

# Labour Force Statistics

2007, August

## Employment grew and unemployment fell in August 2007

According to the Labour Force Survey of Statistics Finland, the number of **employed persons** in August was 2 558 000, or 52 000 higher than a year earlier. Employment increased in the private sector and decreased in the public sector. The share of wage and salary earners in continuous full-time employment was 74,1 per cent, whereas one year before it was 73,4 per cent. The number of employed persons went up in the provinces of Western Finland and Oulu.

In August, the **employment rate**, that is, the proportion of the employed among persons aged 15 to 64, stood at 71,5 per cent, which was 1,0 percentage points higher than one year before. The employment rate of men was 74,1 per cent and that of women 69,0 per cent. The seasonally adjusted trend of the employment rate was 70,2 per cent.

According to the Labour Force Survey, there were 162 000 **unemployed** in August 2007, i.e. 23 000 fewer than in August of the year before. At 5,9 per cent, the **unemployment rate** was 0,9 percentage points lower than one year before. The seasonally adjusted trend of the unemployment rate was 6,9 per cent in August.

According to the Labour Force Survey, the average number of employed persons in the **January to August 2007** period was 2 497 000, which is 51 000 more than over the corresponding period in the year before. The average number of unemployed persons was 194 000, or 24 000 fewer than in the January to August period of 2006.

### Changes in the labour force 2007/08 – 2006/08, thousand persons

	2007/08	2006/08	Change, % 2007/08 - 2006/08
Employed, total	2 558	2 506	2,1
Unemployed	162	185	-12,5
Labour force, total	2 719	2 691	1,1
Economically inactive, total	1 264	1 274	-0,8
			Percentage points
Employment rate, %	71,5	70,5	1,0
Unemployment rate, %	5,9	6,9	-0,9
Labour force participation rate, %	68,3	67,9	0,4
Unrounded figures are used in the Change column. The data are collected according to the ILO/EU definition.			

Links: Press release connected to this statistical release (inclusive of data of the Ministry of Labour):  
[http://tilastokeskus.fi/ajk/tiedotteet/v2007/tiedote\\_023\\_2007-09-18\\_en.html](http://tilastokeskus.fi/ajk/tiedotteet/v2007/tiedote_023_2007-09-18_en.html)

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### 1.1 Key indicators in the Labour Force Survey by sex 2007/08 - 2006/08

Indicator		Year/Month			Change
		2007/08	2007/07	2006/08	2007/08 - 2006/08
		Per cent (%)	Per cent (%)	Per cent (%)	Percentage points (%)
Employment rate (population aged 15-64)	Both sexes	71,5	72,9	70,5	1,0
	Males	74,1	75,1	73,1	1,0
	Females	69,0	70,7	67,9	1,1
Unemployment rate	Both sexes	5,9	5,9	6,9	-0,9
	Males	5,3	5,0	6,0	-0,7
	Females	6,6	6,8	7,8	-1,2
Labour force participation rate	Both sexes	68,3	69,2	67,9	0,4
	Males	71,4	71,6	70,8	0,6
	Females	65,1	66,9	64,9	0,2

### 1.2 Population aged 15-74 by labour force status and sex 2007/08 - 2006/08

Labour force status		Year/Month			Change
		2007/08	2007/07	2006/08	2007/08 - 2006/08
		1000 persons	1000 persons	1000 persons	Per cent (%)
Population aged 15-74	Both sexes	3 983	3 981	3 965	0,5
	Males	1 992	1 991	1 982	0,5
	Females	1 991	1 991	1 983	0,4
Labour force	Both sexes	2 719	2 756	2 691	1,1
	Males	1 422	1 426	1 403	1,4
	Females	1 297	1 331	1 288	0,7
Employed	Both sexes	2 558	2 595	2 506	2,1
	Males	1 347	1 355	1 319	2,1
	Females	1 211	1 240	1 187	2,0
Unemployed	Both sexes	162	161	185	-12,5
	Males	76	71	84	-10,2
	Females	86	91	100	-14,5

