

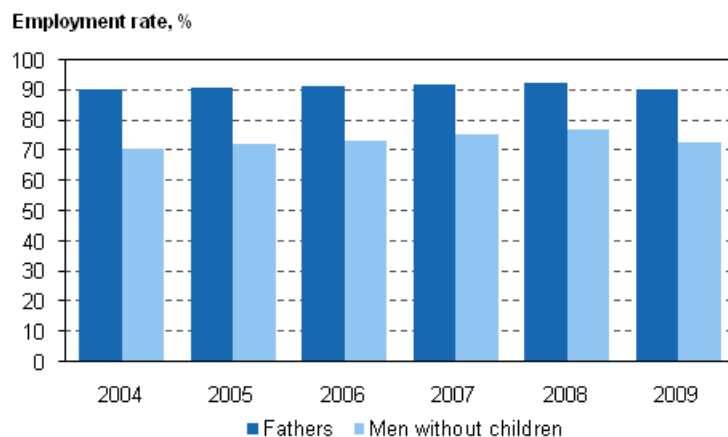
Labour Force Survey

Families and work in 2009

Employment rate remained good among fathers during the economic downturn

According to Statistics Finland's Labour Force Survey, fathers' employment situation remained good during the 2008–2009 recession. Although the recession lowered especially men's employment, employment rate remained high among fathers of children aged under 18. In relative terms the reduction of employment affected men without children more than fathers. These data derive from the annual Labour Force Survey review Families and work in 2009.

Employment rates for 20 to 59-year-old fathers and men without children in 2004–2009



The economic downturn which started at the turn of 2008/2009 lowered especially men's employment. However, the temporary lay-offs, redundancies and increase in unemployment which followed from the recession affected more men without children than fathers of under 18-year-old children. Fathers' employment rate fell by relatively less than that of men without children. While the employment rate among 20 to 59-year-old fathers remained at around 90 per cent, the rate among men without children in the same age group was only 73 per cent in 2009. In all age groups the employment rate was lower for men without children than for fathers.

Unemployment became clearly more widespread among men without children than among fathers with children aged under 18. Between 2008 and 2009, the unemployment rate for men without children rose

from seven to eleven per cent. By contrast, unemployment increased by clearly less than this among fathers whose unemployment rate was only four per cent in 2009.

Links

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

Information about changes in employment, employment relationships and working hours can be found in earlier annual Labour Force Survey reviews [Employment and unemployment in 2009](#) and [Working hours and employment relationships in 2009](#).

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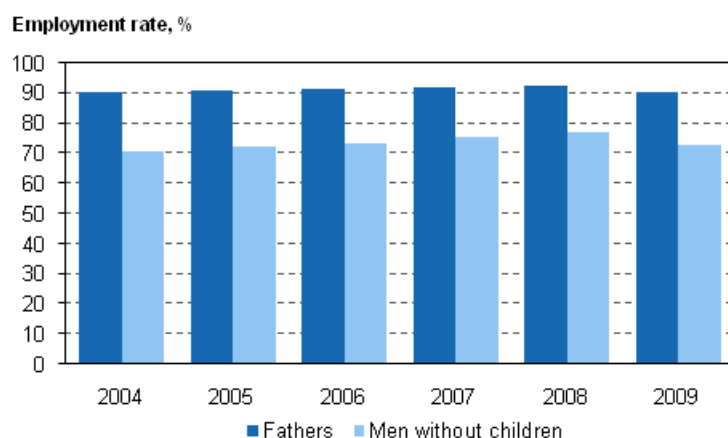
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1. Employment rate remained good among fathers during the economic downturn

The economic downturn which began towards the end of 2008 lowered especially men's employment. However, the employment rate among fathers with children aged under 18 has remained good despite the recession. Figure 1 shows that although in the 20 to 59 age group employment decreased among both fathers and men without children, the employment rate declined by relatively less among fathers and remained close to 90 per cent even in 2009. The situation was best among fathers of under three-year-old children whose employment rate stayed nearly unchanged.

Among men without children the employment rate was only 73 per cent in 2009. In all age groups the employment rate was lower for men without children than for fathers.

