Statistics Finland

1999

PRICES AND WAGES REVIEW

- Consumer price index revised
- Handling quality changes in consumer price index
- Finland's price level seventh highest in the OECD
- Statistics Finland's index of wage and salary earnings revised
- Highest labour costs in the paper industry
- Rapid increase in the local government sector's labour costs

Prices and Wages Review 1999

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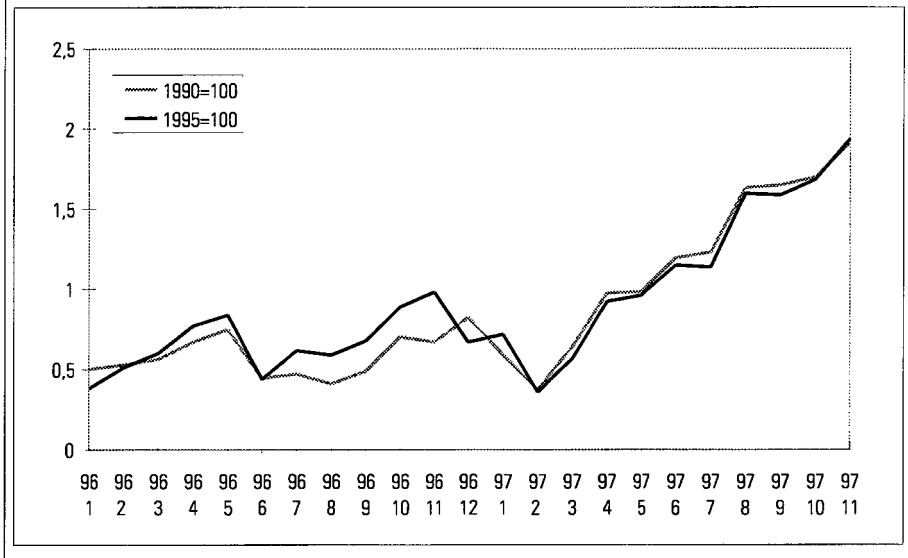
CONSUMER PRICE INDEX REVISED

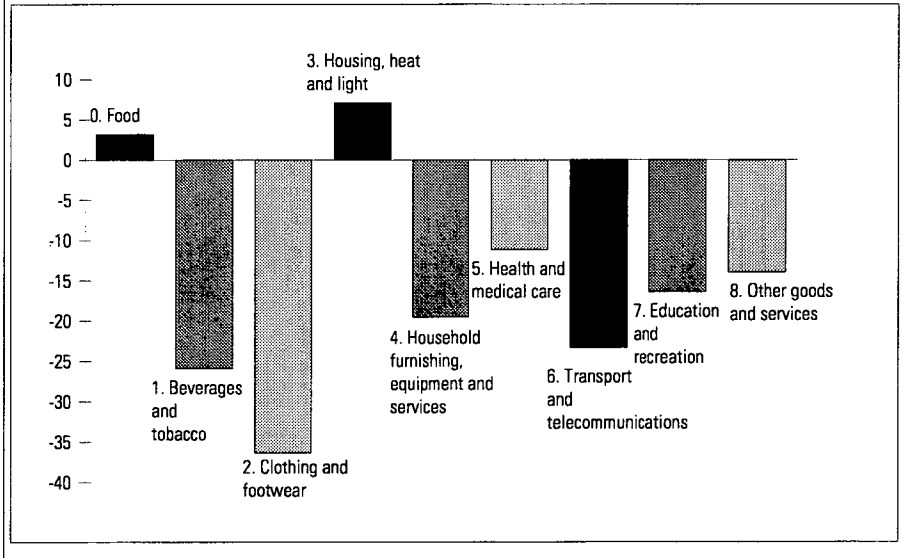
As of December 1997, changes in consumer prices are measured according to the Consumer Price Index 1995=100. The index is based on the consumption structure of the 1995 consumption expenditure survey. The new index differs from the old one in that its weight structure is more up-to-date. The measurement of owner-occupancy was also changed slightly, a new EU classification was introduced and the commodity basket of the index and the sample of the retail outlets included in price monitoring were renewed.

The consumer price index is usually revised every five years. A new index often gives a slightly different picture of price development than the old one. The inflation was almost unchanged between 1995 and 1997 calculated both by the new and old index. Although price development can be examined with the new index from 1995 onwards, the already published data on changes in the consumer price index will not be altered. The last point figure for the old index was produced for November 1997. Then the inflation was 1.9 per cent calculated both by the old and new consumer price index.

INFLATION BY NEW AND OLD INDEX



VOLUME CHANGES IN CONSUMPTION BY COMMODITY GROUP 1990–1995



Changes in consumption structure

The weights of the consumer price index reflect the relative proportions of the sums used by average households on consumer goods. Thus examined, the relative proportions of housing and health and medical care rose in the new consumer price index and those of clothes and footwear, household articles and transport fell. The proportions of cultural and recreational services and of other goods and services remained unchanged.

The revised weight structure of the consumer price index increased

the weight of telecommunications distinctly by bringing mobile telephones and calls to the index basket. The consumption proportions of banking and financial services also grew significantly.

From 1990 to 1995, Finland was in the midst of an economic recession and 1995 was also the first year of Finland's membership in the European Union. The weak consumer demand and the floating Finnish markka changed the relative prices considerably, but the inflation remained low.

There was a considerable change in the volume of households' consumption between 1990 and 1995. When examining fixed price consumption, only the relative proportions of food and housing went up. The increased significance of housing in the consumer price index is a result of the deregulation of the rent market and, partly, of a methodological change.

In consideration of price changes, the consumption of many commodity groups and services went down substantially from 1990 to 1995. The consumption of clothes and footwear, tobacco and alcoholic products and household articles dropped most. And the consumption of package tours, vehicles and jewellery, clocks and watches also decreased considerably.

Although consumer habits and actual consumption in the household sector did not change much in the 1990s, the revision of the weight structure did not much alter the conception of the rate of change of consumer prices between 1995 and 1997: the development of the new and old index is fairly uniform.

Development of consumer prices from 1990 to 1997

The inflation has remained low almost throughout the 1990s. The annual change of the consumer price index was at its peak, at 7.5 per cent, in January 1990. After this, the rise in prices slowed down and ended almost in a deflation in 1994. In 1997, the average inflation stood at 1.2 per cent.

The inflation slowed down sharply primarily because of the large structural changes both in the housing market and retail trade brought about by the recession. Moreover, food prices also fell significantly when Finland became a member of the EU. Housing costs and food account for almost 40 per cent of the consumption expenditure of households.

Owner-occupancy pushed inflation down in the 1990s

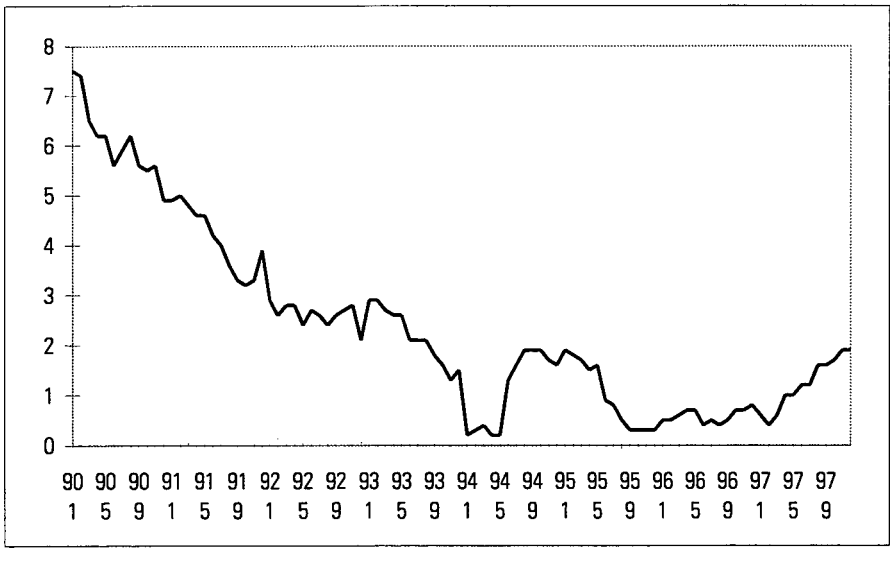
The consumer price index measures the capital costs of owner-occupancy by means of housing prices and interest on housing loans. Housing prices were at their highest in 1988, after which they started to drop radically. Throughout the early part of the 1990s, the fall in housing prices also lowered the year-on-year change in the consumer price index, at most by 0.9 percentage points in 1992.

The interest rate level of the total housing loan stock plummeted in 1992, which brought the year-on-year change in consumer prices further down. Housing prices started to rise again in 1995. The rise in housing prices accounted for 0.5 percentage points of the 1.9 per cent inflation in December 1997.

New consumer price index reacts slower to housing price changes

The role of housing prices as an indicator of the wear of one's own dwelling is smaller in the new consumer price index. From now on, the wear of a dwelling is measured

INFLATION SINCE 1990



also by means of the renovation and basic repair of the dwelling, to which a narrower stand was taken in the previous index.

The contraction in the housing loan stock and the fall in the interest rate level decreased the weight of housing loans in the new consumer price index.

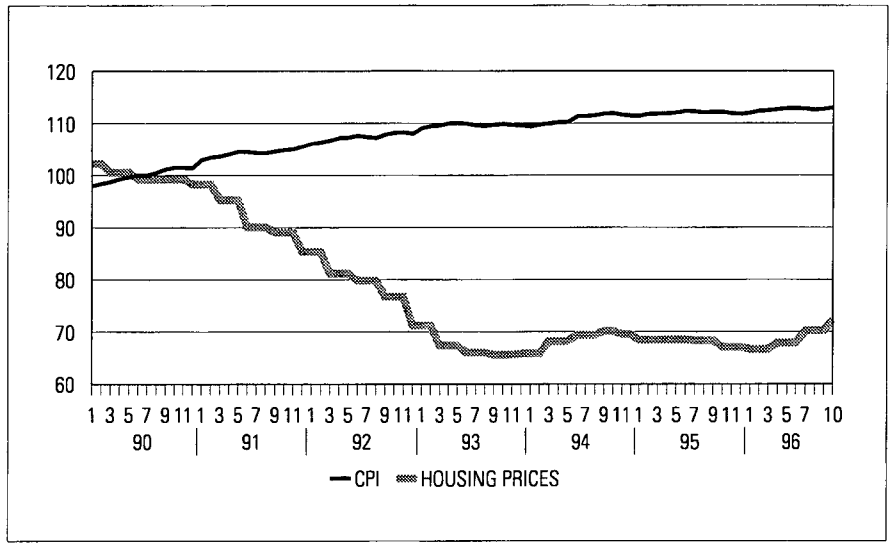
Role of rents in new consumer price index almost doubled

The weight of rents in the new index is 6.4 per cent, while in the previous one it was 3.7 per cent. The relative significance of rents increased as the rent control was lifted. Since 1990, rents have risen significantly faster than the inflation. In 1997 they went up, on average, by 2.4 per cent, the average inflation being 1.2 per cent.

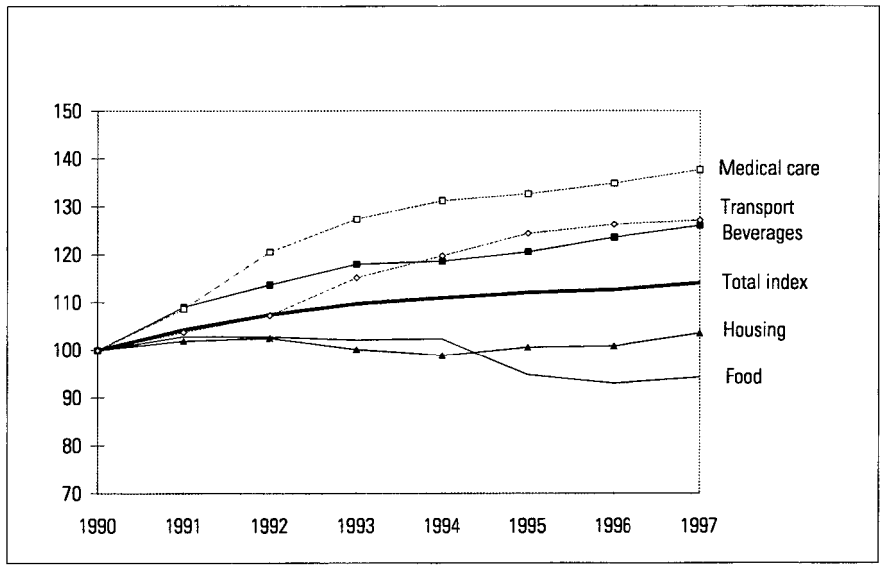
Development of consumer prices by main group

The development of consumer prices has been fairly heterogeneous throughout the 1990s. The price of health and medical care has gone up clearly faster than the general price development. While consumer prices went up, on average, by about 14 per cent from 1990 to the end of 1997, the price of health and medical care rose by almost 40 per cent. In contrast, the prices of food went down all through the 1990s and were, on average, about 5.8 per cent lower at the end of 1997 than in 1990. Housing costs remained nominally at the 1990 level, but in real terms, i.e. in proportion to the inflation, housing costs went down throughout the 1990s.

