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# The Intangible Investment of Industry in Finland 1987

24.5.1989

## An increase of about 20 per cent in the intangible investment of industry from 1985

The intangible investment of industry is estimated at about FIM 8.2 billion in 1987, about 7.5 billion of which is accounted for by the manufacturing industries.

Intangible investment accounted for about three per cent of the turnover of industry.

Of the intangible investment, about 41 per cent was accounted for by research and development, about 22 per cent by marketing, about 14 per cent by education and training, and 23 per cent by other intangible investment. Other intangible investment contains about FIM 437 million in acquisition costs for computer software, along with the cost of on-the-job training and of other forms of human resources development.

Intangible investment was concentrated in large enterprises, which accounted for about 72 per cent of total intangible investment. Of the intangible investment of large enterprises, about 46 per cent was accounted for by research and development. The intangible investment of small enterprises consisted mainly of marketing expenditures and of other intangible investment.

Industry's gross fixed capital formation has grown faster than its intangible investment.

The total investment of industry amounted to FIM 29.4 billion, about 28 per cent of which was accounted for by intangible investment. In the manufacturing industries, the proportion of intangible was about 31 per cent, which was slightly less than in 1985.

Figure 1. Intangible investment in industry 1987

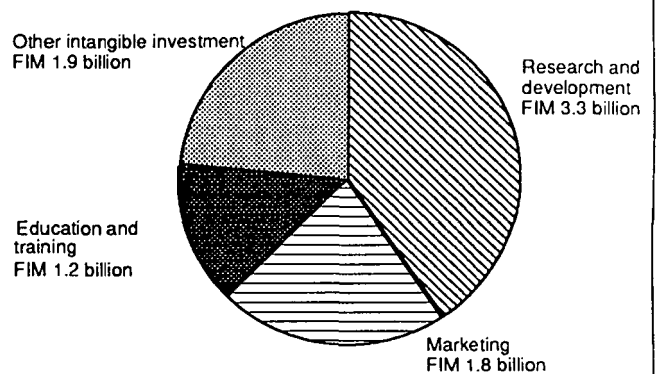
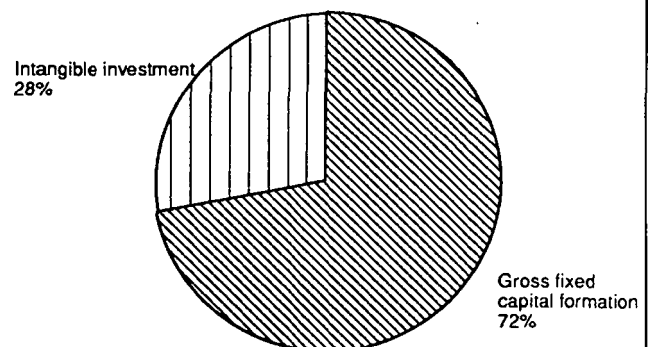


Figure 2. Total investment of industry 1987



For definitions of intangible investments, see page 3.

**Table 1. Intangible investment of industry by size group of personnel 1987**

Size group	Total	R & D	Marketing	Education, training	Other intangible investment
	FIM million				
<b>Total</b>	<b>8213.4</b>	<b>3331.5</b>	<b>1808.5</b>	<b>1152.2</b>	<b>1921.2</b>
5 - 99	1237.3	186.4	566.7	130.4	353.6
100 - 499	1052.2	411.5	235.9	180.0	224.9
500 -	5923.9	2733.6	1005.9	841.8	1342.7

**85 per cent of all enterprises responding to the questionnaire reported expenditures classified as intangible investment**

Of all the respondents, 56 per cent reported marketing expenditures, 81 per cent education and training expenditures, 68 per cent acquisition costs for computer software, and 61 per cent other intangible investments.

Marketing investment has remained at the level of the 1986 survey, which may partly be explained by the more specified questions.

Large enterprises accounted for about 72 per cent of education and training days per employee.

The wages and salaries of persons receiving education and training accounted for about 40 per cent of the education and training expenditure. The education and training expenditure also contains the acquisition costs of fixed assets related to education and training, costs reported by about 16 per cent of the respondents reporting education and training expenditures.