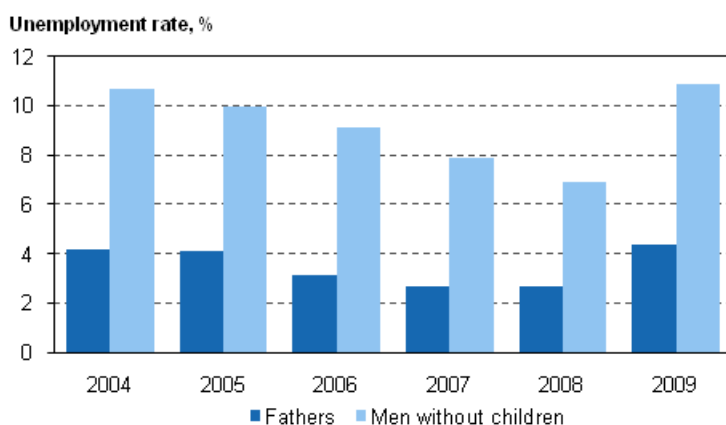
Figure 1. Employment rates for 20 to 59-year-old fathers and men without children in 2004–2009



1.1 Men without children are unemployed more often than fathers

Unemployment became clearly more widespread among men without children than among fathers of children aged under 18 (Figure 2). Between 2008 and 2009, the unemployment rate for men without children rose from seven to eleven per cent. By contrast, unemployment increased by clearly less than this among fathers whose unemployment rate was only around four per cent in 2009.

Figure 2. Unemployment rates for 20 to 59-year-old fathers and men without children in 2004–2009



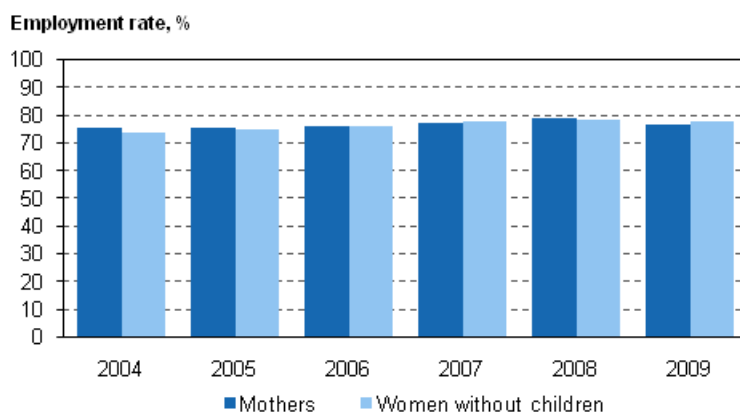
Thus, men without children experienced more of the temporary lay-offs, redundancies and increase in unemployment which followed from the recession. Fathers of families with children have remained firmly in working life and their employment rate has stayed high and unemployment rate low despite the recession.

2. More mothers did not stay at home because of the recession

The economic downturn had little effect on women’s employment. In 2009, the employment rate for 20 to 59-year-old mothers was about 76 per cent, which was two percentage points lower than in the previous year. The employment rate for women without children in the same age group stayed at 78 per cent. Unlike with men, the difference between the employment rates for women without children and for mothers was thus very small.

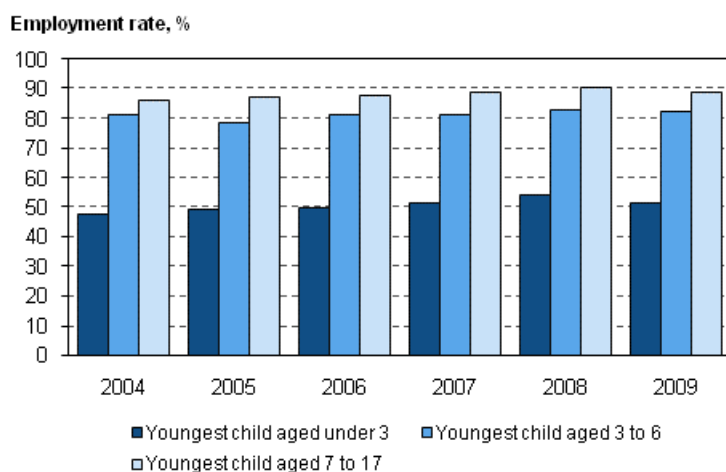
In recent years, employment rates have been very similar from one year to the next for women without children and for mothers. (Figure 3.)

