

MAIN FINDINGS

1. Employee Posts and Average Wages

The High-Tech industry has made an important contribution toward increasing the number of employee posts and improving the average wage, despite the industry's relatively small share of the economy (6.7% of the overall economy in 1999).

Between 1995 and 1999, there was a general upward trend in the number of workers, both in terms of employee posts and in terms of the number of employees. Concomitantly, there was an increase in wages in the overall economy, and particularly in the High-Tech industry.

About one-fifth of the increase in the number of employee posts in the overall economy can be attributed to the increase in employee posts in the High-Tech industry. The increase in the High-Tech industry was about 41%, compared with only about 10% in other industries.

Over 13% of the increase in the average wage for an employee post (in current prices) could be attributed to the wage increase in the High-Tech industry. High-Tech wages increased by 73%, compared with 46% in the other industries.

2. The High-Tech Labour Force, by District

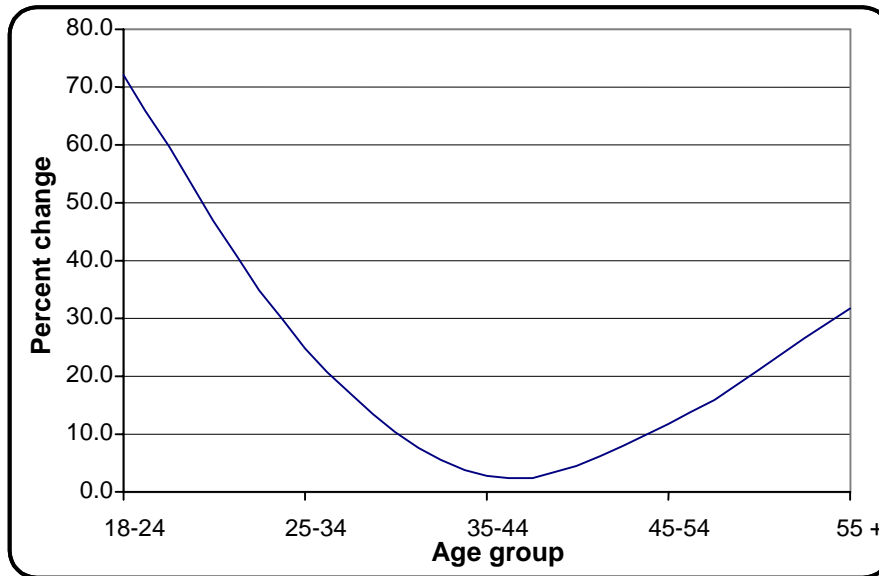
Comparison of district of residence, i.e., the supply of the High-Tech labour force, and district of work i.e., the demand for High-Tech workers, indicates that in the Tel Aviv and Central districts, the demand for High-Tech workers between 1995 and 1999 was higher than the supply. By contrast, the demand for High-Tech workers in the southern district during the same period was lower than the supply. Moreover, the findings indicate that the High-Tech industry has become centralized in the Tel Aviv and Central districts in terms of demand and supply.

3. Characteristics of High-Tech Workers

Age

The High-Tech industry has added young workers for the most part, although older workers have also entered the field. Analysis of the percentage of change in the number of High-Tech employees by age indicates that entry into the High-Tech industry follows an inverse J-shaped curve.

Diagram 1.- Percent change in the share of High-Tech industry employment of total employment, by age group, 1995-1999



A large share of the increase in the number of High-Tech workers can be attributed to the entry of young workers into the industry. Concomitantly, the increase in High-Tech employees can be attributed to the entry of older people who have been trained in High-Tech fields as a “second career”.

Sex

The High-Tech industry currently employs more men than women.

The discrepancy between the number of men and women in the High-Tech industry has remained stable over the years, contrary to other industries in the economy, in which the gender gap diminished during the period of the survey. A breakdown of the change in the number of High-Tech employees by sex indicates that the percentage of women who have entered the High-Tech industry is much lower than the percentage of men.