### 1.3 Population aged 15-74 by sex and age 2007/08 - 2006/08

		Year/Month			Change
		2007/08	2007/07	2006/08	2007/08 - 2006/08
		1000 persons	1000 persons	1000 persons	Per cent (%)
Sex	Age group				
Both sexes	15-74	3 983	3 981	3 965	0,5
	15-24	658	658	656	0,3
	25-54	2 119	2 121	2 130	-0,5
	55-74	1 205	1 203	1 179	2,2
	15-64	3 521	3 518	3 506	0,4
Males	15-74	1 992	1 991	1 982	0,5
	15-24	336	335	336	-0,1
	25-54	1 075	1 076	1 080	-0,5
	55-74	580	580	565	2,7
	15-64	1 779	1 778	1 772	0,4
Females	15-74	1 991	1 991	1 983	0,4
	15-24	322	322	320	0,6
	25-54	1 044	1 045	1 050	-0,5
	55-74	625	623	614	1,8
	15-64	1 742	1 740	1 734	0,4

### 2.1 Labour force participation rate by sex and age 2007/08 - 2006/08

		Year/Month			Change
		2007/08	2007/07	2006/08	2007/08 - 2006/08
		Per cent (%)	Per cent (%)	Per cent (%)	Percentage points (%)
Sex	Age group				
Both sexes	15-74	68,3	69,2	67,9	0,4
	15-24	53,7	67,0	51,8	1,9
	25-54	89,2	87,8	88,7	0,5
	55-74	39,4	37,8	39,1	0,3
	15-64	76,1	77,5	75,8	0,3
Males	15-74	71,4	71,6	70,8	0,6
	15-24	52,8	65,4	52,2	0,6
	25-54	92,1	91,0	91,1	0,9
	55-74	43,9	39,2	42,9	0,9
	15-64	78,3	79,1	77,9	0,5
Females	15-74	65,1	66,9	64,9	0,2
	15-24	54,5	68,7	51,3	3,2
	25-54	86,3	84,4	86,3	0,0
	55-74	35,2	36,5	35,6	-0,3
	15-64	73,9	75,9	73,7	0,2

## 2.2 Labour force by sex and age 2007/08 - 2006/08

		Year/Month			Change
		2007/08	2007/07	2006/08	2007/08 - 2006/08
		1000 persons	1000 persons	1000 persons	Per cent (%)
Sex	Age group				
Both sexes	15-74	2 719	2 756	2 691	1,1
	15-24	353	441	340	3,9
	25-54	1 891	1 861	1 890	0,1
	55-74	475	454	461	3,0
	15-64	2 681	2 727	2 657	0,9
Males	15-74	1 422	1 426	1 403	1,4
	15-24	178	219	176	1,1
	25-54	990	979	985	0,6
	55-74	255	227	243	4,9
	15-64	1 394	1 406	1 380	1,0
Females	15-74	1 297	1 331	1 288	0,7
	15-24	176	221	164	6,9
	25-54	901	882	905	-0,5
	55-74	220	227	218	1,0
	15-64	1 287	1 321	1 278	0,7

## 3.1 Employment rate by sex and age 2007/08 - 2006/08

		Year/Month			Change
		2007/08	2007/07	2006/08	2007/08 - 2006/08
		Per cent (%)	Per cent (%)	Per cent (%)	Percentage points (%)
Sex	Age group				
Both sexes	15-74	64,2	65,2	63,2	1,0
	15-24	48,9	60,7	44,8	4,0
	25-54	84,4	83,5	83,4	1,0
	55-74	37,1	35,4	37,0	0,1
	15-64	71,5	72,9	70,5	1,0
Males	15-74	67,6	68,1	66,5	1,1
	15-24	48,5	59,5	44,8	3,6
	25-54	87,9	87,6	86,7	1,2
	55-74	41,2	36,7	40,9	0,3
	15-64	74,1	75,1	73,1	1,0
Females	15-74	60,8	62,3	59,9	0,9
	15-24	49,3	61,8	44,8	4,5
	25-54	80,8	79,2	79,9	0,9
	55-74	33,4	34,2	33,4	0,0
	15-64	69,0	70,7	67,9	1,1