Figure 3. Employment rates for 20 to 59-year-old mothers and women without children in 2004–2009



The age of the youngest child has a clear impact on the mothers’ employment (Figure 4). 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. 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 his children. This means that mothers still continue to take most of the long family leaves.

Figure 4. Employment rate for 20 to 59-year-old mothers by age of youngest child in 2004–2009



2.1 Mothers' use of family leaves has remained unchanged

The employment rate alone does not reveal 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 include a lot 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 even if they have a valid employment contract because the child care leave is often taken immediately after the maternity leave and parental leave, which lengthens the total duration of the leave.

Figure 5 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 a valid employment contract and the mothers without a valid employment contract who are looking after their children at home. The category of other non-employed persons includes e.g. students or unemployed persons.

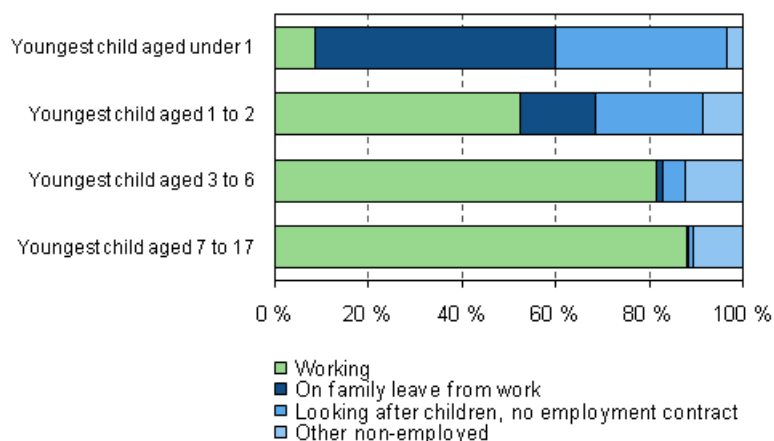
Figure 5. Working and family leaves of 20 to 59-year-old mothers with children aged under three in 2008–2009



The results obtained by examining the working of mothers this way are very similar to the results reported above from the examination of employment rates. The economic downturn that started at the turn of 2008/2009 does not seem to be reflected in the working of mothers of small children so that more of them would have decided to stay at home to look after their children. The shares of mothers on family leave or without a valid employment contract and caring for their children among all mothers of children aged under three were almost the same in 2009 and 2008 (Figure 5).

When the mothers on family leaves are separated from those working, in reality only about one-third of the mothers of under three-year-olds were working in 2009. However, the groups of mothers of under one-year-olds and mothers of one to two-year-olds are very different (Figure 6). Of the mothers whose youngest child was aged under one, fewer than nine per cent were working, over one-half were on a 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 because the mothers either return to work from family leave or find employment.

Figure 6. Working and family leaves among 20 to 59-year-old mothers by age of youngest child in 2009

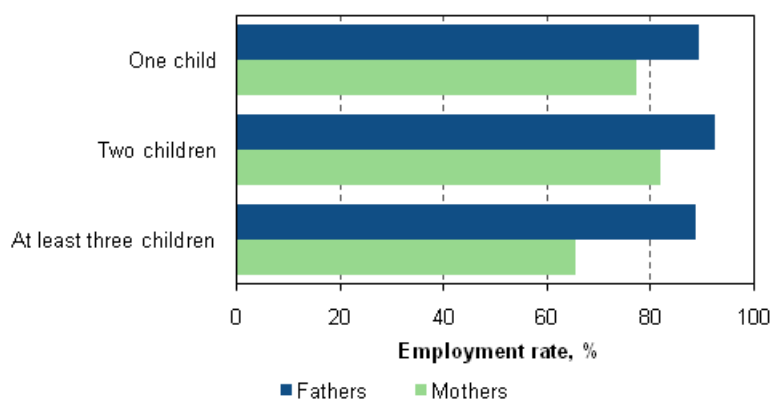


Fathers usually take shorter family leaves than mothers. During the paternity leave, the “daddy” month or the child care leave lasting under three months fathers are classified as employed so family leaves have little impact on the employment rate of fathers. However, the picture of the employment of 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 2009.

