 3 years	74,2	74,2	73,2	74,8	72,0
	- youngest child between 3 and 6 years	91,9	92,7	91,1	89,7	90,1
	- youngest child between 7 and 17 years	93,1	93,8	94,1	93,8	93,8
	No children under 18 years	83,1	83,0	83,1	83,6	83,1
Males	Total	86,2	86,8	87,0	87,0	86,3
	Parents of children under 18 years total	94,4	95,6	95,0	94,3	95,0
	- youngest child under 3 years	93,6	95,7	94,4	94,9	94,0
	- youngest child between 3 and 6 years	96,3	97,2	95,8	93,8	95,6
	- youngest child between 7 and 17 years	94,1	94,9	95,0	94,2	95,3
	No children under 18 years	81,8	82,1	82,8	83,1	81,9
Females	Total	83,0	82,7	82,2	82,7	82,2
	Parents of children under 18 years total	80,6	80,5	80,0	80,3	78,5
	- youngest child under 3 years	55,2	53,0	52,6	55,2	50,6
	- youngest child between 3 and 6 years	87,8	88,4	86,6	85,9	84,9
	- youngest child between 7 and 17 years	92,2	92,9	93,2	93,5	92,5
	No children under 18 years	84,5	84,1	83,5	84,2	84,4

Appendix table 4. Activity rates by number of children in 2009 - 2013, population aged 20-59

		Activity rate, %				
		Year				
		2009	2010	2011	2012	2013
Both sexes	Total	84,6	84,8	84,6	84,9	84,3
	Parents of children under 18 years total	87,3	87,8	87,2	87,1	86,5
	- 1 child	87,5	88,3	88,8	87,4	88,2
	- 2 children	90,2	90,2	88,7	89,3	88,5
	- 3 or more children	81,4	82,3	81,2	82,2	79,4
	No children under 18 years	83,1	83,0	83,1	83,6	83,1
Males	Total	86,2	86,8	87,0	87,0	86,3
	Parents of children under 18 years total	94,4	95,6	95,0	94,3	95,0
	- 1 child	93,9	95,1	94,7	93,5	94,3
	- 2 children	95,7	96,3	95,4	95,0	95,8
	- 3 or more children	93,2	95,5	94,7	94,5	95,0
	No children under 18 years	81,8	82,1	82,8	83,1	81,9
Females	Total	83,0	82,7	82,2	82,7	82,2
	Parents of children under 18 years total	80,6	80,5	80,0	80,3	78,5
	- 1 child	81,9	82,4	83,6	81,9	82,6
	- 2 children	84,9	84,3	82,2	83,8	81,7
	- 3 or more children	70,0	69,6	68,2	70,1	64,3
	No children under 18 years	84,5	84,1	83,5	84,2	84,4

Appendix table 5. Unemployment rates by age of youngest child in 2009 - 2013, population aged 20-59

		Unemployment rate, %				
		Year				
		2009	2010	2011	2012	2013
Both sexes	Total	7,7	7,8	7,2	7,0	7,6
	Parents of children under 18 years total	4,8	5,0	4,2	4,5	5,1
	- youngest child under 3 years	5,1	6,0	5,1	4,8	6,3
	- youngest child between 3 and 6 years	6,0	5,4	5,2	5,3	5,7
	- youngest child between 7 and 17 years	4,1	4,4	3,4	3,9	4,2
	No children under 18 years	9,5	9,4	8,9	8,6	9,1
Males	Total	8,4	8,6	7,9	7,8	8,3
	Parents of children under 18 years total	4,4	4,2	3,7	3,9	4,0
	- youngest child under 3 years	4,0	4,7	4,2	3,7	5,2
	- youngest child between 3 and 6 years	5,9	4,0	3,1	4,0	3,2
	- youngest child between 7 and 17 years	4,0	4,0	3,6	3,9	3,6
	No children under 18 years	10,9	11,4	10,5	10,1	10,9
Females	Total	7,0	6,8	6,4	6,3	6,9
	Parents of children under 18 years total	5,2	5,9	4,9	5,1	6,3
	- youngest child under 3 years	7,0	8,3	6,5	6,5	8,3
	- youngest child between 3 and 6 years	6,2	6,8	7,4	6,7	8,4
	- youngest child between 7 and 17 years	4,1	4,8	3,2	3,9	4,7
	No children under 18 years	8,0	7,4	7,3	7,0	7,3