Of the personnel of enterprises, about 40 per cent are estimated to have received education or training during the year. This may be a slight overstatement due to the questioning technique.

The number of education and training days per person receiving education and training was estimated at about 4.3 on average, slightly less in small enterprises.

In addition, about 29 per cent of all respondents reported expenditures on human resources development not included in education and training expenditure, the monetary value of these cannot, however, be estimated.

**Table 2. Education and training in industry: size of enrolment and number of person days by size group of personnel 1987**

Size group	Enrolment	Person days
<b>Total</b>	<b>182 656</b>	<b>782 000</b>
5 - 99	26 664	106 706
100 - 499	26 734	111 846
500 -	129 258	563 448

**Table 3. Acquisition cost of computer software in industry by size group of personnel 1987**

Size group	Acquisition of software
	FIM million
<b>Total</b>	<b>436.9</b>
5 - 99	97.1
100 - 499	72.7
500 -	267.1

In small enterprises with a personnel of less than one hundred, the proportion of other intangible investment in total intangible investment was the largest, about 29 per cent. The figure for small enterprises is influenced by the large (for the under-100 size class of personnel) size of the responding enterprises. Furthermore, the figure may also include certain research and development expenditures.

The other intangible investment of small enterprises averaged about FIM 50,000, of medium-size enterprises about FIM 100,000 and of large enterprises FIM 700,000.

Table 4. Units reporting other intangible investments as a proportion of units reporting intangible investments 1987

Object of investment	Percentage
Total	71.1
Development of enterprise	53.6
Paid goodwill	7.4
Patenting	23.8
Data banks	6.8
Remuneration for innovative ideas	24.1
Exploring for natural resources	2.5
Human resources development	33.1
Other	4.4

## Definitions

**Intangible investment** refers to an enterprise's long-term operating costs incurred in research and development, long-term marketing, education and training, and other activities aimed at the development of the enterprise. The statistics also include the acquisition costs of fixed assets related to intangible investment.

**Research and development** refers to systematic activities undertaken to increase the body of knowledge and to the use of knowledge in efforts to produce new applications.

**Long-term marketing expenditure** contains the marketing costs of new products, the marketing cost of gaining new market areas or segments, and the cost of improving the enterprise's strategic competitive position.

**Education and training** refers to any education or training programme planned in advance and lasting at least one day. The term does not cover on-the-job training or other forms of human resources development.

**Other intangible investment** includes the following expenditures:

- the acquisition cost of computer software acquired from outside the enterprise or developed internally which is not part of any research project and whose useful life is at least a year.
- the cost of developing the organisation or the overall functioning of the enterprise
- the goodwill of enterprises purchased
- patenting costs
- subscriptions to data banks
- remuneration for innovative ideas
- the cost of exploring for natural resources
- human resources development not included in education and training expenditure
- other intangible investment not elsewhere specified

## Data sets

The data are based on the second pilot survey concerning intangible investment carried out by the Central Statistical Office (CSO) of Finland. The data on research and development derive from CSO statistics concerning research and development in enterprises.

The data relate to enterprises in the following industries with personnel of more than four:

- Other mining (ISIC 2)
- Manufacturing (ISIC 3)
- Electricity, gas and steam (ISIC 4)

The questionnaire was sent to all industrial enterprises with a personnel of more than hundred. From among other industrial enterprises, a simple random sample was selected. A total of 656 enterprises were included in the survey and 79.7 per cent of them responded. As regards enterprises with a personnel of more than one hundred, the coverage of the survey was about 75 per cent as by personnel size and about 79 per cent as measured by turnover. The estimates for industry as a whole have been calculated by raising, in proportion to turnover and personnel size, the values of the data by size category.

## A comparison with the 1985 survey

In a departure from the previous survey, information was asked about the cash value of marketing expenditures. Education and training expenditures were reported exclusive of the wages and salaries of persons receiving education or training, which were estimated on the basis of mean wages and salaries. In addition, information was asked about the number of persons receiving education or training. The data on education and training expenditure are more accurate than the corresponding data for 1985. As regards other intangible investment separate information was asked about the acquisition cost of computer software. The cost of human resources development not included in education and training expenditure has been added to other intangible investment.



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