COMMENTS ON BASIC INDICATORS OF HUMAN RESOURCES IN SCIENCE AND TECHNOLOGY

1. STOCKS OF HUMAN RESOURCES IN SCIENCE AND TECHNOLOGY

Stocks of human resources in science and technology helps to determine to what degree a nation or certain region is able to fulfil its technological and innovative processes. Stocks monitors not only the number of scientist and technicians, but also monitors their spreading across regions and economic sectors. Aging of the scientific-technological workforce is also a very important factor, because their training and development takes a long time and the costs are high.

From the following Table 3, it emerges that the number of HRST in the Czech Republic has risen. In year 2002, the number of HRST was 1 740 thous. persons. Thanks to an increase in female interest in science and technology, the male and female distribution was equal. In year 2002, out of total number of HRST, it was only 473,2 thous. persons (i.e. 27%), who reached tertiary education and also were employed in science and technology occupations (HRSTC).

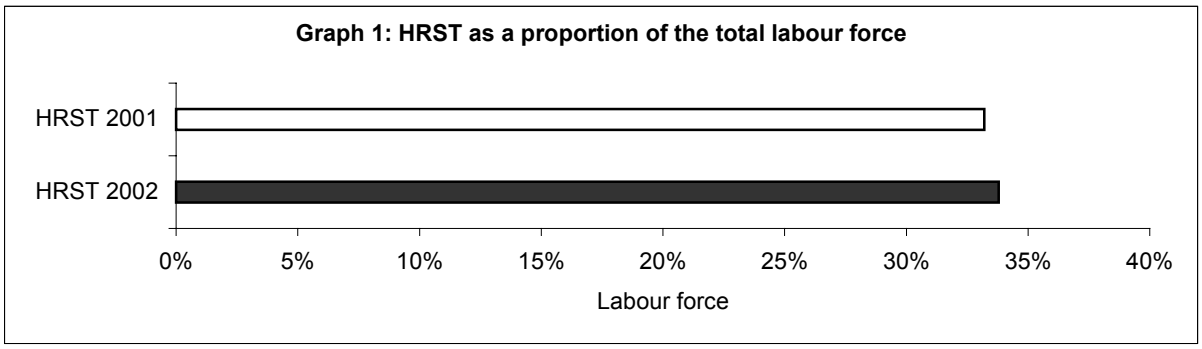
Table 3: Stock of human resources in science and technology (in thous.)

	HRST		HRSTE (excluding HRSTC)		HRSTO (excluding HRSTC)		HRSTC	
	Total	**Females %**	**Total**	**Females %**	**Total**	**Females %**	**Total**	**Females %**
2001	1708,6	50%	305,5	37%	964,4	57%	438,7	44%
2002	1739,5	49%	340,5	38%	925,8	56%	473,2	45%

Source: LFS (ČZSO)

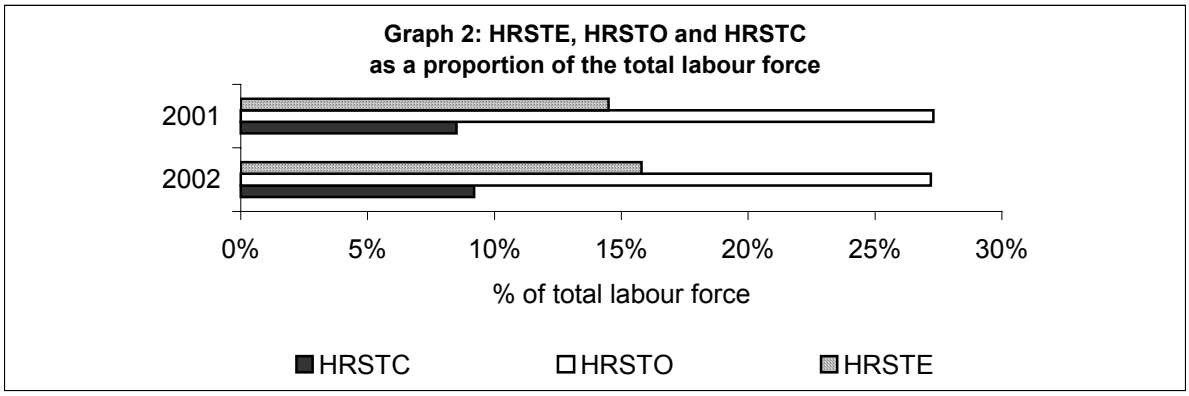
Also looking at graph 1, the increasing importance of HRST is apparent. In year 2001, the proportion of HRST on labour force was 33% and in 2002 it was 34% already.