CONSUMER PRICE INDEX AND HOUSING PRICES



DEVELOPMENT OF CONSUMER PRICES BY MAIN GROUP



Since 1990, the prices of transport, beverages and tobacco have also risen more than average. Heavily taxed fuels and tobacco and alcohol, in particular, contribute to the faster rise in prices in these main groups than in the others.

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HANDLING QUALITY CHANGES IN CONSUMER PRICE INDEX

The consumer price index is one of the most significant indicators of the national economy. There are, however, several problems involved in the calculation of the index, quality changes in the index commodities being one of the major ones.

Commodities undergo constant quality changes. In general, quality improves, but in services, for example, quality appears to deteriorate. Quality changes are common especially in fast developing technical commodities; new features are introduced into the commodities and the existing ones are improved. The consumer price index aims at monitoring the price changes of the same product. Because the quality of a product will change anyway, price collectors find it harder all the time to find an exactly similar product as in the previous period. For this reason, products with features changed from the previous calculation are taken into the index every month. Therefore, it is vital to find out which part of the price change of a product is caused by a quality change and which by a price change. If the whole price change is interpreted as inflation, although some of it is due to a quality change, the price index will overestimate inflation.

Handling quality changes in practice

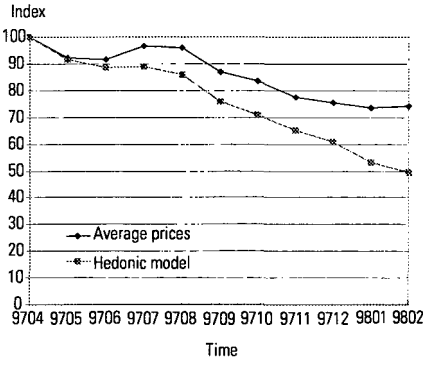
Direct comparison is the most straightforward evaluation method of quality changes. If the quality change is evaluated to be small, it can be ignored and the index can be calculated as usual. In such cases quite a large bias may be produced in the end if a large group of small quality changes is ignored. The bias may equally well be either positive or negative, for which reason it is also possible that divergent biases cancel out one another.

If the new and old models of a product are on the market at the same time, the prices of the new and old models can be overlapped (overlap pricing). Overlap pricing proceeds so that the index from the period t-1 to the period t is calculated on the basis of the price of the old model, but from the period t to the period t+1, the index is calculated using the price of the new model. The price difference between the old and new models in the period t is interpreted in the overlapping method as being caused entirely by the quality change, in which case the possible effect of inflation is not taken into consideration. Overlap pricing is quite rare because the old and new models are seldom on the market at the same time.

Automatic linking is a popular but an uncertain way of handling quality changes. In the method, the new and old models are interpreted as being totally different and the new model is linked to the index in such a way that the index in the month in question will not change. The Statistical Office of the European Communities, Eurostat, has advised the Member States to avoid the use of automatic linking.

In Finland, Statistics Finland price collectors estimate quality changes with the help of the sales staff. The estimates are centrally checked at Statistics Finland. In practice, quality changes are expressed by specific quality change codes. Quality change codes have been used long in the Finnish consumer price index. As the method is completely based on estimates, an alternative method used for treating quality changes is the hedonic regression analysis. By means of the hedonic method, the effects of quality changes on prices can be removed from the index. The consumer price index 1995=100 in use now employs the hedonic method for measuring the price development of used cars and dwellings.

FIGURE 1
Quality adjusted hedonic index of mobile phones and quality unadjusted index calculated from average prices of mobile phones. april 1997=100



Hedonic regression analysis

The hedonic regression analysis is an econometric method developed to eliminate the price changes caused by quality changes from the price index. The basic idea of the hedonic method is that a consumer

pays in a commodity specifically for the features of the commodity. The purpose of the hedonic regression analysis to is to determine the price of the commodity by means of the quality components of the commodity in the following way:

$$(1)\ p_i = \alpha + \sum_{j=1}^{k} \beta_j x_{ij} + \varepsilon_i \quad i = 1,\ldots,n,$$

where the determining variable is the price p_i of the commodity or service. x_{ij}'s are determining quality feature variables, α is a constant and ε_i is an error term. Logarithmic models can also be estimated in addition to this linear model.

The effect of the time of selling on the price is derived by adding to the model time indicator variables indicating the month, in which case the model is formed as follows:

$$(2)\ p_i = \alpha + \sum_{j=1}^{k} \beta_j x_{ij} + \sum_{t=2}^{L} \lambda_\tau D_{ti} + \varepsilon_{it.}$$

where D_{ti} is the time variable of the period t and λ_t its coefficient. The pure price change, i.e. inflation, between the periods can be read directly from the dummy variables indicating the time of selling. This is a so-called Griliches' hedonic model. The time dummy method presumes that parameter estimates remain constant in time. In reality, it is possible that consumers' valuations and preferences change with time. For this reason, the model should be estimated often enough to be able to take the changes in valuations into account. Griliches' hedonic model has been criticised for presuming constancy for coefficients. A different hedonic analysis method, hedonic interpolation, has been developed in Finland. Its basic idea is to allow feature variables to influence prices in different ways, depending on the time period. The regression model is thus estimated separately for each month and parameter estimates are allowed to vary in time. In this way, new estimates for feature variables are obtained each month.

Hedonic regression model for mobile phones

Statistics Finland has developed hedonic models for several consumer durables. For example, the price development of vacuum cleaners, refrigerator freezers and mobile phones has been examined with the hedonic model. The models have not, thus far, been taken into use in practical index compilation, but they have given useful information for developing quality change methods. A mobile phone is a good example of a commodity where quality changes occur constantly. A new mobile phone model is almost always of better quality than the previous model, and no model stays on the market longer than a few years.

When making a hedonic model for mobile phones, we first had to find out the features that are presumed to have an impact on the price of a mobile phone. With the help of experts, we decided to collect information about as many as 11 features, four of which were included in the final model. The number of price data in the material was 752 and price collections were made between April 1997 and February 1998. Price collectors had to change the mobile phone model they monitored as many as 55 times during the monitoring period. Such a great number of quality changes is characteristic of fast developing commodities.

Time indicator variables were added to the model in compliance with the Griliches model. The rate of determination for the model was 80 per cent. Table 1 contains the factors that influence the price of a mobile phone and their parameter estimates.

Clearly, the best determining variable for the price of a mobile phone is the size of the phone. When the regression model was run with size the only determining variable, the rate of determination was over 40 per cent. The model can be interpreted so that a 10 per cent increase in the size of a mobile phone would lower its price by about 13 per cent. Similarly, a 10 per cent rise in the number of ringing tones would raise the price of the mobile phone by 1.5 per cent. According to the time indicator variables, the quality adjusted prices of mobile phones went down by about 50 per cent in the monitoring period. Figure 1 indicates that obvious quality improvement has taken place in the monitoring period. The quality adjusted index of mobile phones in accordance with the hedonic model fell more sharply than the index calculated from the monthly average prices of mobile phones during the monitoring period.

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TABLE 1. SIGNIFICANT QUALITY FEATURES OF MOBILE PHONES

	Parameter estimate	PROB
Size	–1.3249	0.0001
Number of ringing tones	0.1527	0.0001
Memory of missed calls	0.1541	0.0001
Talk time	0.1946	0.0001

FINLAND'S PRICE LEVEL SEVENTH HIGHEST IN THE OECD

Everyday experiences of how expensive life is in Finland are supported by a price level comparison study published by the OECD. If total price levels in private consumption are adjusted by May 1998 changes in rates of exchange and inflation, Finland is ranked as the seventh most expensive country in the OECD. Some changes have taken place, however, since still at the turn of the decade, Finland was the most expensive country in Europe and the OECD in terms of the overall price levels of private consumption.

Other Nordic countries, Japan and Switzerland were more expensive than Finland. Southern European countries (Portugal, Greece) and Turkey are still the least expensive. With reference to expensive private consumption, especially alcoholic beverages, tobacco, vehicles, book and magazines are expensive in Finland compared to most other EU countries.

Where do the results come from?

Comparative price surveys study the prices of equivalent products in different countries. For private consumption, the weight structure of the commodity basket is formed on the basis of household consumption. Prices of about 3,500 commodities and services are surveyed.

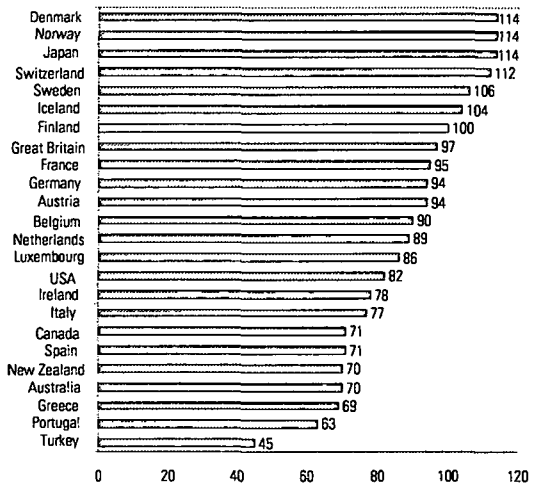
The value ratios, i.e. the purchasing power parities between currencies, are calculated by price comparisons between the countries. This so-called PPP rate represents the real purchasing power of the currencies.

The price level index is calculated by dividing the purchasing power parity by the corresponding exchange rate. The index gives a tourist's point of view: if my purchases in Finland cost FIM 100, how many markkas do I need to buy the same commodities in some other country? In May 1998, that 'commodity basket' covering private consumption would have cost FIM 114 in Norway and FIM 63 in Portugal.

Big Mac index as alternative?

The Economist has calculated a simplified purchasing power parity with a so-called Big Mac index. As the name indicates, the index is calculated by comparing the price of a Big Mac hamburger in different countries. It is easy to compare a hamburger: its composition is standardised and it is available in many countries. A hamburger does not, however, provide a sufficient basis for international price comparison. The price level indices of some countries as calculated by means of the Big Mac index and those produced by the OECD are presented in the adjacent table. For Japan, for example, the results given by these two methods are not very far from one another.

OVERALL PRICE LEVEL OF PRIVATE CONSUMPTION IN MAY 1998, Finland=100



Source: OECD: Main Economic Indicators 8/1998

The international price level indicesof private consumption were calculated on the basisof the 1995 purchasing power partities by correcting them by changes in exchange rates and inflation coefficients. For more details about international price comparison, please contact Harri Kananoja or Arja Seittenranta, tel. +358 9 17341.

Country	Big Mac $ 7/98	Big Mac index (Finland=100)	OECD price level index 5/98 (Finland=100)
USA	2.63	71	82
Finland	3.70	100	100
Germany	2.78	75	94
Ireland	2.61	71	78
Greece	2.20	59	69
Turkey	2.03	55	45
Japan	1.99	54	114

Source: OECD: Main Economic Indicators 8/1998, The Economist (1 August 1998

PRODUCER PRICE INDICES REVISED

Statistics Finland has revised producer prices. The new base year for the indices is 1995. The point figures for January 1998 were the first to be published from the new producer price indices. Time series for the new indices 1995=100 are available starting from the index data for January 1995.