2.2 More mothers stay at home after the arrival of third child

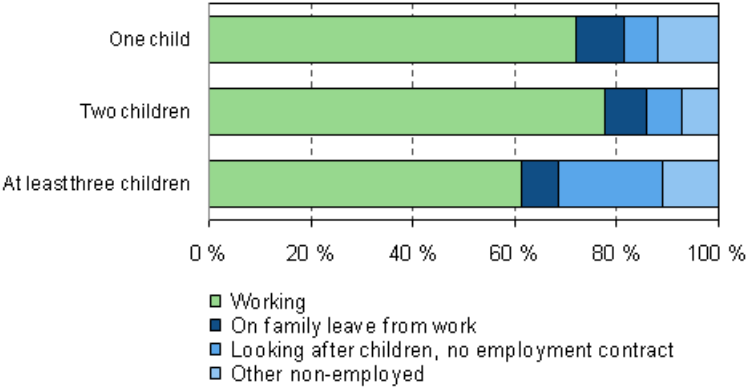
Apart from the age of children, their number also influences the employment of mothers (Figure 7). In 2009, 82 per cent of the mothers of two children were employed but only 65 per cent of mothers were still employed if there were at least three children. The number of children has no impact on the employment of fathers.

Figure 7. Employment rates of fathers and mothers aged 20 to 59 by number of children in 2009



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. One in five of the mothers of families with at least three children were looking after the children at home and had no valid employment contract in 2009 (Figure 8). Working and looking after children were nearly equally common among the mothers of one child or two children. The groups differed slightly only because the mothers of one child are more often outside working life for some other reason, such as studying.

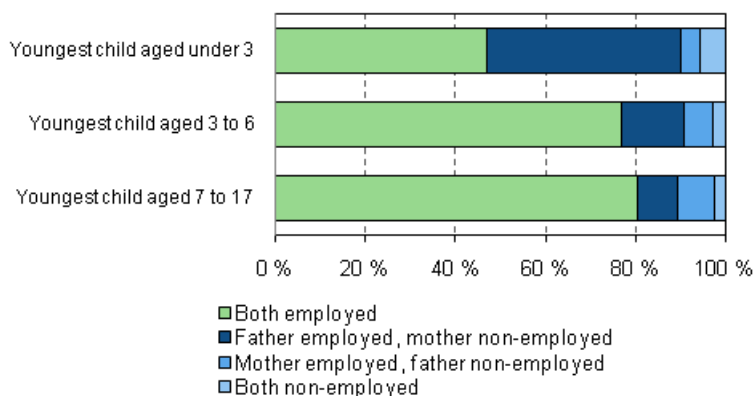
Figure 8. Working and family leaves among 20 to 59-year-old mothers by number of children in 2009



3. Both parents of families with children are usually employed

If a family with children has two carers both of them are usually employed. Both the father and the mother were employed in around 70 per cent of two-carer families with children in 2009. 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 as the youngest child grows older. Both parents are employed in nearly 80 per cent of the two-parent families where the youngest child is aged over three (Figure 9).

Figure 9. Labour market status of parents in dual-carer families with children by age of youngest child in 2009



In three out of four 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 the children at home. If the youngest child was aged between one and two this situation only applied to about every third family and in every second family the mother, too, had returned to work.

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 only about one per cent of the families with children aged under three in 2009.

4. 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 long distance parents whose children live and are registered at the address of the other parent
- Parents whose children are aged over 18 or have already moved into their own household.

In this review, 20 to 59-year-old women and men without children have been compared with parents of families with children in order to improve the comparability of these groups in respect of age and stage in life. More than 99 per cent of the parents of children aged under 18 locate in this age group.

Family leaves comprise maternity and paternity leave, parental leave (incl. so-called "daddy" month) and child care leave. They are leaves which the parents of small children are entitled to take by law from work in order to care for their children 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.