Graph 1: HRST as a proportion of the total labour force



Source: LFS (ČZSO)

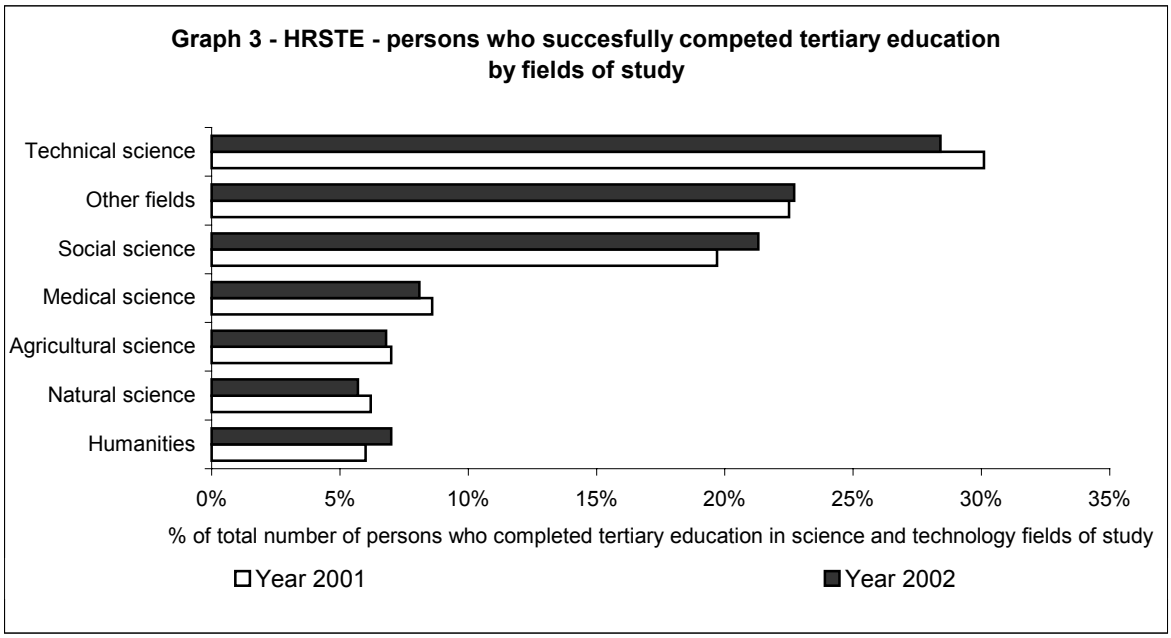
The following graph 2 shows people with tertiary education (HRSTE) and people employed in science and technology occupations (HRSTO) as a proportion of the total labour force. It also shows the proportion of the people who fulfil the condition of education and employment. These are called core human resources in science and technology (HTSRC). In the monitored years, a 10,3% increase in education and a 4% decrease in number of employed persons were recorded. This movement created an increase of the human resources core (HRSTC) of about 7,3%.



Source: LFS (CZSO)

HRSTE – Human resources in science and technology – Education

Persons who reached tertiary education (HRSTE) are further brokedown by fields of study. For purposes of capturing the whole stock of human resources, this publication uses full coverage of fields of study, while science and engineering are considered more relevant. The following graph 3, shows distribution of HRST by graduated fields of study where traditionally the technical science is the most popular. In the year 2002, it was the social sciences where the biggest increase was monitored. The highest density of tertiary educated people live in Prague and in the southeast part of the Czech Republic.

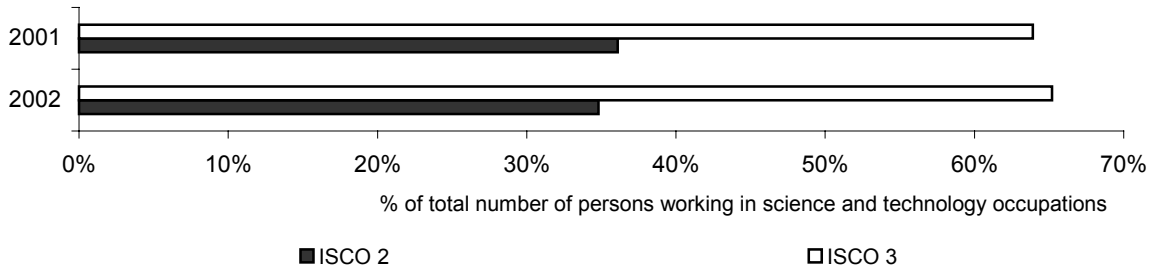


Source: LFS (CZSO)

HRSTO – Human resources in science and technology – Occupation

Percentage of employed persons in occupations ISCO 2 and ISCO 3 is illustrated in graph 4. During years 2001 and 2002 some changes are noticeable. Number of professionals slightly decreases and number of technicians and associate professionals increases.