Most significant changes

The weight structure of the producer price indices and the commodity headings to be monitored have been revised to correspond to the structure of production, imports and exports in 1995. The weight structure of the indices is based on the data in the industrial statistics of Statistics Finland and in the foreign trade statistics of the Board of Customs supplemented by the data in the national accounts.

The concept of the producer price index has been changed to correspond to the common EU practice. The new producer price index, home sales 1995=100 includes only home market goods, whereas the producer price index for manufactured products 1990=100 covered the entire industrial production in Finland, both home market goods and export goods.

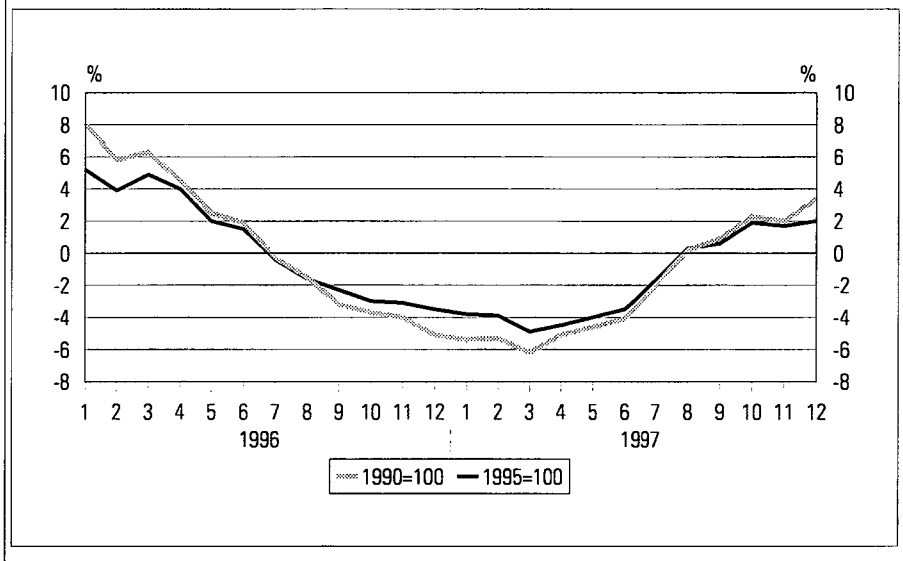
The EU commodity classification (the CN classification) was implemented in the classification of the commodity headings of indices.

The previously published classification of commodities into three groups according to the intended use of the commodity has been replaced by the EU's classification into five groups according to the intended use of the commodity.

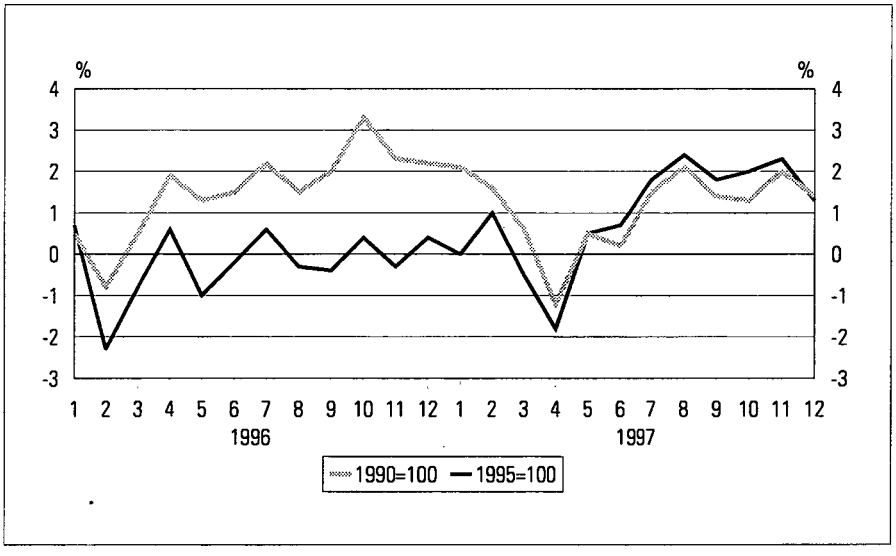
Changes in the weight structure of the indices

Producer price index, home sales (PPIHS)

YEAR-ON-YEAR CHANGES OF EXPORT PRICE INDEX



YEAR-ON-YEAR CHANGES OF IMPORT PRICE INDEX



The fact that both home market goods and export goods were included in the producer price index for manufactured products 1990=100 makes it difficult to compare the weight structures of the producer price index for manufactured products 1990=100 and the producer price index, home sales 1995=100. In accordance with the common EU practice, only home market goods are included in the new producer price index, home sales.

The most significant change in the producer price index, home sales is the increase in the weight of electricity and heat from 10 to 20 per cent.

Export price index (EXPORT)

In the export price index, the proportion of wood-processing products – timber and wood products, pulp and paper products – of total exports has gone down from 42 to 34 per cent.

The proportion of metal industry products – base metals and metal products, machinery and equipment, electrical equipment and vehicles – in exports rose from 41 to 49 per cent between 1990 and 1995.

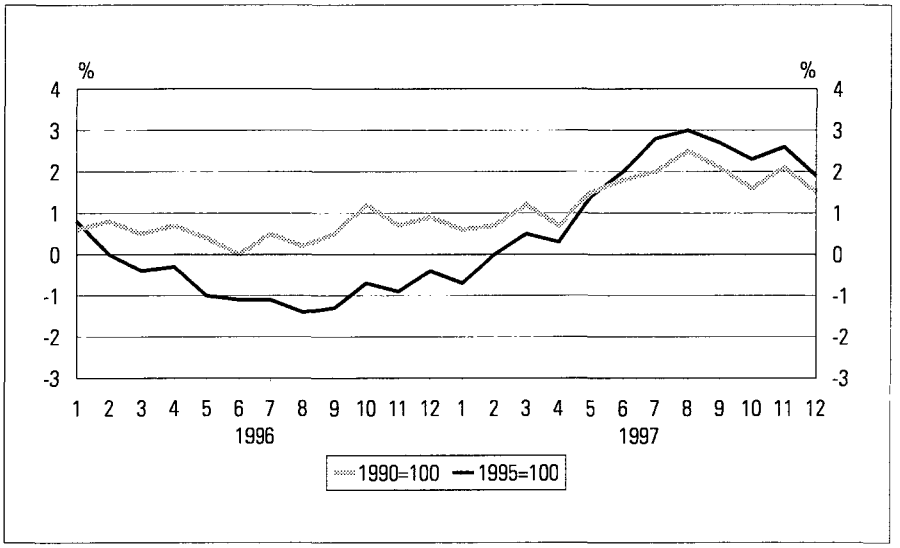
The highest rise occurred in the electrical equipment industry whose proportion of exports rose from 12 to 21 per cent. The sharp rise in the exports of mobile phones and telecommunication systems accounts for the growing significance of this group.

Import price index (IMPORT)

In the import price index, the most significant change is the increase in the proportion of electrical equipment, from 16 to 22 per cent. Within this group, the highest rise occurred in the sub-group electronic circuits and parts whose proportion of total imports has risen from less than 2 to well over 5 per cent.

The proportion of mineral coal, gas and crude oil in the import price index has gone down from 8.8 to 6.2 per cent. The weight of coke, oil products and nuclear fuel has dropped from 3.6 to 2.2 per cent.

YEAR-ON-YEAR CHANGES OF WHOLESALE PRICE INDEX



Basic price index for domestic supply (BPIFDS)

The greatest change in the basic price index for domestic supply happened in construction whose weight of the total index dropped from 21 to 14 per cent.

In the new index, most weight is clearly given to pulp and paper, base metals and metal products, machinery and equipment, and particularly to electrical equipment. The weights of food products, oil products and vehicles have gone down.

Wholesale price index (WHOLESALE)

The changes in the weight structure of the wholesale price index are similar to the changes in the weight structure of the basic price index for domestic supply.

Development of the new and old index

The producer price indices 1995=100 have developed slower than the old producer price indices 1990=100 between 1995 and 1997. The greatest change took place in the import price index. The new wholesale price index 1995=100 has also developed slower than the old wholesale price index. The difference in the annual changes of the new and old index is thus attributable to the changes in the weight structure.

Appendix 1 present a comparison of the weight structures between the producer price indices 1990=100 and 1995=100.

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APPENDIX 1
WEIGHT STRUCTURE COMPARISON OF PRODUCER PRICE INDICES 1990/1995=100, PER MIL

NACE	INDUSTRY	PPIHS		Export		Import		BPIFDS		Wholesale	
		1990	1995	1990	1995	1990	1995	1990	1995	1990	1995
A	Agricultural and forestry products	–	–	5.0	11.6	37.8	44.1	96.5	74.8	108.3	80.1
B	Fishing products	–	–	–	–	–	–	1.8	1.0	2.2	1.0
C	Mining and quarrying	7.4	12.5	1.7	3.1	113.5	88.7	28.5	32.2	29.0	34.9
D	Manufactured products	883.9	779.5	993.3	985.1	839.6	860.6	586.9	645.2	777.1	769.0
DA	Food. beverages and tobacco	171.4	178.8	16.2	21.7	34.2	44.2	122.9	102.4	170.8	136.8
DB	Textiles and clothing	24.1	13.6	23.0	15.9	60.9	44.5	25.8	21.2	32.3	23.0
DC	Leather and leather products	4.9	2.3	4.4	3.2	13.9	8.2	5.5	3.6	7.2	4.0
DD	Timber and wood products	56.5	34.7	75.5	69.0	4.1	6.5	24.4	19.2	28.4	20.8
DE	Pulp. paper and paper products; publishing and printing	195.1	146.7	348.9	271.9	21.5	32.4	67.3	82.5	72.5	85.9
DE	2111 Pulp	32.9	47.8	40.9	25.1	2.3	4.9	14.8	25.2	15.4	27.4
DE	2112 Paper and paperboard	98.8	24.7	280.1	213.2	4.1	10.0	11.0	15.3	12.7	16.5
DF	Coke and refined petroleum products	36.8	31.8	15.4	18.2	36.4	21.7	30.0	22.3	47.2	58.4
DG	Chemicals and chemical products	56.0	51.8	52.3	53.6	109.3	119.7	51.0	61.3	61.7	65.7
DH	Rubber and plastic products	18.8	22.2	21.3	16.8	34.8	27.1	16.1	19.1	21.5	20.8
DI	Non–metallic mineral products	33.5	22.3	11.1	11.8	11.8	12.9	23.5	14.9	28.7	16.2
DJ	Base metals and metal products	82.7	116.1	96.2	102.4	73.9	102.1	53.0	87.9	64.0	95.4
DK	Machinery and equipment	78.3	68.7	129.7	112.1	120.7	109.9	53.1	66.6	73.5	72.3
DL	Electrical and optical equipment	64.7	61.9	119.1	205.3	163.6	222.3	55.2	97.3	77.4	105.5
DL30	Office machinery and computers	5.4	2.6	13.7	26.5	51.4	54.8	11.9	17.6	19.1	19.1
DL31	Electrical machinery and apparatus	24.9	18.0	38.6	51.9	38.5	53.7	17.4	24.9	23.8	27.0
DL32	Telecommunications equipment	25.6	35.7	48.7	106.6	47.0	86.8	17.8	43.9	23.0	47.7
DM	Transport equipment	39.8	11.8	68.3	71.1	129.2	93.2	41.2	33.6	69.4	50.1
DN	Manufacturing, n.e.c.	21.0	16.8	12.0	12.3	25.4	15.9	17.6	13.1	22.5	14.2
E	Electricity, gas, heat and water	108.6	208.0	–	0.2	9.1	6.5	77.6	105.4	83.5	115.0
F	Construction	–	–	–	–	–	–	208.7	141.4	–	–
Total		**1000.0**	**1000.0**	**1000.0**	**1000.0**	**1000.0**	**1000.0**	**1000.0**	**1000.0**	**1000.0**	**1000.0**

COSTS OF TRUCK TRANSPORT UP BY 1.8 PER CENT IN 1998

The costs of professional truck transport rose, on average, by 1.8 per cent in 1998. The increase in the costs of bus and motor-coach transport, and taxi, ambulance and invalid taxi transport was between 1.7 and 2.1 per cent.