Education

The High-Tech industry consists mainly of workers with a high number of years of schooling. The percentage of High-Tech employees with 13 or more years of schooling is relatively high (70%, compared with 50% in the overall economy in 1999). This percentage increased rapidly during the survey period. A similar upward trend in the number of employees with 13+ years of schooling was found in the overall economy – but the increase is particularly salient in the High-Tech industry.

Work Hours and Full-Time or Part-Time Status, By Sex

The High-Tech industry is characterized by more work hours compared with industries in the overall economy, mainly for women.

In the High-Tech industry, no change was found in work hours per week among full-time and part-time employees between 1995 and 1999. It should be mentioned that the average number of work hours per week in full-time and part-time positions in High-Tech was higher than in the overall economy.

Similar to the increase in the overall economy, the increase in the number of women employed in full-time High-Tech positions was higher than the increase in the number of men working full-time in High-Tech. However, examination of the growth in the number of part-time employees by sex indicates that the increase was higher for men than for women. It can thus be concluded that women entering the High-Tech industry have adopted traditional men's work patterns in terms of the full-time or part-time status of their work position.

Women in High-Tech work more hours per week on the average than their counterparts in the overall economy – both in part-time and full-time positions. By contrast, men working in full-time High-Tech positions work fewer hours per week on the average than their counterparts in the overall economy.

High-Tech Occupations in the High-Tech Industry

The number of High-Tech employees with High-Tech occupations has increased.

The main High-Tech occupations are practical computer technicians and programmers (an increase of 104% in the number of employees in these occupations in the High-Tech industry between 1995 and 1999). The findings also indicate that the Employment Multiplier in the High-Tech industry for creating jobs in other occupations (that are not High-Tech) decreased between 1995 and 1999 (mainly due to the decrease in the Employment Multiplier in Computer and related services and in Research and Development (R&D), as well as to structural changes in the industry). It can therefore be concluded that the impact of the High-Tech industry to create jobs in occupations that are not related to High-Tech fields will continue to decline.

4. The High-Tech Industry, by Groups

Changes in the characteristics of the labour force and wages in High-Tech groups – manufacturing, telecommunications, computer and related services, and R&D – were not uniform. The findings are presented below:

4a. Manufacturing in High-Tech

1. **Average wage per employee post** increased by about 72% between 1995 and 1999, and the number of employee posts increased by about 18% during the same period.
2. **Age composition** – The most substantial change between 1995 and 1999 was in the 55+ age group – an increase of 60%. A reverse trend was found in the overall High-Tech industry, where the highest change was in the 18-24 age group. This indicates that manufacturing in High-Tech is becoming “older”, whereas the High-Tech industry itself is becoming “younger”.
3. **Sex Composition** – The increase in the number of women employed in High-Tech manufacturing was much lower than in the overall High-Tech industry, and was closer to the increase in the overall economy (about 44%).
4. **Years of Schooling** – The increase in the number of employees in High-Tech manufacturing was lower for all of the years of schooling than in the overall High-Tech industry, and resembled the increase in the overall economy.
5. **New Immigrants¹** - Comparison of the number of new immigrants with the number of veteran Israelis reveals an increase in the number of immigrant employees between 1995 and 1999. Concomitantly, there has been a decline in the number of veterans. In other words, the added labour force in High-Tech manufacturing derives mainly from the immigrant population.
6. **Full-time or part-time status** – Findings indicate that the increase in the number of full-time employees was lower than in other High-Tech industries, and that there is a decline in the average number of work hours per week, in both full-time and part-time positions.
7. **Occupation** – In High-Tech manufacturing and telecommunications, it was found the Employment Multiplier remained stable throughout the entire period of the survey (2.5).

¹ New immigrants who arrived between 1990 and 1994.

In sum, it was found that the characteristics of High-Tech manufacturing are similar to low-technology industries in the Israeli economy.