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

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, and approximately 12,000 persons are interviewed for it every month. The information provided by the respondents is used to produce a picture of the activities of the entire population aged between 15 and 74.

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 comprised of 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 this way enable examinations of, for instance, employment in the family and the status of each spouse on the labour market.

The household data cover approximately 59,000 persons representing 24,000 households (figures from 2009). 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, even though they are not interviewed in the Labour Force Survey.

The household data of the Labour Force Survey have been collected by the present method since 2003 and the data can be published starting from the year 2004.

Appendix tables 2008 – 2009

Appendix table 1. Employment rates by age of youngest child 2008 - 2009, population aged 20-59

		Year	
		2008	2009
		Employment rate, %	Employment rate, %
Both sexes	Total	80,4	78,1
	Parents of children under 18 years total	85,3	83,1
	- youngest child under 3 years	72,2	70,4
	- youngest child between 3 and 6 years	88,3	86,3
	- youngest child between 7 and 17 years	91,4	89,3
	No children under 18 years	77,6	75,2
Males	Total	82,5	78,9
	Parents of children under 18 years total	92,6	90,2
	- youngest child under 3 years	90,9	89,9
	- youngest child between 3 and 6 years	94,0	90,6
	- youngest child between 7 and 17 years	92,9	90,3
	No children under 18 years	77,2	72,9
Females	Total	78,3	77,2
	Parents of children under 18 years total	78,4	76,5
	- youngest child under 3 years	53,9	51,3
	- youngest child between 3 and 6 years	82,9	82,3
	- youngest child between 7 and 17 years	90,0	88,4
	No children under 18 years	78,1	77,7

Appendix table 2. Employment rates by number of children 2008 - 2009, population aged 20-59

		Year	
		2008	2009
		Employment rate, %	Employment rate, %
Both sexes	Total	80,4	78,1
	Parents of children under 18 years total	85,3	83,1
	- 1 child	85,9	82,8
	- 2 children	88,3	86,9
	- 3 or more children	78,3	76,7
	No children under 18 years	77,6	75,2
Males	Total	82,5	78,9
	Parents of children under 18 years total	92,6	90,2
	- 1 child	92,2	89,2
	- 2 children	94,6	92,3
	- 3 or more children	89,4	88,4
	No children under 18 years	77,2	72,9
Females	Total	78,3	77,2
	Parents of children under 18 years total	78,4	76,5
	- 1 child	80,2	77,0
	- 2 children	82,3	81,8
	- 3 or more children	67,5	65,3
	No children under 18 years	78,1	77,7

Appendix table 3. Labour force participation rates by age of youngest child 2008 - 2009, population aged 20-59

		Year	
		2008	2009
		Labour force participation rate, %	Labour force participation rate, %
Both sexes	Total	85,3	84,6
	Parents of children under 18 years total	88,6	87,3
	- youngest child under 3 years	75,6	74,2
	- youngest child between 3 and 6 years	92,5	91,9
	- youngest child between 7 and 17 years	94,3	93,1
	No children under 18 years	83,4	83,1
Males	Total	87,2	86,2
	Parents of children under 18 years total	95,2	94,4
	- youngest child under 3 years	94,0	93,6
	- youngest child between 3 and 6 years	96,4	96,3
	- youngest child between 7 and 17 years	95,3	94,1
	No children under 18 years	82,9	81,8
Females	Total	83,3	83,0
	Parents of children under 18 years total	82,4	80,6
	- youngest child under 3 years	57,6	55,2
	- youngest child between 3 and 6 years	88,7	87,8
	- youngest child between 7 and 17 years	93,4	92,2
	No children under 18 years	83,9	84,5

Appendix table 4. Labour force participation rates by number of children 2008 - 2009, population aged 20-59