Of truck transport costs, indirect wages and insurance premiums rose in particular, by 5.5 per cent and by nearly 5 per cent, respectively (Figure 1). The costs of drivers' wages and daily compensations and accommodation went up by about 4 per cent. In contrast, truck transport costs were relieved by interest expenditure, which went down by 6 per cent. Fuel and capital expenditure also fell in 1998.

Cost development was clearly different from one vehicle type to another, since the costs of trailer combinations rose by 1.6 per cent and those of heavy trucks by 1.8 per cent, while the costs of vans and light trucks were up by 3 per cent. In comparison to trailer combinations, the costs of vans and light trucks were inflated by price rises of tyres and capital, for example. These made hardly any increases in the costs of trailer combinations in 1998.

Source: Cost index for truck transport, December 1998.

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FIGURE 1. TRUCK TRANSPORT COSTS IN 1998, YEAR-ON-YEAR CHANGE, %

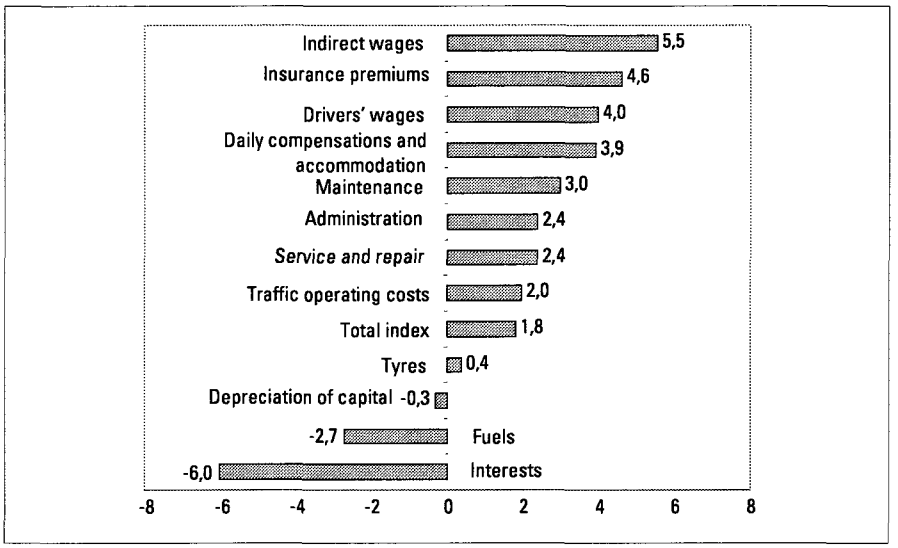
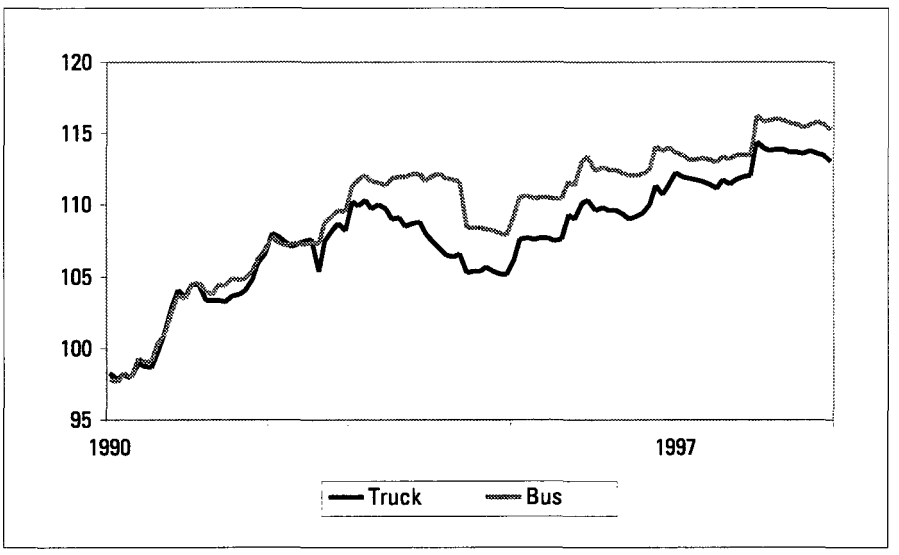


FIGURE 2. COST INDICES FOR TRUCK AND BUS AND MOTOR-COACH TRANSPORT (1990=100) IN 1990–1998



STATISTICS FINLAND'S INDEX OF WAGE AND SALARY EARNINGS REVISED

Index of wage and salary earnings 1995=100

The base period for the revised index of wage and salary earnings is, as for the other Statistics Finland indices, the year 1995. Similarly as its predecessor, the index of wage and salary earnings 1990=100, the revised index describes the average changes taking place in gross earnings for regular working hours by sector, industry and wage earner group. Apart from basic wages, earnings for regular working hours include only bonuses paid for regular working hours on the basis of age, experience, number of years of employment, competence, duties and location of workplace. Overtime pay or indirect wages or remuneration for hours not worked, such as holiday pay and bonuses are not included in earnings for regular working hours. Taxes or any comparable payments have not been deducted from the wages.

The index of wage and salary earnings 1995=100 is calculated quarterly on the basis of wage and salary statistics of different sectors. They represent the earnings data of about 1.5 million wage and salary earners. The most recently published indices are preliminary data which will be specified once the wage and salary statistics are completed. Agreement-based increments by sector and wage drift estimates help to calculate preliminary point figures for the index and indices for those quarters on which statistical data are not available and for those wage earner groups for which the statistical period of wage and salary statistics is shorter than a quarter.

The data on earnings of wage and salary earners are weighted together into industry indices and further, by fixed, 1995 wage bill weights into sector indices and the index of wage and salary earnings. The weight structure, based on the wage bill as specified in the national accounts, describes the significance of various employee groups in the calculation of the index.

TABLE 1. WEIGHT STRUCTURE OF INDICES OF WAGE AND SALARY EARNINGS 1990=100 AND 1995=100 BY SECTOR, %

Sector	1990	1995
Private sector	64.5	68.9
Local government	20.9	20.7
Central government	11.1	8.1
Other	3.5	2.3

Changes in comparison to the previous index

The changes and additions made in connection with index revisions always alter somewhat the view the new index gives of the trends in earnings compared to the old index. The differences in index point figures between the index of wage and salary earnings 1990=100 and 1995=100 in 1995-1998 are a result of the following changes:

- the weight structure by industry and sector was revised to correspond to the wage bill differences between 1990 and 1998 as specified in the national accounts;

TABLE 2. WEIGHT STRUCTURE OF INDICES OF WAGE AND SALARY EARNINGS 1990=100 AND 1995=100 BY INDUSTRY, %

Industry (SIC95)	1990	1995
Agriculture (incl. hunting)	1.1	0.8
Forestry	1.1	0.9
Mining and quarrying	0.2	0.2
Manufacturing	21.7	24.4
Electricity, gas and water supply	1.5	1.7
Construction	10.4	7.5
Sale, maintenance and repair of motor vehicles	2.5	1.4
Wholesale trade, commission trade and retail trade	10.3	9.7
Hotels and restaurants	2.6	2.4
Transport (incl. supporting and auxiliary transport activities)	5.7	5.8
Telecommunications	2.1	2.3
Financial intermediation	3.2	2.7
Insurance	0.9	0.8
Real estate, renting and other such activities	1.5	1.7
Architectural and engineering activities and rel. technical consultancy	5.3	7.3
Public administration and defence	7.2	7.3
Education and research	8.0	7.7
Health care and medical work	7.0	7.5
Social work	4.0	4.4
Other community activities	3.5	3.5

- industrial classification and its definition criteria were revised and specified;
- the comprehensiveness of the material was enlarged by including earnings data of new wage and salary earners in the index calculation;
- the calculation formula for the intermediate quarters was changed.

As of the fourth quarter of 1998, i.e. the chaining time period of the old indices, such as 1975=100, 1980=100, 1985=100 and 1990=100, the new and old indices develop in the same way.

Weight structure of the indices of wage and salary earnings 1990=100 and 1995=100

The sector classification of the index of wage and salary earnings is based on the functional sector classification of the national accounts. The public sector divides into central and local government. The private sector includes, in addition to wage and salary earners employed by its organised employers, employees in the enterprises having responded to Statistics Finland's sample survey and the majority of entrepreneurs in the public sector. Other employees, including non-profit institutions, are treated as a specific sector in the index.

The wage bill proportions by sector and industry in the indices of wage and salary earnings 1990=100 and 1995=100 (% of the total wage bill of the national accounts) are presented in Tables 1 and 2.

Wage earner groups

Wage and salary earners are further divided by industry into hourly paid and monthly paid employees in accordance with the labour input unit on which the payment of wages is based. The index of wage and salary earnings of men and women are calculated with the same groupings as the index of wage and salary earnings.

The proportion of women's wage bill in the total wage bill increased slightly, being 42 per cent in the old and 43 per cent in the new index. In 1995, women's wage bill was about 34 per cent of the total wage bill in the private sector, about 38 per cent in central government and about 71 per cent in local government.

Average rise in the wage level of wage and salary earners 3.5 per cent in the third quarter of 1998

According to the preliminary data on the index of wage and salary earnings 1995=100, the nominal earnings of wage earners for regular working hours were, on average, 3.5 per cent higher in the third quarter of 1998 than the year before. The wages were pushed up by the 2.7 per cent agreement-based increments and the 0.8 per cent wage drifts. Earnings increased by 3.6 per cent in the private sector, by 3.5 per cent in central government and by 3.4 per cent in local government.

Of industries, nominal wages rose in manufacturing and trade by 3.4 per cent, in construction by 3.6 per cent, in hotels and restaurants by 3.9 per cent and in financing by 4.5 per cent.

Of wage earner groups, rise in wages in the corresponding period was 3.6 per cent for hourly paid employees, 3.5 per cent for monthly paid employees, 3.6 per cent for women and 3.4 per cent for men.

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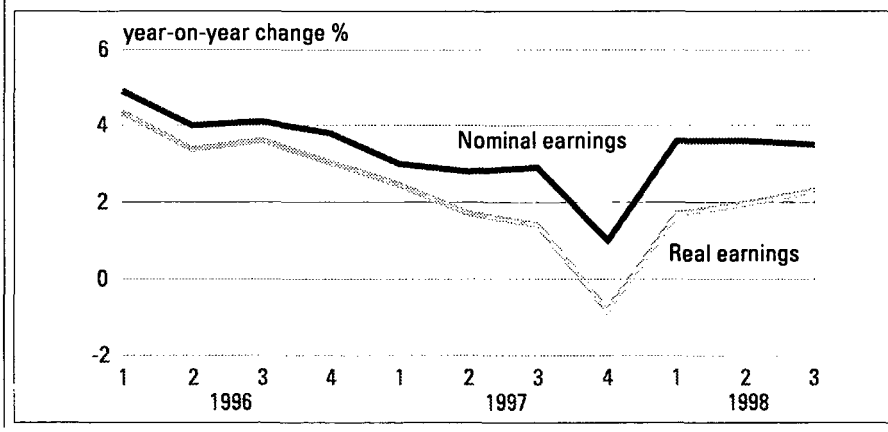
TABLE 3. WAGE BILL WEIGHTS OF INDICES OF WAGE AND SALARY EARNINGS 1990=100 AND 1995=100 BY LABOUR INPUT UNIT, %

Base year	Private sector		Public sector	
	Hourly paid	Monthly paid	Hourly paid	Monthly paid
1990	25.4	42.6	2.1	29.9
1995	26.1	45.1	0.9	27.9

YEAR-ON-YEAR CHANGE OF NOMINAL AND REAL EARNINGS



HIGHEST LABOUR COSTS IN THE PAPER INDUSTRY

A survey of the 1996 labour costs in the private sector was brought to a conclusion at Statistics Finland. At the same time, Statistics Finland also completed a parallel survey concerning the local government sector. A survey completed by the central government on its own sector had already been published earlier. The 1996 survey of private sector labour costs is connected with a project obliging all the Member States of the European Union to undertake such a survey. The objective of the survey is to establish the level and structure of the cost of labour and compare the 1996 findings with those of earlier corresponding surveys. The survey covers all industries except primary production and, from the services sector, transport, personal services and public administration.