### 3.2 Employed persons by sex and age 2007/08 - 2006/08

		Year/Month			Change
		2007/08	2007/07	2006/08	2007/08 - 2006/08
		1000 persons	1000 persons	1000 persons	Per cent (%)
Sex	Age group				
Both sexes	15-74	2 558	2 595	2 506	2,1
	15-24	322	399	294	9,3
	25-54	1 788	1 770	1 776	0,7
	55-74	448	426	436	2,6
	15-64	2 519	2 565	2 473	1,9
Males	15-74	1 347	1 355	1 319	2,1
	15-24	163	200	151	8,0
	25-54	944	942	937	0,8
	55-74	239	213	231	3,4
	15-64	1 318	1 335	1 295	1,7
Females	15-74	1 211	1 240	1 187	2,0
	15-24	159	199	143	10,7
	25-54	844	828	839	0,6
	55-74	209	213	205	1,7
	15-64	1 201	1 230	1 177	2,0

### 3.3 Employed persons by status in employment 2007/08 - 2006/08

	Year/Month			Change
	2007/08	2007/07	2006/08	2007/08 - 2006/08
	1000 persons	1000 persons	1000 persons	Per cent (%)
Status in employment				
Employed persons total	2 558	2 595	2 506	2,1
Self-employed persons and unpaid family workers	331	313	325	1,8
Employees	2 227	2 282	2 181	2,1
-salaried employees	1 426	1 424	1 406	1,5
-wage earners	797	854	772	3,3

### 3.4 Employed persons by employer sector 2007/08 - 2006/08

	Year/Month			Change
	2007/08	2007/07	2006/08	2007/08 - 2006/08
	1000 persons	1000 persons	1000 persons	Per cent (%)
Employer sector				
Employer sector total (incl. employer sector unknown)	2 558	2 595	2 506	2,1
Private sector	1 893	1 918	1 831	3,4
Public sector	662	674	672	-1,6
-state	150	166	163	-8,3
-municipality	512	508	509	0,6

### 3.5 Employed persons by province 2007/08 - 2006/08

	Year/Month			Change
	2007/08	2007/07	2006/08	2007/08 - 2006/08
	1000 persons	1000 persons	1000 persons	Per cent (%)
Province				
Whole country (incl. Åland)	2 558	2 595	2 506	2,1
Southern Finland	1 109	1 128	1 099	0,8
Western Finland	898	912	864	3,9
Eastern Finland	240	252	245	-2,0
Oulu	217	211	204	6,1
Lapland	79	77	78	1,3

### 3.6 Proportion of part-time employed persons in all employed persons by sex 2007/08 - 2006/08

	Year/Month			Change
	2007/08	2007/07	2006/08	2007/08 - 2006/08
	Per cent (%)	Per cent (%)	Per cent (%)	Percentage points (%)
Sex				
Both sexes	12,7	12,2	12,9	-0,2
Males	8,1	7,9	8,5	-0,4
Females	17,7	16,8	17,7	0,0

### 3.7 Part-time employed persons by sex 2007/08 - 2006/08

	Year/Month			Change
	2007/08	2007/07	2006/08	2007/08 - 2006/08
	1000 persons	1000 persons	1000 persons	Per cent (%)
Sex				
Both sexes	324	316	323	0,3
Males	110	107	112	-2,5
Females	214	209	210	1,9