		Year	
		2008	2009
		Labour force participation rate, %	Labour force participation rate, %
Both sexes	Total	85,3	84,6
	Parents of children under 18 years total	88,6	87,3
	- 1 child	89,6	87,5
	- 2 children	91,1	90,2
	- 3 or more children	81,7	81,4
	No children under 18 years	83,4	83,1
Males	Total	87,2	86,2
	Parents of children under 18 years total	95,2	94,4
	- 1 child	95,0	93,9
	- 2 children	96,8	95,7
	- 3 or more children	92,4	93,2
	No children under 18 years	82,9	81,8
Females	Total	83,3	83,0
	Parents of children under 18 years total	82,4	80,6
	- 1 child	84,8	81,9
	- 2 children	85,7	84,9
	- 3 or more children	71,3	70,0
	No children under 18 years	83,9	84,5

Appendix table 5. Unemployment rates by age of youngest child 2008 - 2009, population aged 20-59

		Year	
		2008	2009
		Unemployment rate, %	Unemployment rate, %
Both sexes	Total	5,7	7,7
	Parents of children under 18 years total	3,7	4,8
	- youngest child under 3 years	4,5	5,1
	- youngest child between 3 and 6 years	4,5	6,0
	- youngest child between 7 and 17 years	3,1	4,1
	No children under 18 years	6,9	9,5
Males	Total	5,3	8,4
	Parents of children under 18 years total	2,7	4,4
	- youngest child under 3 years	3,3	4,0
	- youngest child between 3 and 6 years	2,5	5,9
	- youngest child between 7 and 17 years	2,6	4,0
	No children under 18 years	6,9	10,9
Females	Total	6,1	7,0
	Parents of children under 18 years total	4,8	5,2
	- youngest child under 3 years	6,4	7,0
	- youngest child between 3 and 6 years	6,6	6,2
	- youngest child between 7 and 17 years	3,6	4,1
	No children under 18 years	6,8	8,0

Appendix table 6. Unemployment rates by number of children 2008 - 2009, population aged 20-59

		Year	
		2008	2009
		Unemployment rate, %	Unemployment rate, %
Both sexes	Total	5,7	7,7
	Parents of children under 18 years total	3,7	4,8
	- 1 child	4,2	5,4
	- 2 children	3,1	3,6
	- 3 or more children	4,2	5,8
	No children under 18 years	6,9	9,5
Males	Total	5,3	8,4
	Parents of children under 18 years total	2,7	4,4
	- 1 child	2,9	5,0
	- 2 children	2,3	3,5
	- 3 or more children	3,3	5,2
	No children under 18 years	6,9	10,9
Females	Total	6,1	7,0
	Parents of children under 18 years total	4,8	5,2
	- 1 child	5,4	5,9
	- 2 children	3,9	3,7
	- 3 or more children	5,3	6,7
	No children under 18 years	6,8	8,0

Quality Description: Labour force survey

1. Relevance of statistical information

The Labour Force Survey is a sample survey providing monthly, quarterly and annual statistics on participation in the labour market, employment, unemployment and working hours among the population aged between 15 and 74. Approximately 12,000 persons are interviewed each month about their labour market activities during one week. Based on the information given by the respondents, the survey provides an up-to-date and comprehensive picture of the labour force and changes in the labour market.

The results of the survey are used, inter alia, in preparing labour market projections and plans, as support for decision-making and in the follow-up of the employment effects of different measures. Key users of the results are ministries, authorities responsible for regional planning, employers' and employees' organisations, universities and research institutions, international organisations and the European Union. Statistics Finland uses the data, inter alia, in the compilation of the National Accounts. Public attention focuses each month especially on the changes in unemployment and employment from the corresponding month in the previous year.

The current data content of the Labour Force Survey is based mainly on the EU Regulation on the organisation of a labour force sample survey in the Community (Council Regulations No 577/98, 2257/2003 and 430/2005). More detailed information on the European Union Labour Force Survey is available at http://circa.europa.eu/irc/dsis/employment/info/data/eu_lfs/index.htm.

The Labour Force Survey describes persons. Since 2003, information is obtained from a sub sample also on the structure of households and the activities of all working-age members of a household with regard to the labour market. Since 1999 a unified EU ad hoc- survey with annually changing topics has been conducted in connection with the Labour Force Survey.

The concepts and definitions used in the survey follow the recommendations of ILO, the International Labour Organisation of the UN, and the regulations of Eurostat, the Statistical Office of the European Communities. In the basic classification of the labour market situation, the population is divided into the employed, the unemployed and the economically inactive.