Table 1 presents total labour costs per hour worked (=hourly labour costs) and total annual labour costs per person (=annual labour costs), plus the proportion of indirect costs of the total labour costs. Total labour costs have been calculated by deducting from the employer's wage and salary costs, social security contributions and other labour costs any cost compensations paid to the enterprises, such as occupational health care compensations, employment subsidies and training compensation. Total compensation paid amounted to 0.5 per cent of the total labour costs in the manufacturing industries and to 0.4 per cent of those in the service industries. Employment subsidies alone amounted to 0.1 per cent of all labour costs.

Indirect labour costs include employees' indirect remuneration (=part of total remuneration), social security contributions and other labour costs, such as occupational health care, car benefits, subsidised meals, etc.

Labour costs by industry in 1996

Table 1 and the graph show that, in 1996, hourly labour costs were the highest in the paper industry and in energy supply and monetary intermediation. Hourly labour costs were the lowest in the textile, clothing and footwear industry and in other manufacturing, retail trade, and hotel and restaurant activities. Annual labour costs were higher than elsewhere in the paper industry and in wholesale trade, while those in electricity, gas and water supply and insurance and pension funding were roughly the same.

Table 1 also shows that there were considerable differences in the hourly and annual labour costs between different industries. In monetary intermediation, for example, hourly labour costs were higher, but annual labour costs lower, than in wholesale trade and insurance and pension funding. This is because the number of hours worked in the year per employee were higher in wholesale trade (1,735 hours) and insurance and pension funding (1,701 hours) than in monetary intermediation (1,564 hours). In the material of this survey, the numbers of hours worked in the service branches of research activities (1,564 hours), business activities, (1,592 hours) and hotel and restaurant activities (1,616) fell below those worked in the rest of the branches.

Between certain industries, there are considerable differences in the proportions of indirect labour

TOTAL LABOUR COSTS PER HOUR WORKED IN MAIN INDUSTRIES, 1996

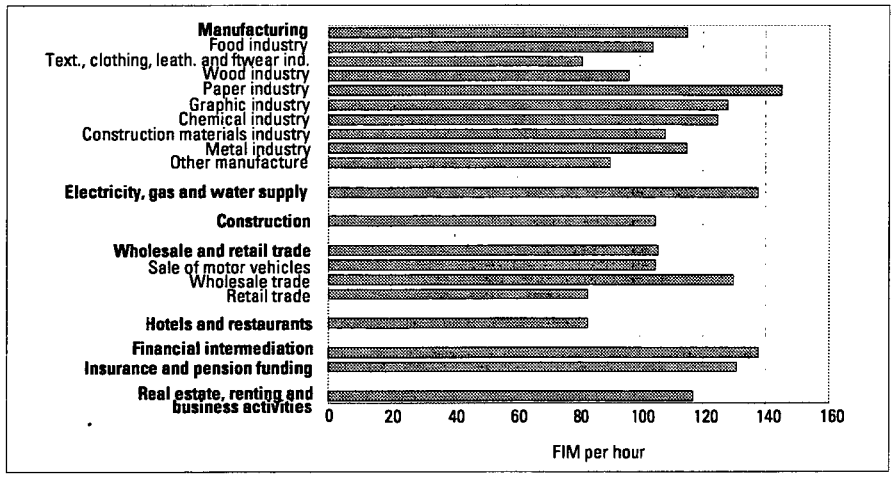


TABLE 1
HOURLY LABOUR COSTS PER HOUR WORKED AND ANNUAL LABOUR COSTS (FIM 1,000 PER EMPLOYEE), AND PROPORTION OF INDIRECT LABOUR COSTS OF TOTAL LABOUR COSTS BY MAIN INDUSTRY, 1996

SIC95	Industry	Hourly labour costs	Annual labour costs	Proportion of indirect labour costs of total
		FIM per hour	FIM 1,000 per employee	Labour costs, %
10–14	Mining and quarrying	113	187	40.4
15,16	Food industry	104	174	40.6
17–19	Textile, clothing, leather and footwear industry	81	130	40.0
20	Manufacture of wood and wood products	96	159	38.5
21	Manufacture of pulp, paper and paper products	145	233	45.6
22	Publishing, printing, etc.	128	199	40.1
23–25	Chemical industry	125	205	40.7
26	Construction materials industry	108	178	40.3
27–35	Metal industry	115	192	38.1
36–37	Manufacturing n.e.c.	90	142	39.8
	Total manufacturing industry	**115**	**188**	**39.8**
40–41	Electricity, gas and water supply	138	221	43.3
45	Construction	105	174	38.8
50	Sale, maintenance and repair of motor vehicles	105	177	38.2
51	Wholesale trade	130	227	38.2
52	Retail trade	83	141	36.1
55	Hotels and restaurants	83	135	34.8
65	Financial intermediation	138	217	42.3
66	Insurance and pension funding	131	223	43.3
70–74	Real estate, renting and other business activities	117	191	38.1
	Total	**111**	**184**	**38.4**

costs. Of the manufacturing industries, the proportion is clearly the largest in the paper industry. This was due, among other things, to compensations paid for the leave allowed for shifts worked, the trade cycle allowance paid in 1996, as well as the end-of-holiday pay and high seniority compensations, all typical in a process industry. The lower than average proportion of indirect labour costs in the metal industry is explained by the inclusion in the pay for hours worked the compensation paid for loss of earnings due to shortened working time, whereby it is not included in indirect labour costs. In the metal industry, contributions under the statutory pension scheme were slightly lower

TABLE 2 REMUNERATION COSTS AND TOTAL LABOUR COSTS PER HOUR WORKED AND ANNUAL LABOUR COSTS (FIM 1,000 PER EMPLOYEE) IN THE MANUFACTURING INDUSTRY, OTHER PROCESSING INDUSTRY AND SERVICES INDUSTRY BY ENTERPRISE SIZE CATEGORY (NUMBER OF PERSONNEL), 1996

SIC95	Industry	Remuneration costs	Hourly labour costs	Annual labour costs
		FIM per hour	FIM per hour	FIM 1,000 per employee
D	Manufacturing			
	–49	73	95	156
	50 – 249	81	106	176
	250 – 499	87	115	187
	500 –	97	127	209
	Total	**87**	**115**	**188**
C,E,F	Other processing			
	–49	78	101	164
	50 – 249	83	109	184
	250 – 499	96	129	209
	500 –	95	126	206
	Total	**85**	**112**	**184**
G,H,J,K	Services			
	–49	83	110	182
	50 – 249	84	112	188
	250 – 499	81	108	179
	500 –	86	113	186
	Total	**84**	**111**	**184**

than in other industries, due to the good profits made by the pension funds of large enterprises at the outset of the economic upswing.

The indirect labour costs of the services sector were lower than those of the manufacturing industries. An exception to this were monetary intermediation and insurance and pension funding, in both of which holiday pay and compensations accounted for a higher proportion of indirect labour costs than they did in other economic activities, probably because of the growth in the amount of holiday compensations paid due to personnel cuts. In monetary intermediation, compensations paid for the termination of employment relationships also represented a larger proportion of indirect labour costs than in other industries. In these female-dominated sectors, the proportions of sick and maternity pay were slightly larger than in other industries. The proportions of subsidised canteens and vocational training costs were also distinctly higher in insurance and pension funding than in other industries. In retail trade and hotel and restaurant activities, the proportions of other indirect labour costs of voluntary nature were smaller than in other industries.

Indirect labour costs can be described as those costs incurred by an employer in addition to an employee's actual pay. In 1996, these accounted for approximately 31.2 per cent in the manufacturing industries and 31.7 per cent in the service industries (ratio of social security contributions and other labour costs to total pay). These percentages mean that an employer who pays an employee FIM 1,000 in actual pay also has to pay FIM 312 (manufacturing industries) or FIM 317 (service industries) other costs. The difference between the industries is explained by the larger relative costs for subsidised canteens and car benefits in the services sector than in the manufacturing industries.

Remuneration and labour costs by enterprise size category

Table 2 presents remuneration and labour costs in 1996 by enterprise size category in the manufacturing industry, other processing industry and services industry.

The table shows that in the manufacturing industry, remuneration costs increase in direct ratio to the size of the enterprise. This applies to hourly and annual labour costs alike. In other processing industry, the distribution is similar except for the largest size category, where the costs are the highest. By way of contrast, there is no clear connection between the enterprise size and the remuneration or labour costs in the services sector. The remuneration and labour costs are the lowest in the second largest enterprise size category of between 250 and 499 employees, but the variations between the different size categories are minor.

Large enterprises have low social security costs

With the exception of the largest company size category, the ratio of indirect labour costs to total remuneration costs generally went up as the size of the enterprise increased. There were minor deviations from this by industry and cost item.

In the indirect remuneration group and, especially in respect of the sick pay within it, the ratio to the total remuneration paid increased in direct proportion to enterprise size. In contrast, the ratio of the largest enterprises' holiday and end-of-holiday pay, which also belong to this remuneration group, to the total remuneration paid was lower than that of the rest of the enterprises. Deviating from the other industries, the proportion of indirect remuneration of all labour costs was the highest in construction, and in real estate, renting and business activities.

In the social security costs group, the ratios of the costs to the total remuneration paid were about equal in respect of the smallest and the largest enterprises. In the other labour costs group, the ratio of the costs to the total remuneration paid went up in the process industries as the size of the enterprises increased, but this kind of clear connection between the size of the enterprise and the ratio between the two costs was not evident in the services sector.

The lower than average ratio of the largest enterprises of social security costs to the total remuneration paid is at least partly explained by the fact that, by virtue of their foundations, or otherwise, many large companies have, for example, been able to reduce the relative proportion of their pension contributions. However, large enterprises, in particular, have also had to pay contributions for the previous year as unemployment insurance adjustments.

Source: Private sector labour costs 1996 (Wages 1998:15)

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RAPID INCREASE IN THE LOCAL GOVERNMENT SECTOR'S INDIRECT LABOUR COSTS

The labour costs of the local government sector were FIM 67.5 billion in 1996. Divided by the population of Finland, this amounted to an average of FIM 1,100 per capita per month. Remuneration for hours worked accounted for 60 per cent and indirect labour costs for 40 per cent of all labour costs.

Although this was only the second study about labour costs in the local government sector - the first one, concerning the year 1990, was carried out six years ago - studies of labour costs in the private and central government sectors have long traditions. In these studies, labour costs have usually been divided into the four categories of direct remuneration for hours worked, indirect remuneration, social security costs and other indirect labour costs.

The total remuneration paid to an employee consists of direct remuneration, or remuneration for hours worked, and indirect remuneration, or remuneration paid for hours not worked. Remuneration for hours worked comprises the remuneration paid to an employee on the basis of the time the employee has actually been at work performing the duties assigned to him or her. Indirect remuneration accumulates for the working time the employee is on annual leave, sick leave, leave due to confinement or care of a child, or on some other paid leave, leave of absence or other statutory leave.

Structure of labour costs

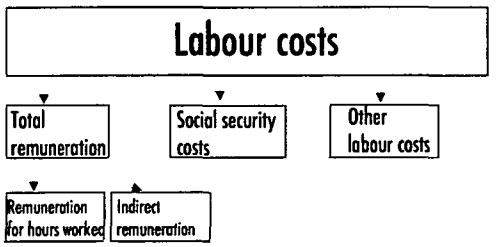


TABLE 1. LABOUR COSTS IN THE LOCAL GOVERNMENT SECTOR 1996

	FIM million	% of all labour costs
1 Total remuneration	**51 410**	**76.1**
1.1 Remuneration for hours worked	40 327	59.7
Remuneration during training periods	210	0.3
Remuneration during interruptions in schoolwork	1 358	2.0
1.2 Indirect remuneration	11 083	16.4
Remuneration during annual holiday	5 059	7.5
Holiday remuneration	352	0.5
End-of-holiday pay	2 159	3.2
Remuneration for saved or exchanged holidays	43	0.1
Remuneration during weekday holidays	1 701	2.5
Remuneration during radiation recovery holidays	10	0.0
Remuneration during sickness and recovery from accident	1 389	2.1
Remuneration during absences connected with children	277	0.4
Remuneration during time used on trade union activities	43	0.1
Remuneration during other absences	36	0.1
Compensation at the termination of employment	13	0.0
2 Social security costs	**15 559**	**23.0**
Employer's social security contribution	3 552	5.3
Statutory municipal pension system contribution	9 366	13.9
Statutory employment pension contribution	107	0.2
Unemployment insurance, severance pay	2 193	3.2
Accident insurance	307	0.5
Group life insurance, financial support	51	0.1
Voluntary insurance	15	0.0
Temporary dismissal penalty	2	0.0
Municipalities' own pensions	555	0.8
Returns from the sickness insurance	-588	-0.9
3 Other indirect labour costs	**574**	**0.8**
Occupational health care costs excluding remuneration	154	0.2
Returns from the Social Insurance Institution	-117	-0.2
Early rehabilitation and work capacity maintenance activities	99	0.0
Subsidised canteens and meals	53	0.1
Training allocation	372	0.6
Recreational and social activities	27	0.0
Protective and other workwear	71	0.1
Other labour costs	6	0.0
Labour costs total	**67 543**	**100.0**
Subsidies received for remuneration costs	-1 749	-2.6

Most of the local government sector's social security costs are earnings-based compulsory insurance contributions, but pensions paid by the municipalities themselves, for example, are also included in social security costs. Other indirect labour costs include, among others, health care costs, training allowances, protective and other workwear expenditure and costs related to subsidised canteens and meals, as well as recreational and social activities.