### 3.8 Employees by type of employment relationship (%) 2007/08 - 2006/08

	Year/Month			Change
	2007/08	2007/07	2006/08	2007/08 - 2006/08
	Per cent (%)	Per cent (%)	Per cent (%)	Percentage points (%)
Employment relationship				
Employees total	100,0	100,0	100,0	0,0
-permanent full-time job	74,1	72,0	73,4	0,7
-permanent part-time job	8,2	7,4	9,1	-0,9
-fixed-term full-time job	14,2	16,7	14,2	0,0
-fixed-term part-time job	3,6	3,8	3,3	0,3
Fixed-term job total	17,7	20,6	17,5	0,3
Part-time job total	11,8	11,3	12,4	-0,6

### 3.9 Employees by type of employment relationship 2007/08 - 2006/08

	Year/Month			Change
	2007/08	2007/07	2006/08	2007/08 - 2006/08
	1000 persons	1000 persons	1000 persons	Per cent (%)
Employment relationship				
Employees total	2 227	2 282	2 181	2,1
-permanent full-time job	1 649	1 643	1 600	3,0
-permanent part-time job	183	169	199	-8,0
-fixed-term full-time job	315	382	309	1,8
-fixed-term part-time job	79	88	71	11,3
Fixed-term job total	394	470	381	3,6
Part-time job total	262	257	270	-2,9

#### 4.1 Unemployment rate by sex and age 2007/08 - 2006/08

		Year/Month			Change
		2007/08	2007/07	2006/08	2007/08 - 2006/08
		Per cent (%)	Per cent (%)	Per cent (%)	Percentage points (%)
Sex	Age group				
Both sexes	15-74	5,9	5,9	6,9	-0,9
	15-24	8,9	9,5	13,4	-4,5
	25-54	5,4	4,9	6,1	-0,6
	55-74	5,7	6,2	5,3	0,4
	15-64	6,0	5,9	6,9	-0,9
Males	15-74	5,3	5,0	6,0	-0,7
	15-24	8,2	9,0	14,1	-5,9
	25-54	4,6	3,8	4,9	-0,3
	55-74	6,1	6,2	4,7	1,3
	15-64	5,4	5,0	6,1	-0,7
Females	15-74	6,6	6,8	7,8	-1,2
	15-24	9,6	10,1	12,7	-3,1
	25-54	6,4	6,1	7,3	-1,0
	55-74	5,3	6,2	6,0	-0,7
	15-64	6,7	6,9	7,9	-1,2

#### 4.2 Unemployed persons by sex and age 2007/08 - 2006/08

		Year/Month			Change
		2007/08	2007/07	2006/08	2007/08 - 2006/08
		1000 persons	1000 persons	1000 persons	Per cent (%)
Sex	Age group				
Both sexes	15-74	162	161	185	-12,5
	15-24	31	42	46	-31,0
	25-54	103	91	114	-10,1
	55-74	27	28	25	10,4
	15-64	162	161	185	-12,5
Males	15-74	76	71	84	-10,2
	15-24	15	20	25	-41,0
	25-54	46	37	48	-5,0
	55-74	15	14	12	34,3
	15-64	76	71	84	-10,2
Females	15-74	86	91	100	-14,5
	15-24	17	22	21	-19,0
	25-54	57	54	66	-13,8
	55-74	12	14	13	-10,7
	15-64	86	91	100	-14,5

#### 4.3 Unemployment rate by province 2007/08 - 2006/08

Province	Year/Month			Change
	2007/08	2007/07	2006/08	2007/08 - 2006/08
	Per cent (%)	Per cent (%)	Per cent (%)	Percentage points (%)
Whole country (incl. Åland)	5,9	5,9	6,9	-0,9
Southern Finland	4,7	4,6	4,9	-0,1
Western Finland	6,1	5,3	7,4	-1,3
Eastern Finland	9,2	9,7	9,8	-0,6
Oulu	6,6	9,1	10,3	-3,7
Lapland	8,9	8,1	10,2	-1,3