4b. Telecommunications

In analysing the changes in the telecommunications industry, it should be borne in mind that two contradictory processes took place, which affected the development of the industry, both in terms of the labour force and in terms of wages. On the one hand, there was a decline in employment in wired telecommunications (represented by the Bezeq Corporation); on the other, there was considerable development in non-wired telecommunications (e.g., cable and cellular telephone companies).

1. **Average wage per employee post** in telecommunications increased by about 35% between 1995 and 1999, and the number of employee posts increased by about 38%.

The relatively low increase in the average wage and the increase in employee posts results primarily from privatization of the Bezeq corporation. This process led to the freezing of employee wages as part of a general organizational change in the company, and generated competition in the telecommunications industry, mainly in the area of international communications and cellular telephony.

2. **Age composition** – The main change in telecommunications between 1995 and 1999 was found among the 18-24 age group (an increase of about 77%). This trend was similar to that of the overall High-Tech industry, which is declining in age. Another major finding relates to the decline in the number of employees in the 55+ age group in the telecommunications industry. This can be explained by the retirement arrangements for workers in the Bezeq corporation (as part of a process of organizational restructuring in Bezeq, about 2,050 workers retired instead of the planned number, which was 1,800).
3. **Sex composition** – The change in the number of female employees in this industry during the survey period was considerable, and reached as high as 60% compared with only about 20% among the male employees. This may be explained by the fact that the telecommunications industry is characterized mainly by provision of services and less by implementation of R&D.
4. **Years of schooling** – There was a substantial change in this area. There was a sharp decline in the number of employees with 0-8 years of schooling (by

75%), and a sharp increase in the number of employees with 13-15 years of schooling (by 113%).

5. **New Immigrants²** – Comparison of the number of new immigrants and veteran Israelis in this industry indicates that most of the employees (about 94%) are veterans.
6. **Work hours** – no trend of change was found in the average work hours of full-time employees. However, among part-time employees an upward trend was found in the average number of work hours.
7. **Full-time or part-time status** – The highest increase in the number of part-time High-Tech employees was found in the telecommunications industry.

4c. Computer and Related Services, Research and Development

Changes in Computer and related services and R&D have a significant impact on the High-Tech industry in terms of wages and the labour force.

1. **Average wage per employee post** in these industries increased by about 90%, and the number of employee posts increased by about 83%.
2. **Age composition** – The most substantial change in the number of employees between 1995 and 1999 was found in the 18-24 age group (an increase of about 123%).
3. **Sex composition** – Most of the employees in these industries are men. Between 1995 and 1999, the number of men employed in this area increased by about 70%, while the number of women increased by only about 44%.
4. **Years of schooling** – There was a substantial increase (amounting to 70% during the survey period) in the number of employees with 16+ years of schooling. This trend indicates that employees with higher education were concentrated in Computer and related services and R&D.
5. **New immigrants³** - Comparison of the number of new immigrants and veteran Israelis employed in these industries reveals an upward trend in the number of veteran employees, and a downward trend in the number of new immigrant employees.
6. **Full-time or part-time status** – These industries had the highest increase in the number of full-time employees (70.7%), and the lowest increase in the

² New immigrants who arrived in Israel between 1990 and 1994.

number of part-time employees (19.7%). This can apparently be attributed to the rise in the number of start-up companies established in recent years, as well as the increase in the number of full-time employees in these industries.

7. **Work hours** – In these industries, the average number of work hours per week among full-time employees increased from 47.1 in 1995 to 48.1 in 1999.
8. **Occupation** – Examination of Computer and related services and Research & Development in terms of their power to create jobs in other occupations indicates that in these industries, the Employment Multiplier was already 0.9 in 1995, and dropped during the survey period, reaching 0.6 in 1999. This decline, accompanied by the high increase in the labour force in these industries (compared with other High-Tech industries) reduced the Employment Multiplier in the High-Tech industry from 1.8 in 1995 to 1.4 in 1999. It can therefore be concluded that the power of the High-Tech industry in general and Computer and related services and Research and Development in particular to create jobs in other occupations has been declining over the years.