Definitions:

- A person is **employed** if he/she has during the survey week been in gainful employment at least one hour against wages or salary or fringe benefits, or to make 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 less than three months. The employed are divided into wage and salary earners, entrepreneurs and unpaid workers in a family member's enterprise.
- A person is **unemployed** if he/she is without work during the survey week, has actively sought employment in the past four weeks as a wage or salary earner or entrepreneur 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 **labour force** comprises all persons aged between 15 and 74 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 can also be described with the concept persons outside the labour force. For information on the other concepts used in the Labour Force Survey see: http://tilastokeskus.fi/til/tyti/kas_en.html.

Statistical classifications used in the Labour Force Survey include the Standard Industrial Classification (TOL 2008, NAVE Rev. 2) as of the beginning of 2009, the Classification of Occupations 2001 (ISCO-88) and the Classification of Occupations 1987, the Classification of Socio-economic Groups 1989, the

Classification of Education 1997 (ISCED 1997) as well as the regional classifications Major Region, Province, Region and Employment and Economic Development Centre.

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 includes also persons residing abroad temporarily (less than a year) as well as foreign nationals registered in the Finnish Population Information System who will reside in Finland at least one year

(<http://www.vaestorekisterikeskus.fi/vrk/home.nsf/www/populationinformationsystem>). Information is delivered to Eurostat, the Statistical Office of the European Communities, also on persons younger than 15 and aged 75 or older (who are not interviewed). In the survey, age is determined on the basis of real age at the time of the interview. Hence a 14-year-old can belong to the sample but is included only after he/she has turned 15. Correspondingly the most aged persons are left out of the survey when they turn 75.

The sample of the Labour Force Survey is drawn twice a year as a stratified random sample from the Statistics Finland 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 in each month consists approximately of 12,000 persons, which is, on average, every 300th person from the population. The sample consists of five rotation groups which have joined the survey in different months. 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.

Statistics Finland's interviewers collect the data with computer-assisted telephone interviews. In 2008 approximately 116,000 interviews were conducted. The non-response rate of the survey was 20.5 per cent on average.

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 region, gender and age. Information of the Ministry of Employment and the Economy's job seeker register is also used as supplementary data.

The figures published in the Labour Force Survey, as figures collected with any sample survey, are so-called estimates. An estimate is an estimation of a quality of the population derived by applying a mathematical operation (estimation) to sample observations. For example, the number of the unemployed in January 2009, which was 184,000 persons, is an estimate of the number of unemployed persons aged between 15 and 74 resulting from such a procedure.

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

The employment and unemployment numbers in the Labour Force Survey vary relatively regularly in different months of the year. Variation which occurs annually in similar ways has been removed from the so-called trends which are also published from the Labour Force Survey. 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 are revised somewhat when the data of the following month are inserted into the series. This preliminary nature of trends must be taken into account when drawing conclusions. As from June 2007, the trend components of the time series are calculated with the Tramo/Seats method recommended by Eurostat, the Statistical Office of the European Communities.

3. Correctness and accuracy of data

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

Measurement errors arise, inter alia, due to the fact that questions can be understood or interpreted differently and respondents may not report some information. Developing the questionnaire and training the interviewers are measures used to contain measurement errors.

Random variation due to sampling means that figures calculated from different samples differ 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 describing the same phenomenon, as quarterly data have been collected by interviewing thrice the number of persons than the monthly data. Annual figures are the most accurate. The second 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 regions 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 property being investigated lies with a probability of 95 per cent**. For example, the confidence interval of the number of the unemployed in January 2009 is $184,000 \pm 15,000$, i.e. 169,000-199,000. The share to be added to the estimate or deducted from it, in this case 15,000, is obtained by multiplying the estimate's standard error, here 7,500 persons, with the 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, 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 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 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 (coefficient of variation) 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 correlation in variance estimation, the Labour Force Survey uses an approximation of single stage cluster sampling in which a within-cluster variance is calculated for persons interviewed several times during the year. Clusters are formed on the basis of interviewee's age. Within-cluster 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 had 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 big 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, inter alia, employment and labour input by industry and more specific regional data. Quarterly deliveries of data are made to the EU, which are used to compile statistics on EU Member States. The most detailed data are released in the annual statistics which is finalised approximately six months from the end of the survey year.