### 5.1 Persons not in labour force by main activity and sex 2007/08 - 2006/08

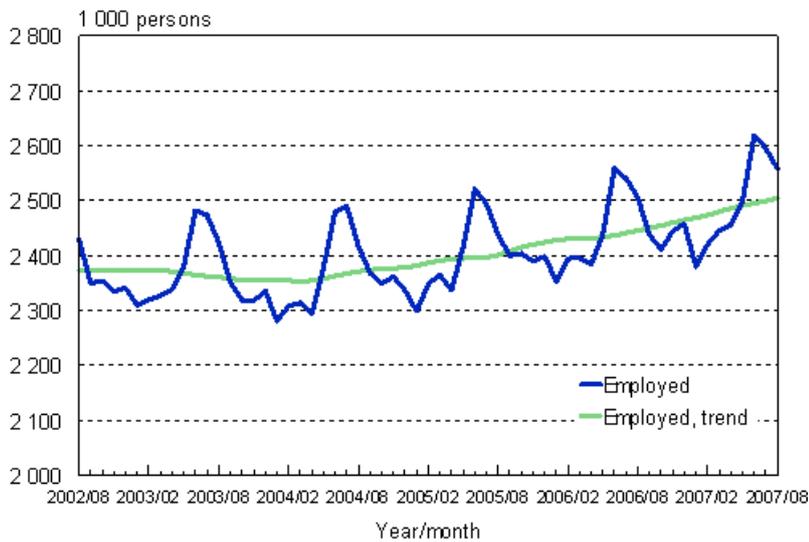
		Year/Month			Change
		2007/08	2007/07	2006/08	2007/08 - 2006/08
		1000 persons	1000 persons	1000 persons	Per cent (%)
Main activity	Sex				
Total persons not in labour force	Both sexes	1 264	1 225	1 274	-0,8
	Males	569	565	579	-1,6
	Females	694	660	695	-0,1
Students	Both sexes	287	188	297	-3,5
Disabled persons	Both sexes	218	219	217	0,3
Retired on the basis of age	Both sexes	547	581	537	2,0
Persons performing domestic work	Both sexes	98	97	98	-0,8
Others (incl. conscripts)	Both sexes	114	139	125	-8,4

### 5.2 Seasonally adjusted trends 2007/08

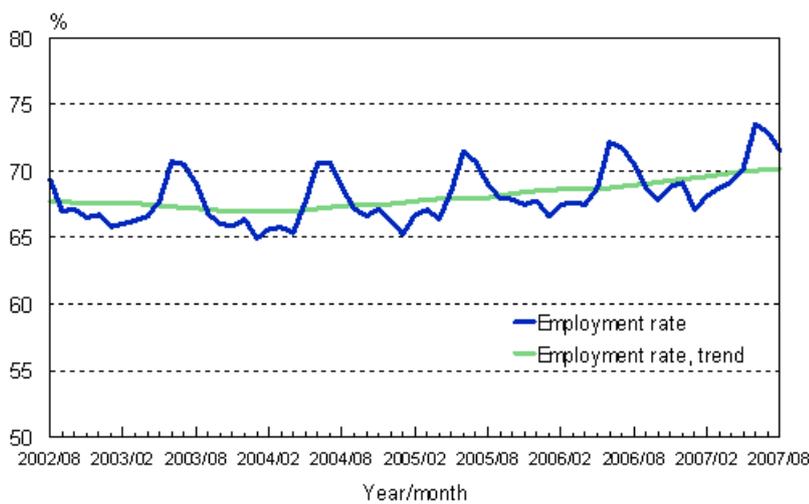
Year/month	Employed	Unemployed	Unemployed job seekers (Ministry of Labour)	Unemployment rate	Unemployment rate
				Aged 15–74	Aged 15–24
	1000 persons	1000 persons	1000 persons	%	%
2005/08	2 401	215	274	8,2	19,5
2005/09	2 408	213	272	8,2	19,1
2005/10	2 415	214	271	8,2	19,1
2005/11	2 420	218	269	8,3	19,5
2005/12	2 424	219	267	8,3	19,9
2006/01	2 428	216	265	8,2	19,7
2006/02	2 430	211	263	8,0	19,2
2006/03	2 431	207	260	7,9	18,7
2006/04	2 432	207	258	7,8	18,7
2006/05	2 433	208	254	7,8	18,9
2006/06	2 437	206	251	7,8	18,8
2006/07	2 441	204	249	7,8	18,7
2006/08	2 446	205	246	7,8	18,7
2006/09	2 450	205	243	7,8	18,7
2006/10	2 454	202	240	7,6	18,4
2006/11	2 460	196	237	7,4	17,7
2006/12	2 465	191	233	7,2	17,2
2007/01	2 469	189	230	7,1	17,1
2007/02	2 474	189	228	7,1	17,1
2007/03	2 480	187	225	7,0	16,7
2007/04	2 486	181	222	6,8	15,9
2007/05	2 491	179	220	6,8	15,6
2007/06	2 495	182	217	6,8	15,8
2007/07	2 500	184	215	6,9	15,9
2007/08	2 504	183	212	6,9	15,8