Few staff benefits

Municipalities and joint municipal authorities were questioned about approximately 40 labour cost items. Some items, such as teachers' remuneration during interruptions in school work and the remuneration of monthly paid employees for weekday holidays, were produced by computational methods. These were estimated for the first time in the 1996 study. The reasons for dividing labour cost factors into the four groups mentioned above are the statistical classification rules, on the one hand, and the stipulations of collective bargaining agreements, on the other, as well as general research practice.

The groupings differ in the two studies in respect of certain individual labour cost items. For example, the costs of remuneration for training or studying periods were included in the local government sector's indirect labour costs in the 1990 study but, in accordance with the definition of the EU, in the 1996 study they were included in remuneration for hours worked.

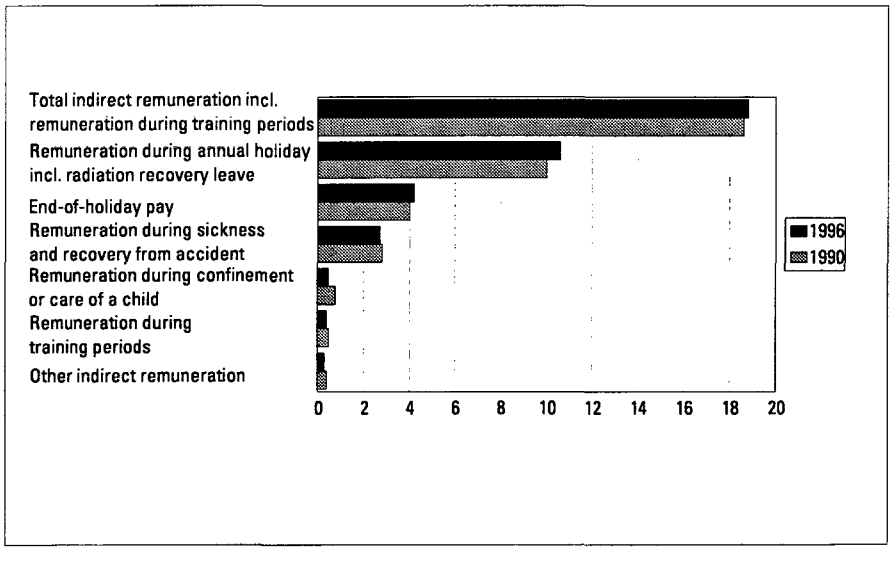
From the employer's point, personnel remuneration costs other than those directly connected with hours worked constitute indirect remuneration costs. Thus, indirect labour costs are made up of the aforementioned indirect remuneration, social security costs and other indirect labour costs. In different contexts, indirect labour costs have been described by comparing them either to all labour costs, remuneration for hours worked, or total remuneration paid. In the local government sector, indirect remuneration made up 16 per cent of all labour costs and 23 per cent of social security costs. There are few staff benefits in the local government sector, for the proportion of other indirect costs of all labour costs was under one per cent in 1996 (Table 1).

Price of one person-year FIM 176,200

The price of one person-year per a full-time salaried worker or employee in the local government sector was FIM 176,200 in 1996. The price went up by 29 per cent in the period between 1990 and 1996, the real annual growth rate being 2.4 per cent. In the reviewed six years, indirect labour costs increased by 42 per cent and remuneration for hours worked by 22 per cent. Growth was especially strong in social security costs, although indirect remuneration and other indirect labour costs also increased at a slightly faster pace than remuneration for hours worked.

Remuneration paid during annual holiday entitlements and end-of-holiday pay contributed to the increase in indirect remuneration costs between 1990 and 1996. Costs related to annual holiday entitlements went up more than average in public enterprise activities, in particular, but also in social and health care work, because the employees' average age and number of years in service went up. End-of-holiday pay costs did not increase by as much as the costs of remuneration during annual holiday, mainly because of days taken off in lieu of end-of-holiday pay. In 1990, it was not yet possible to exchange end-of-holiday pay for ad-

FIGURE 1 INDIRECT REMUNERATION 1990 AND 1996 AS % OF TOTAL REMUNERATION



ditional days off. In this examination, the cost of saved and exchanged holidays are included in the cost of remuneration paid during annual holiday entitlements (Figure 1).

The costs of other indirect remuneration went down from 1990 to 1996. Costs connected with absences due to confinement and care of a child decreased, in particular. Absences and remuneration costs connected with confinement and care of a child went down especially in the social and health care sector, where the average age of a female employee went up by nearly three years. An increase in the proportion of staff hired with employment subsidies contributed partly to the decrease in the remuneration costs for periods of absence due to an illness or accident, participation in trade union activities or other, mainly family, reasons. Employees hired through employment policy measures had distinctly fewer absences than other personnel.

One third more social security costs were paid in the local government sector in 1996 than in 1990. By far the biggest increase occurred in unemployment insurance costs which amounted to only 0.6 per cent of all remuneration costs in 1990. There was also a clear increase in the municipalities' pension insurance contribution, which went up by over three percentage points of the total remuneration sum in the six years under review. In contrast, employers' social security contributions and the costs of municipalities' own pension schemes were among those social security costs which went down (Figure 2).

FIGURE 2 SOCIAL SECURITY COSTS 1990 AND 1996 AS % OF TOTAL REMUNERATION

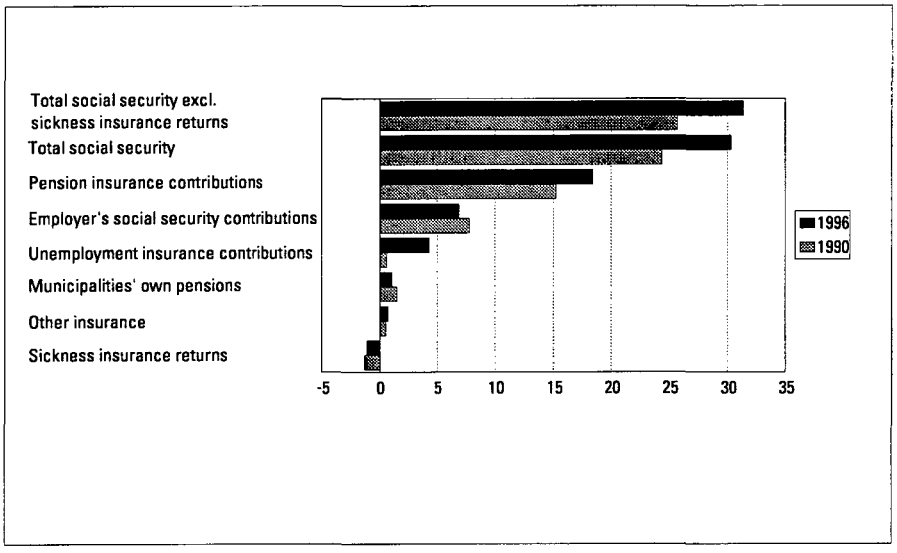
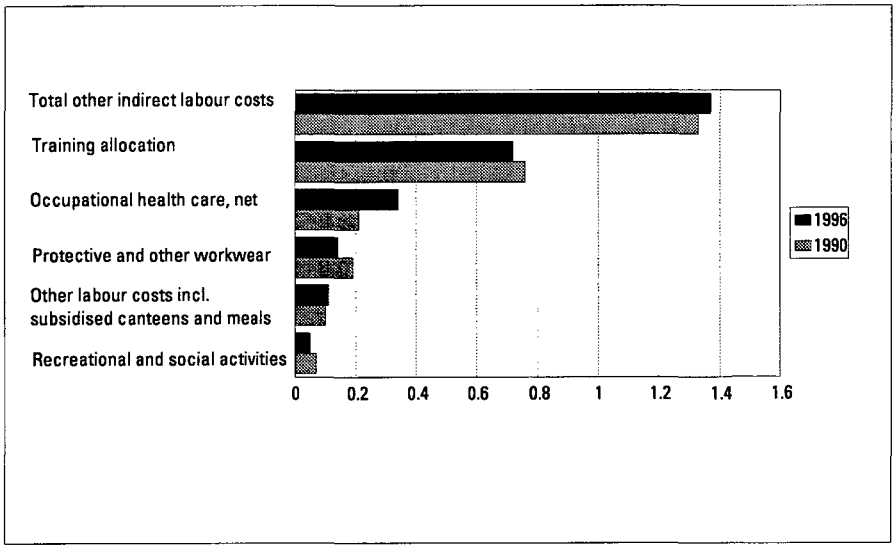


FIGURE 3 OTHER INDIRECT LABOUR COSTS 1990 AND 1996 AS % OF TOTAL REMUNERATION



The increase in the other indirect labour costs was almost entirely due to higher occupational health care costs, because refunds for them from the Social Insurance Institution went down. In 1990, these refunds covered 55 per cent, but in 1996 only 42 per cent of health care costs. Training allowances, expenditure on recreational and social activities, and protective and other workwear costs all went down in the period between 1990 and 1996 (Figure 3).

Source: Kuntasektorin työvoimakustannukset 1996 /Labour Costs in the Local government Sector 1996, in Finnish only, Statistics Finland, Wages and Salaries 1998:16.

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HOURLY WAGES IN INDUSTRY UP BY 1.5 PER CENT

The average hourly earnings of an industrial worker for regular working hours were FIM 59.74 in the fourth quarter of 1997. The average earnings rose by 1.5 per cent from the corresponding quarter in the previous year. The average hourly earnings for men were FIM 62.38 and for women FIM 51.60, while the increase for both was 1.5 per cent.

Including overtime and Sunday rates, the average hourly wage was FIM 64.47. The total hourly earnings were up by 2.2 per cent from the corresponding quarter in the previous year.