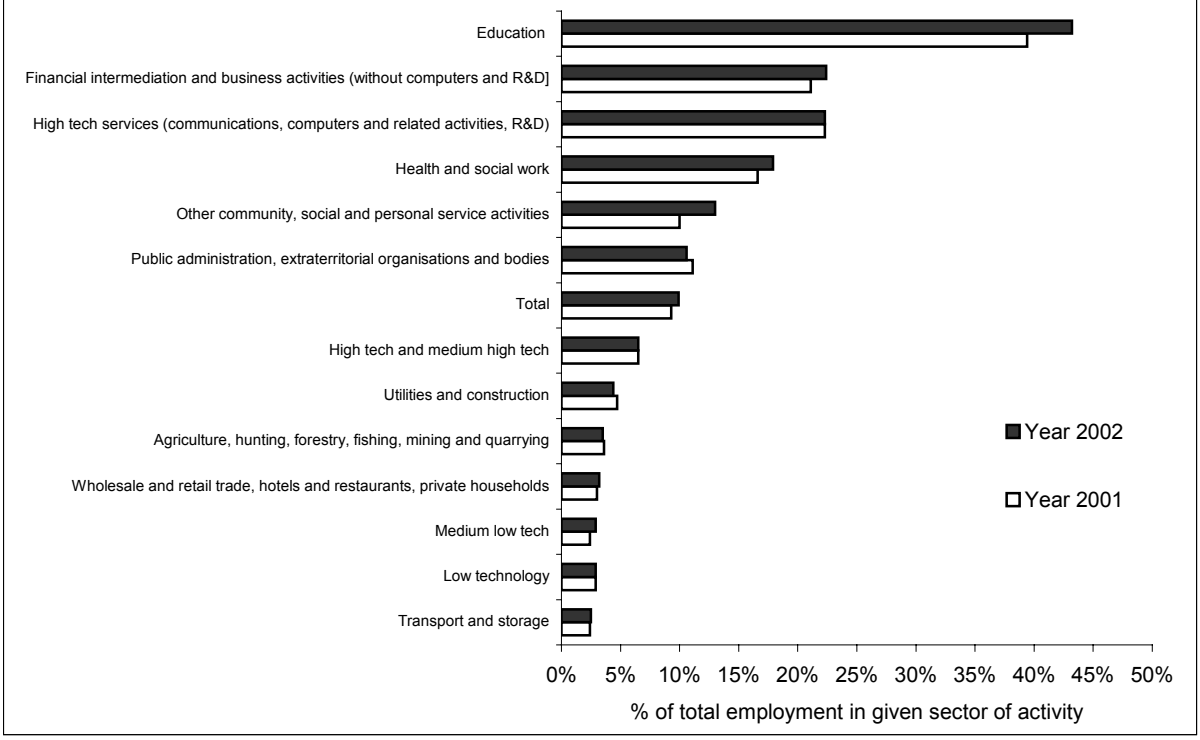
Graph 4: HRSTO - persons employed in occupations
ISCO major group 2 - Professionals and
ISCO major group 3 - Technicians and associate professional



Source: LFS (CZSO)

Graph 5 shows the distribution of human resources who are employed in science and technology occupations with succesfully completed tertiary education broke down by sector of activity. Definitively, the most activity was recorded in the education sector, financial intermediation sector and high tech services (communication, computers and related activities, R&D) sector.

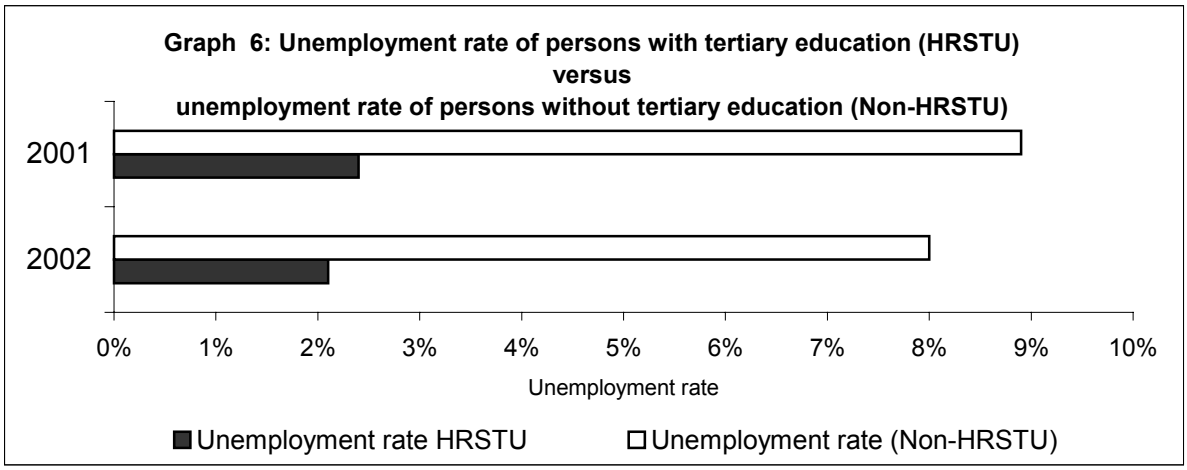
Graph 5: Employed persons with successfully completed tertiary education (HRSTC) as a proportion of total employment by grouped NACE sector of activity



Source: LFS (CZSO)

Unemployment of human resources

Graph 6 shows the unemployment rate of persons with tertiary education (HRSTU) and the unemployment rate of persons without tertiary education (Non-HRSTU). The unemployment rate of persons who have completed tertiary education is always lower than the unemployment rate of those who haven´t completed tertiary education. Also, during years 2001 and 2002, it is noticeable that the unemployment rate decreased thanks to the increasing demand for professionals in the fields of science and technology. It is interesting to note that men slightly predominate the unemployed persons with tertiary education cetegory while women tend to predominate the unemployed without tertiary education category.



Source: LFS (CZSO)