# Figures

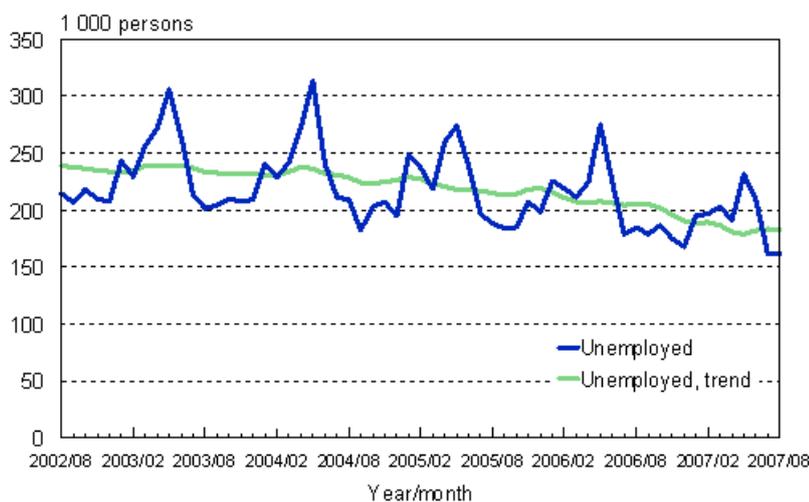
## 1.1 Employed persons, trend and original series



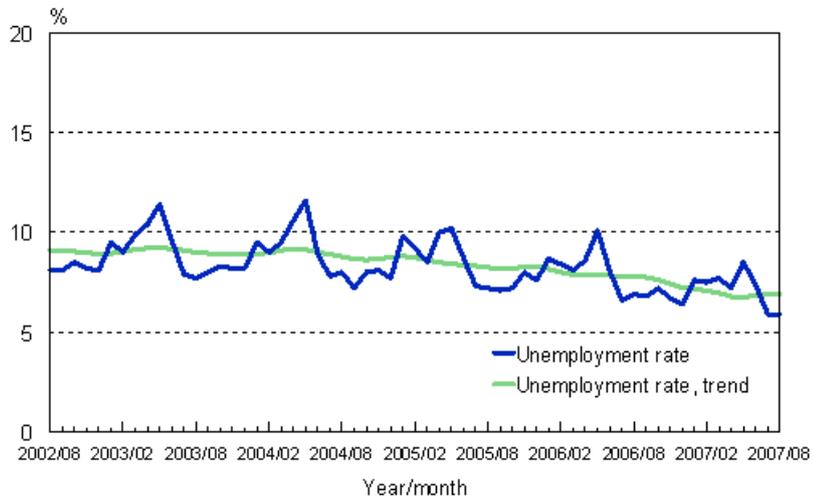
## 1.2 Employment rate, trend and original series



## 2.1 Unemployed persons, trend and original series



## 2.2 Unemployment rate, trend and original series



## 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 Regulation No 577/98). 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](http://circa.europa.eu/irc/dsis/employment/info/data/eu_lfs/index.htm).