From 1991 onwards, data have not been collected from the food, beverage and tobacco industries for all the recorded quarters. If the

NUMBERS OF WORKERS EMPLOYED IN INDUSTRY AND CONSTRUCTION AND THEIR HOURLY EARNINGS FOR REGULAR WORKING HOURS IN THE 4TH QUARTER OF 1997

Branch	No.	% women	Hourly earnings, FIM			Change,%	Change,%
			Men	Women	Total	IV/96–IV/97	II/97–IV/97
Industry, total	**150 761**	**24.9**	**62.38**	**51.60**	**59.74**	**1.5**	**1.0**
Mining and quarrying	407	6.6	70.27	40.19	69.00	0.7	1.1
Peat production	249	7.2	47.47	39.78	46.94	1.9	–2.5
Textiles	4 516	67.5	52.96	44.11	47.07	1.2	0.5
Food industry*	14 300	44.3	58.81	51.44	55.63	0.7	–
Clothing, weather and footwear	3 566	84.1	45.46	40.89	41.62	0.8	0.1
Timber	11 663	23.2	58.16	54.42	57.33	2.1	1.8
Paper	25 155	16.0	67.70	60.28	66.55	3.1	2.0
Graphics	8 283	35.8	60.97	52.41	58.02	0.2	1.2
Furniture	4 983	27.1	51.42	48.11	50.54	0.4	1.0
Chemicals	13 285	28.6	59.86	47.94	56.33	0.5	0.5
Glass, pottery and stone	7 786	17.5	58.15	51.46	56.60	1.3	1.1
Basic metals	8 259	10.2	69.90	63.91	57.03	2.2	1.7
Metal products and vehicles	55 964	23.5	62.95	53.84	60.88	1.4	1.7
Other manufacturing	2 245	40.5	59.77	50.95	56.28	3.6	3.9
Power generation	4 400	7.1	62.14	51.03	61.48	0.6	2.2
Construction, total	**21 586**	**2.4**	**60.05**	**47.50**	**59.81**	**0.4**	**1.3**
House building	11 545	3.1	58.78	46.90	58.48	0.7	1.5
Electrical installations	2 054	0.5	70.17	51.03	70.09	5.5	4.8
Plumbing	1 701	0.3	66.19	.	66.15	1.2	2.5
Painting and decorating	1 655	4.5	60.18	50.93	59.78	1.4	2.5
Metalwork	358	2.0	58.93	.	58.77	5.8	3.3
Industrial insulation	482	1.7	55.13	.	62.29	–11.5	–2.9
Road surfacing	813	1.7	59.01	44.01	58.84	–0.4	4.2
Waterproofing	553	0.4	66.06	.	66.05	7.7	–3.9
Civil and hydraulic engineering	2 291	1.1	52.71	41.24	52.62	–0.6	–0.5
Glazing and polishing	134	7.5	49.20	47.42	49.06	–0.3	–0.1

*Number of workers and earnings in the food industry are not included in totals for industry.

food, beverage and tobacco industries, with about 14,000 employees in the fourth quarter of 1997, had been included in the statistics, the hourly wages for regular working hours for men and women would have been FIM 59.39 and the total hourly wages FIM 63.93.

Hourly wages in construction up by 0.4 percent

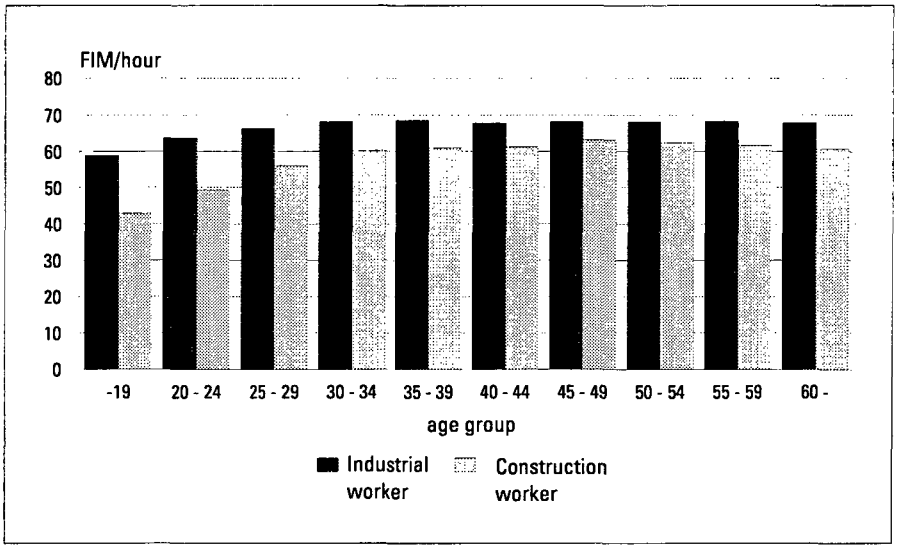
The average hourly earnings for regular working hours of a construction worker were FIM 59.81 in the fourth quarter of 1997, those for men being FIM 60.05, and for women FIM 47.50. The earnings were up by a total of 0.4 per cent on the corresponding quarter in the previous year. For men, the increase on last year's corresponding quarter was 0.4 per cent, and for women, 0.7 per cent. Including overtime and Sunday rates, the average hourly earnings in the quarter under review were FIM 61.10. The total hourly earnings rose by 0.2 per cent from the corresponding quarter in the previous year.

Concepts of wages and earnings

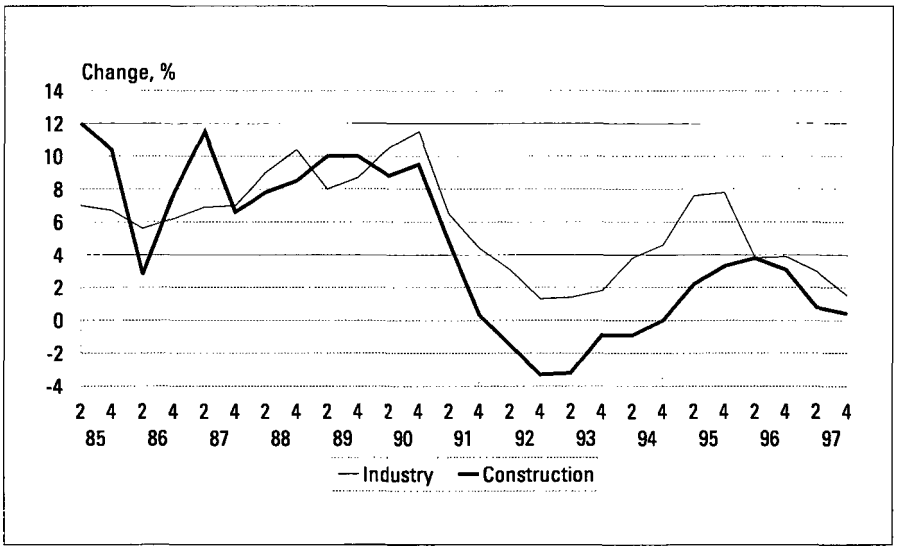
Statistics on hourly wages in industry and construction refer to earnings for hours worked. Hourly earnings for regular working hours include wages paid for work performed on time, contract and commission basis, and other payments based on working hours or special bonuses.

In addition to the above, overtime and Sunday rates are also included in the earnings for hours worked, i.e. total earnings.

HOURLY WAGES BY AGE GROUP FOR REGULAR WORKING HOURS IN INDUSTRY AND CONSTRUCTION 4TH QUARTER OF 1997



CHANGES FROM THE PREVIOUS YEAR'S CORRESPONDING QUARTER IN HOURLY WAGES FOR REGULAR WORKING HOURS OF WORKERS IN INDUSTRY AND CONSTRUCTION 1985 – 1997, 4TH QUARTER.



Source: *Wages of construction and industrial workers in the 4th quarter of 1997*

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TOTAL EARNINGS OF SALARIED EMPLOYEES IN THE LOCAL GOVERNMENT SECTOR FELL SLIGHTLY

In October 1997, the average monthly earnings of a salaried employee were FIM 10,779. Men earned FIM 13,198 and women FIM 10,094 per month, on average. The figures for total earnings include overtime pay. The corresponding amounts for regular working hours were FIM 10,363, FIM 12,249 and FIM 9,828, respectively.

End-of holiday pay accounted for 3.9 per cent of the total remuneration of full-time employees. The concept of earnings does not embrace end-of-holiday pay.

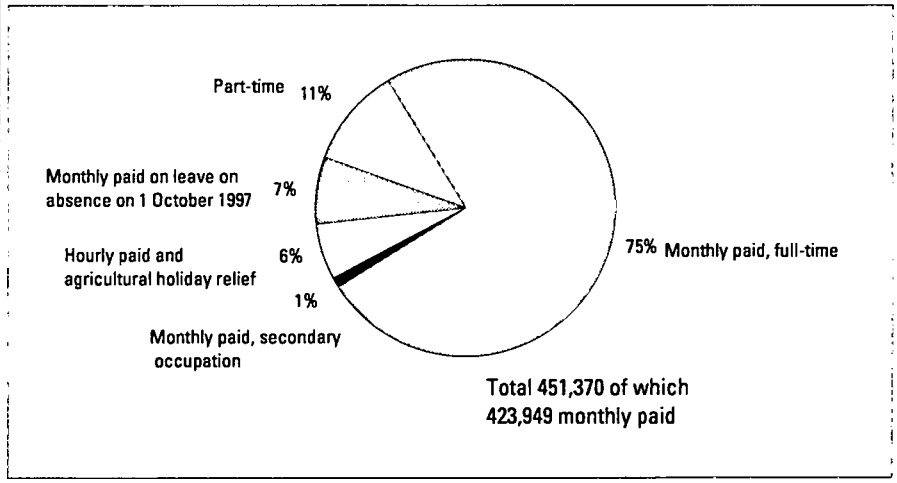
From November 1996, the average earnings for regular working hours fell by 0.2 per cent and total earnings by 0.6 per cent. It should be noted that no general increases were implemented in the time under review, so the change in the average earnings was mainly caused by changes in personnel and pay structures. The average earnings of monthly paid local government employees have been going up, in keeping with the general index of wage and salary earnings, at a rate of 1.9 per cent per annum.

Municipalities have mainly achieved their savings through temporary dismissals and cuts in end-of-holiday pay, which do not show in the statistics on average earnings. However, cutting down on teachers' overtime, remedial teaching or after-school club hours in schools and imposing limitations on the hours medical practitioners may stay on duty all have had a downward effect on the figures for average earnings. For example, the average total earnings of an assistant medical practitioner have fallen by 3 per cent and those of a class teacher by approximately one per cent. In addition to this, municipalities have continued to increase the number of their fixed-term personnel and this, too, has had a lowering effect on the average earnings level.

Slight upward trend in personnel numbers

The number of monthly paid personnel went up slightly from the previous year and amounted to a total of 420,000, of which full and part-time employees accounted for over 90 per cent. The local government sector employs good 27,000

MONTHLY AND HOURLY PAID EMPLOYEES OF THE LOCAL GOVERNMENT SECTOR 1997



Year	Monthly paid			Total average earnings	
	Number	Full-time	Part-time	Full-time	Part-time
1990	324 247	343 281	24 532	8 705	4 832
1991	417 328	357 019	20 798	9 368	5 358
1992	415 617	347 192	22 943	9 595	5 179
1993	395 795	324 840	28 302	9 724	5 044
1994	404 096	324 138	36 041	9 832	4 960
1995	402 171	320 905	39 758	10 315	5 539
1996	411 337	326 334	46 896	10 851	5 826
1997	423 949	337 010	49 826	10 779	5 775

Totals include leaves of absence and secondary occupations

hourly paid employees. It has been estimated that in the whole local government sector the growth in the number of personnel remained at just under 2 per cent between 1996 and 1997. In the local government sector, the main service relationship has traditionally been based on a public sector employment contract. Eighty per cent of local government employees still worked under this type of employment contract in 1975, whereas in 1997 the respective proportion was less than 70 per cent. The total average earnings of employees with this type of employment contract were FIM 11,726, i.e. 30 per cent higher than the average earnings of employees with regular employment contracts. From November 1996, the number of employees with regular employment contracts increased by 10 per cent.

Health care, social services and education are, by far, the local government sector's largest areas of responsibility, which employs 85 per cent of all of its full-time employees. In the 1990s, the biggest reductions in personnel have been made in the health care services, where the number of full-time employees has been cut back by nearly 10 per cent.

Training pays, despite everything

In the 1990s, the total average earnings of employees with basic or secondary level education have increased the most. Their earnings have increased by approximately one quarter. The earnings of employees with tertiary education have risen notably less.

The earnings of employees with graduate level education are 1.8 times higher and those of employees with postgraduate level degrees 2.8 times higher than the earnings of employees with basic level education.