Appendix table 6. Unemployment rates by number of children in 2009 - 2013, population aged 20-59

		Unemployment rate, %				
		Year				
		2009	2010	2011	2012	2013
Both sexes	Total	7,7	7,8	7,2	7,0	7,6
	Parents of children under 18 years total	4,8	5,0	4,2	4,5	5,1
	- 1 child	5,4	5,1	4,6	4,5	5,1
	- 2 children	3,6	5,2	3,5	4,3	4,2
	- 3 or more children	5,8	4,5	5,0	4,8	6,8
	No children under 18 years	9,5	9,4	8,9	8,6	9,1
Males	Total	8,4	8,6	7,9	7,8	8,3
	Parents of children under 18 years total	4,4	4,2	3,7	3,9	4,0
	- 1 child	5,0	4,6	4,2	4,2	5,1
	- 2 children	3,5	4,4	2,8	3,7	3,0
	- 3 or more children	5,2	3,1	4,5	3,4	3,6
	No children under 18 years	10,9	11,4	10,5	10,1	10,9
Females	Total	7,0	6,8	6,4	6,3	6,9
	Parents of children under 18 years total	5,2	5,9	4,9	5,1	6,3
	- 1 child	5,9	5,6	5,1	4,8	5,1
	- 2 children	3,7	6,1	4,2	4,9	5,5
	- 3 or more children	6,7	6,3	5,7	6,6	11,4
	No children under 18 years	8,0	7,4	7,3	7,0	7,3

Appendix table 7. Working and family leaves among 20 to 59-year-old mothers by age of their youngest child in 2013

	1000 persons				
	Total	Working	On family leave from work	Looking after children, no employment contract	No employment contract, principal activity other than child care
Mothers of children under 18 years total	517	363	45	50	59
- youngest child under 3 years	151	54	44	42	11
- youngest child between 3 and 6 years	116	89	.	5	20
- youngest child between 7 and 17 years	249	220	.	.	27

Appendix table 8. Working and family leaves among 20 to 59-year-old mothers by number of children in 2013

	1000 persons				
	Total	Working	On family leave from work	Looking after children, no employment contract	No employment contract, principal activity other than child care
Mothers of children under 18 years total	517	363	45	50	59
- 1 child	216	160	21	12	23
- 2 children	196	145	17	13	21
- 3 or more children	105	58	8	24	15

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 the Survey sample includes approximately 12,000 persons 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/statistics_explained/index.php/EU_labour_force_survey. 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 include the Standard Industrial Classification (TOL 2008, NACE Rev. 2), the Classification of Occupations 2010 (ISCO-08), the Classification of Socio-economic Groups 1989 (based on the Classification of Occupations 2010) and the Classification of Education 1997 (ISCED) 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 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 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 2013, the household data comprised approximately 53,000 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 106,000 interviews were conducted in 2013. On the average, the non-response rate of this survey was 27 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 published in a certain month is an estimate of the number of unemployed persons aged between 15 and 74 in Finland 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 instance, if the estimate for the number of unemployed persons in a certain month is

230,000 and its standard error is 7,700, the 95 per cent confidence interval of the number of the unemployed is $230,000 \pm 15,100$, i.e. 214,900–245,100 persons. The share to be added to the estimate or deducted from it, in this case 15,100, is obtained by multiplying the estimate's standard error with the 1.96 coefficient of the 95 per cent confidence interval. This share describes the inaccuracy caused by random variation due to sampling and is called the **margin of error**.

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 margins of error 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 margin of error 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 margins of error (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, age 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 $300,000 \pm 11,600$ 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 $300,000 \pm 6,700$ persons (table 2), is clearly narrower than the confidence interval of the monthly estimate. Annual estimates 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 margins of error (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, age 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 margins of error (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, age 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 if 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 $230,000 \pm 7,100$ 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 $230,000 \pm 4,500$ 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 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 29 551 1000.

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:

http://tilastokeskus.fi/til/tyti/tyti_2013-04-04_men_002_en.html.

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Inquiries

Tarja Nieminen 029 551 3561

Anna Pärnänen 029 551 3795

Director in charge:

Riitta Harala

tyovoimatutkimus@stat.fi

www.stat.fi

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