The Labour Force Survey mainly 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. Persons temporarily absent from work due to e.g. holiday or illness are classified as employed. Persons laid off for a fixed-term (less than 3 months) as well as persons on maternity, paternity or parental leave from work are classified as employed. Other persons absent without pay from work for over one month (e.g. conscripts, persons receiving home care subsidies while looking after a child or on job alternation leave or leave of absence) are not classified as employed. 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 two weeks is also classified as unemployed. Persons laid off for the time being who fulfil the above-mentioned criteria on job seeking and availability for work are also classified as unemployed.
- 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 be divided according to principal activity during the survey week into students, conscripts, persons performing domestic work, persons retired on account of age or

work years, the disabled, persons living on interest or capital income as well as others not included in the above-mentioned classes.

**Statistical classifications** used in the Labour Force Survey include the Standard Industrial Classification (TOL 2002, ISIC REV 3.1), 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 (NUTS2), Province, Employment and Economic Development Centre and Region.

## *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. 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 2006 approximately 116,000 interviews were conducted of which 99 per cent were telephone interviews and 1 per cent face-to-face interviews. The non-response rate of the survey was 19.6 per cent on average, 21.0 per cent for men and 18.2 per cent for women.

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 Labour'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 2005, which was 249,000 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 2005 is  $249,000 \pm 16,000$ , i.e. 233,000–265,000. The share to be added to the estimate or deducted from it, in this case 16,000, is obtained by multiplying the estimate's standard error, here 8,000 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.**<sup>1)</sup>

	Monthly estimate	Monthly estimate's 95% confidence interval	Standard error	Relative standard error
	persons	persons	persons	%
<b>Employed</b>	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
<b>Unemployed</b>	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.**<sup>1)</sup>

	Quarterly estimate	Quarterly estimate's 95% confidence interval	Standard error	Relative standard error
	persons	persons	persons	%
<b>Employed</b>	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
<b>Unemployed</b>	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.**<sup>1)</sup>

	Annual estimate	Annual estimate's 95% confidence interval	Standard error	Relative standard error
	persons	persons	persons	%
<b>Employed</b>	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
<b>Unemployed</b>	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 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](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 and regional databases (ASTIKA and ALTIKA).

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 also in the OSF Labour market series. In addition, Labour Force Survey data are published regularly in the Statistical Yearbook of Finland and the Bulletin of Statistics.

More and more data are delivered as special compilations according to customers' needs. The data of the Labour Force Survey and its ad hoc modules may also be released for research purposes on the basis of an application for licence to use statistical data.

Information service: [tyovoimatutkimus@stat.fi](mailto:tyovoimatutkimus@stat.fi) and tel. +358 9 1734 2030.

#### ***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 European Union Labour Force Survey. In the beginning in the years 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. Several changes took place in 1997. The contents of the monthly survey were extended, data collection became a computer-assisted telephone interview (CATI) and concepts and definitions were harmonised to correspond better than before to the EU and ILO guidelines and recommendations. The most recent revision of the definition of an unemployed person was made in May 1998. In April 1999 data contents continued to expand as the monthly survey and the EU Labour Force Survey were combined into a single continuing Labour Force Survey. Since 2003 data contents expanded by a so called household section collected from a sub sample.

Published time series have been corrected retroactively as from 1989 to correspond to the renewed definitions. In the beginning of 2000 a continuing survey week was adopted, earlier the data for each month were collected concerning one survey week. The adoption of the continuing survey week affected working day and working hour data, which made them incomparable with earlier data as from 2000.

## *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](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 Labour'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 Labour also publishes statistics on unemployed job seekers. The Ministry's data are based on the Labour Exchange register, which describe the last working day of the month. The definition of unemployed applied in the Labour Exchange Statistics is based on legislation and administrative orders which make the statistical data internationally incomparable. In the Labour Exchange 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.

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