Source: Monthly salaries in the local government sector, October 1997

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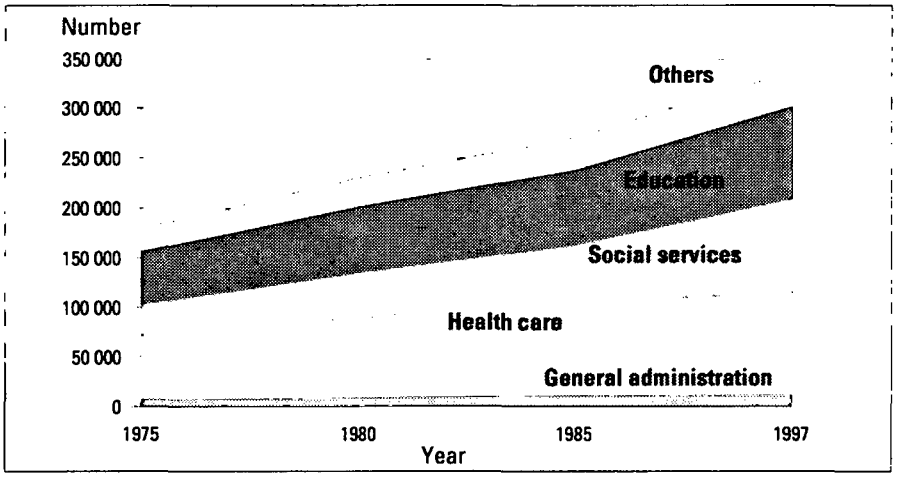
Level of education	No. of employees	Total average earnings, FIM			Increase of total average earnings, %
	1997	1990	1996	1997	1990—1997
Basic level	47 461	6 837	8 517	8 521	25
Lower secondary level	93 187	7 068	8 901	8 902	26
Upper secondary level	68 364	8 046	9 764	9 719	21
Lowest level tertiary	51 277	10 418	11 523	11 366	9
Undergraduate level	26 600	10 993	12 884	12 712	16
Graduate level	45 518	14 219	15 620	15 360	8
Postgraduate level	4 603	19 868	22 955	23 955	16
Total	**337 010**	**8 705**	**10 851**	**10 779**	**14**

NUMBER OF FULL-TIME EMPLOYEES BY BRANCH OF ADMINISTRATION



Task group	Numbers - full-time			Total average earnings			Change, %
	1990	1996	1997	1990	1996	1997	1990—1997
				FIM	FIM	FIM	
General administration	12 372	10 963	11 386	9 295	11 258	11 320	22
Law and order activities	8 110	7 477	7 538	8 924	11 271	11 180	25
Health care	111 491	102 701	103 607	8 991	11 447	11 346	26
Social services	92 187	90 588	94 050	7 008	8 880	8 900	27
Education	90 324	88 474	92 231	9 816	12 148	12 013	22
Planning and general works	9 976	9 453	9 679	9 624	11 169	11 112	15
Real estate	4 625	5 179	5 630	7 403	8 784	8 780	19
Business and service activities	13 223	11 280	12 573	9 153	10 207	10 379	13
Totals	**343 282**	**326 334**	**337 010**	**8 705**	**10 851**	**10 779**	**24**

NUMBER OF MONTHLY PAID CENTRAL GOVERNMENT EMPLOYEES CONTRACTED BY A THIRD IN THE 1990s

In November 1997, monthly paid central government employees numbered 123,000, of whom a little less than 1,000 worked overseas. The number has contracted by 37 per cent since 1990. This has been due to the forming of state-owned enterprises into joint-stock companies which, to a large extent, occurred between 1993 and 1995. The largest state-owned enterprises involved in this process were the Finnish State Railways, Posts and Telecommunications of Finland and the Finnish State Computing Centre which, together, employed nearly 50,000 persons. The number of hourly paid central government employees is only 2,000 today.

One quarter of the personnel whose salaries are paid out of the national budget are employed in the educational sector. Other main employers include the Ministry for Foreign Affairs and the Ministry of the Environment.

In November 1997, the average earnings for regular working hours were FIM 11,734. Women's earnings were approximately 80 per cent of those of men. Salaries paid from the national budget rose by an average of 0.8 per cent and those paid by state-owned enterprises by good 6 per cent in the year to November 1997.

One third of central government employees have tertiary level education, while nearly one half have vocational qualifications.

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MONTHLY PAID CENTRAL GOVERNMENT EMPLOYEES BY ADMINISTRATIVE SECTOR

	Total personnel	%	Earnings for regular working hours 1997
National budget/administrative sector			
Total	**118 802**	**100.0**	**11 743**
21. Office of the President of the Republic	62	0.1	12 575
22. Parliament	554	0.5	14 032
23. Council of State	226	0.2	14 417
24. Ministry for Foreign Affairs	1 002	0.8	12 978
25. Ministry of Justice	8 630	7.3	12 503
26. Ministry of the Interior	15 731	13.2	11 718
27. Ministry of Defence	16 692	14.1	11 303
28. Ministry of Finance	10 582	8.9	11 143
29. Ministry of Education	28 132	23.7	12 080
30. Ministry of Agriculture and Forestry	5 793	4.9	11 271
31. Ministry of Transport and Communications	9 565	8.1	11 496
32. Ministry of Trade and Industry	5 008	4.2	14 064
33. Ministry of Social Affairs and Health	3 207	2.7	12 454
34. Ministry of Labour	11 183	9.4	9 151
35. Ministry of the Environment	2 435	2.0	12 317
State-owned enterprises			
Total	**3 345**		**13 167**

CENTRAL GOVERNMENT PERSONNEL FINANCED FROM THE NATIONAL BUDGET BY LEVEL OF EDUCATION 1997, PERSONS EMPLOYED FULL-TIME IN FINLAND

	Number of persons				Earnings for regular hours		
	Men	%	Women	%	Men	Women	Women/Men
Total	**62 787**	**100**	**49 622**	**100**	**12 907**	**10 338**	**80**
Lower level basic education	4 900	8	4 020	8	9 677	8 639	89
Upper level basic education	1 537	2	3 659	7	10 229	9 153	89
Lower level secondary education	10 952	17	8 146	16	10 453	8 771	84
Upper level secondary education	16 864	27	17 148	35	11 426	9 093	80
Lowest level tertiary education	6 237	10	1 997	4	12 550	10 038	80
Undergraduate level education	2 300	4	2 544	5	14 228	11 725	82
Graduate level education	13 508	22	9 670	19	15 396	13 282	86
Postgraduate level education	6 217	10	2 260	5	18 652	16 011	86

MONTHLY PAID CENTRAL GOVERNMENT PERSONNEL 1990 – 1997

Form of remuneration	Number							
	1990	1991	1992	1993	1994	1995	1996	1997
In Finland, total	194 602	194195	189 874	179 484	146 445	124170	120 725	122 147
– full-time	185 014	186 388	181 624	167 664	135 766	115 925	112 903	112 409
– part-time	9 588	7 807	8 250	11 820	10 679	8 245	7 822	9 738

40 LABOUR DISPUTES IN THE FIRST HALF OF 1998

According to preliminary data of Statistics Finland, there were 40 labour disputes in Finland in the January-June period of 1998, 27 of them in the first, and 13 in the second quarter of the year. This is four fewer than in the first half of 1997, when there were 30 and 14 labour disputes in the respective quarters. Workers participating in stoppages numbered 15,000 in January-March and 3,000 in April-June.

The most significant labour dispute of the early part of the year was the firemen's strike which had already started at the end of November 1997 but did not end until the end of February 1998. The total number of working days lost in the firemen's strike exceeded 160,000, of which 86,000 were lost in 1998. This means that 85 per cent of the total time lost in early 1998 originated from the firemen's strike. Measured by the number of working days lost, the firemen's strike was the biggest Finnish labour dispute since the 1995 strike in the health care sector, and was also the longest labour dispute in Finland for ten years.

Examined by industry, the numbers of labour disputes were the highest in the manufacture of metal products, the manufacture of machinery and equipment, and financial intermediation. The number of employees participating in them was, by far, the highest in the branch of financial intermediation. The liveliest month in respect of labour disputes was March, with 15 labour disputes, while January and June, with only two stoppages, were the quietest.

LABOUR DISPUTES 1985 – 1998

Year	Disputes	Workers Total no.	No. per dispute	% of workforce	Working days lost Total no.	No. per participant
1985	848	171 350	202	7.0	174 399	1.0
1986	1 225	602 730	492	24.8	2 787 600	4.6
1987	802	99 290	124	4.1	130 890	1.3
1988	1 353	244 070	180	10.0	179 820	0.7
1989	629	158 480	252	6.4	204 210	1.3
1990	455	244 760	538	9.9	935 150	3.8
1991	284	166 770	587	7.1	458 340	2.7
1992	168	103 510	616	4.8	76 090	0.7
1993	126	23 190	184	1.1	17 310	0.7
1994	171	70 540	413	3.5	525 700	7.5
1995	112	127 039	1 134	6.3	869 422	6.8
I	42	79 934	1 903	3.9	703 499	8.8
II	27	6 340	235	0.3	141 943	22.4
III	21	6 267	298	0.3	6 034	1.0
IV	22	34 498	1 568	1.7	17 946	0.5
1996	94	43 113	459	2.1	20 077	0.5
I	42	21 887	521	1.1	9 858	0.5
II	17	13 546	797	0.6	3 732	0.3
III	14	4 347	311	0.2	3 593	0.8
IV	21	3 333	159	0.2	2 894	0.9
1997	91	28 402	312	1.3	193 712	3.7
I	30	7 214	240	0.3	7 013	1.0
II	14	3 471	248	0.2	3 918	1.1
III	29	8 694	300	0.4	9 882	1.1
IV	18	9 023	501	4.2	82 899	9.2
1998						
I	28	15 027	537	0.7	96 562	6.4
II	12	3 033	253	0.1	4 461	1.5

LABOUR DISPUTES BY INDUSTRY, JANUARY-JUNE 1998

Branch	Disputes	Partici-pants	Working days lost	Gross wages lost (FIM 1,000)
170 Manufacture of textiles	1	59	25	8
211 Manufacture of pulp, paper and paperboard	–	80	–	–
260 Manufacture of mineral products	1	239	239	110
270 Manufacture of basic metals	2	87	74	41
290 Manufacture of machinery and equipment	7	2 589	3 765	2 103
300 Manufacture of office machinery and computers	1	583	300	203
310 Manufacture of electrical machinery and computers	1	150	150	57
351 Building and repairing of ships and boats	3	700	1 001	744
Manufacturing, total	**24**	**5 042**	**5 830**	**3 420**
602 Land transport (602–603)	1	1 235	6 349	2 971
620 Air transport	4	648	220	352
630 Supporting and auxiliary transport activities	1	364	363	177
650 Financial intermediation	8	8 391	1 829	1 024
752 Law and order activities	1	2 300	86 404	48 180

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TABLE OF INDICES

	IV/1998*	Annual change %
● **Index of wage and salary earnings1995 = 100***	**110.8**	**3.3**
Hourly paid employees	110.8	2.9
Monthly paid employees	110.8	3.5
Manufacturing	111.1	2.9
Blue-collar workers	111.4	2.7
White-collar workers	110.5	3.3
Building construction workers	108.8	2.9
Wholesale and retail trading	110.4	3.8
Transport	111.3	3.7
Finance	113.7	3.3
Local government	**109.8**	3.6
Hourly paid employees	108.4	3.3
Monthly paid employees	109.9	3.7
Central government	**110.8**	**3.5**
Monthly paid employees	110.8	3.5
Private sector	**111.1**	**3.3**
Hourly paid employees	110.9	2.9
Monthly paid employees	111.3	3.4
● **Index of real earnings 1995 = 100***	107.1	2.3
● **Dwelling price index 1983 = 100**	198.3	9.5
Helsinki conurbation	196.0	12.0
Rest of Finland	200.5	8.5
	February 1999	
● **Consumer price index 1995 = 100**	**103.4**	**0.8**
Food and non-alcoholic beverages	101.5	0.3
Housing heating and lighting	105.3	1.2
Transportation	104.8	–0.9
● **Cost of living index 1951:10 = 100**	1 437	
● **Wholesale price index 1995 = 100**	97.1	–3.4
Domestic goods	98.6	–2.5
Imported goods	94.3	–5.1
● **Export price index 1995 = 100**	92.6	–7.5
● **Import price index 1995 = 100**	93.4	–6.0
● **Producer price index, home sales 1995 = 100**	95.8	–4.1
● **Basic price index for domestic supply 1995 = 100**	96.7	–3.6
● **Building cost index 1995 = 100**	104.1	1.4
Labour	108.1	2.6
Materials	104.3	0.8
● **Cost index of civil engineering works 1990 = 100**	107.6	–0.5
● **Cost index for road transport of goods 1990 = 100**	114.2	0.1
● **Cost index of bus and motor-coach traffic1990 = 100**	116.6	0.6

* Preliminary figure

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