5. Accessibility and transparency/clarity of data

The results of the Labour Force Survey are published in the Labour market series of the Official Statistics of Finland. The key monthly and quarterly results are released on predefined days in 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, among other things, to 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 available over the Internet also from Statistics Finland's chargeable time series database (ASTIKA).

The annual publication of the labour force statistics contains a description of survey methodology, definitions of key concepts, descriptions of classifications used as well as the survey questionnaire. The tables of the annual publication are available also in electronic form. Statistics on the education of the labour force and occupational structure are published every other year in the OSF Labour market series. In addition, Labour Force Survey data have been published regularly in the Statistical Yearbook of Finland and the Bulletin of Statistics. Chargeable special compilations can be requested from the Labour Force Survey's 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 only be released for purposes of scientific research and statistical study on the basis of a specific authorised permission and all the identifiers must be removed from it. The data files for the EU Labour Force Survey are delivered to Eurostat, the Statistical Office of the European Communities, without identifiers. Labour Force Survey data are protected according to the protection class defined in Statistics Finland's data protection guidelines.

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

6. Comparability of statistics

A monthly Labour Force Survey 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.

In the beginning, the survey with more limited data content was conducted as a postal inquiry. In 1976 the data contents expanded and methodology was 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 inquiry to a telephone interview, 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. In the beginning, during 1995-1998, the EU Labour Force Survey data were collected as a separate interview survey in the spring. The monthly survey was gradually revised to correspond to the EU Labour Force Survey. In 1997 the data content of the monthly survey was extended, the data collection became a computer-assisted telephone interview (CATI) and the concepts and definitions were harmonised to match the guidelines and recommendations of the European Union and the UN's International Labour Organization (ILO) better than before. The definition of an unemployed person was revised in May 1998 and the published time series were revised to correspond with the new definitions retroactively as from 1989 onwards.

In April 1999 the Labour Force Survey's data content extended again with the combining of the monthly survey and the EU Labour Force Survey into a single continuous Labour Force Survey. As from the beginning of the year 2000 the survey changed over into a continuous survey week, whereas previously data for each month had been collected on one survey week. This change-over affected data on working days and hours worked, which are not entirely comparable with earlier data as from the year 2000 onwards. As from the year 2003 the data content of the survey extended with the so-called household module, which is collected from a subsample.

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 working life survey, statistics on labour disputes, statistics on accidents at work as well as an annual register-based employment statistics (RES).

Of these the RES provides data on the labour market activities of the population

(http://tilastokeskus.fi/til/tyokay/index_en.html). Its data differ from those of the Labour Force Survey due to data collection methods and definitions of the employed and the unemployed. The RES is based on total data derived from the administrative data of different authorities. The RES data on a person's activities refer mainly to the last week in the year. Data on unemployment is based on the Ministry of Employment and the Economy's register of unemployed job seekers. The statistics are finalised in a good 1 ½ years, preliminary data are ready after roughly one year. Since employment statistics are total data, they offer better regional data (also data on municipalities) 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 compilation of National Accounts. Because of this, among other things, the definitions of the key concepts in the Labour Force Survey such as population, employment, working hours, follow as closely as possible the recommendations of the national accounts (the UN System of National Accounts, SNA, and the European System of Accounts, ESA). The definition of the public sector used in the Labour Force Survey is somewhat different from the sectoral classification of the national accounts. In national accounts, conscripts are classified as employed, according to the ILO recommendation, whereas in the Labour Force Survey, conscripts are regarded as economically inactive.

The results of 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 Eurostat data. In most EU countries conscripts are not included in the target group of the Labour Force Survey, i.e. the so-called household population. This causes differences especially in the results concerning the 15 to 24-year-olds.

The Ministry of Employment and the Economy also publishes data on unemployed job seekers. The Ministry's data are based on the 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 differences also in the acceptance of students as unemployed.

Suomen virallinen tilasto
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