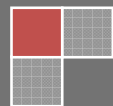
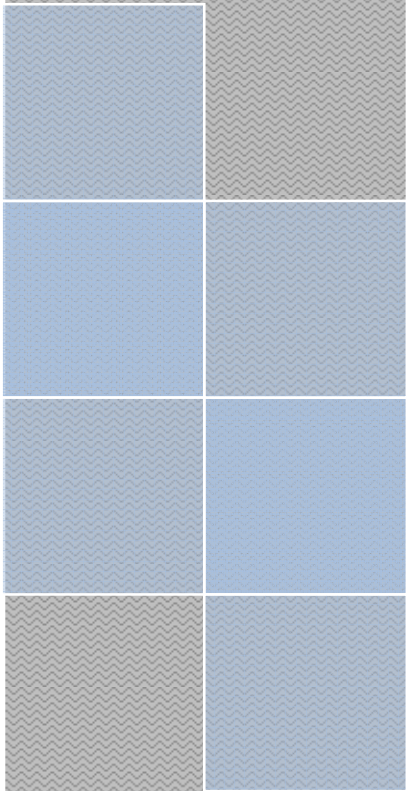




Summary Results of the Survey of the Establishments with Research and Development Activity (1388)



In this survey, three following centers were visited in 1389¹:

1. Research centres and institutions
2. Manufacturing establishments with over 50 workers which have research and development centre
3. All universities and higher education institutes affiliated to the Ministry of Science, Research and Technology (including Payam- e- Noor University Branches and Non-Profit higher education institutes located in centre of provinces except for University of Applied Science) and also comprehensive and very large branches of Islamic Azad Universities.

Definitions and concepts

Research and Development

Empirical research and development refers to doing any kind of creative work systematically in order to promote scientific accumulation including human, social and cultural knowledge and use of this knowledge for inventing (designing) modern applications.

Researcher

Refers to a person who spends all or part of his/her time for carrying out activities related to research and development and takes part in implementing or managing them. He/she mainly holds master degree or higher or its equivalent degree from non-university courses. He/she may have enough practical experience in research.

Assistant researcher

Refers to a person guided by a researcher and assists him/her in conducting research and development activities. In some cases, he/she is called as technical expert.

Technician

Refers to a person, excluding researcher and assistant researcher t, who is employed to carry out applied services related to research and development activities under guidance and supervision of researcher and assistant researcher.

¹ . Iranian year begins on March 21st of the Christian year and ends on March 20th of the next year. To convert the Iranian year into Christian year, add 621 to the former.

Administrative and logistics personnel

Refers to those whose responsibility is directly related to research activities. They include office clerk, skillful workers, accountants, etc. .

Research project

Refers to a series of systematic and planned activities aiming at developing existing knowledge, achieving modern technology or knowledge, solving problems or innovating in different areas.

Completed projects

Refers to research projects that started in previous years or in 1388 and all of their related operation was completed in 1388.

Projects under implementation

Refers to research projects which have been approved and all of their operations have been started but not completed until the end of 1388.

Fundamental research project

Refers to any kind of theoretical or experimental activity mainly carried out for developing knowledge boundaries regardless of practical application of the attained results during the research time. At present time, research results are not applied and mainly are presented within general principles, theories and laws or such an activity is performed to provide a necessary scientific ground for solving current and future problems.

Applied research project

Refers to any kind of knowledge-based research activity resulted from research or experiences aiming at using methods, theories and existing patterns for presenting an analysis of a phenomenon that may lead to a solution. Since the results of applied research are used for certain problems, they affect a limited area of science and technology. Such researches, considering their scientific usage and their particular application, are taken into account by industries. They are commonly conducted in industrial centres or through joint collaboration between universities and industry usually with government investment.

Developmental research project

Refers to any kind of regular activity aiming at promoting and using results of fundamental and applied research conducted for use in production of materials, products, and tools for making processes and innovation of modern methods or their improvement. The most significant distinction between developmental researches and other researches is that developmental researches are conducted for introducing new applications. The activities related to customization of imported technologies, reformation of existing technology and most activities related to social sciences, education and socio-economic planning are among developmental researches.

Selected Results of Survey of the Establishments with Research and Development Activity, 1388

Description	1377 ¹	1388 ²	Changes(Percent)
Total number of researchers(full-time or full-time equivalent)	54283	52255	- 3.7
- Male researcher	39302	39606	0.8
- Female researcher	14981	12649	- 15.6
Total number of researcher projects	60778	63019	3.7
- Fundamental	16060	18167	13.1
- Applied	33695	34360	2
- Developmental	11023	10492	-4.8
Intermediate consumption(mln rial)	2215703	2710020	22.3
Output(mln rial)	6574393	9278917	41.1
Value added(mln rial)	4358691	6568897	50.7
Capital formation(mln rial)	2620110	2780495	6.1

- As the above table shows, total number of the nation's researchers decreased from 54283 in 1387 to 52255 in 1388, indicating a four percent fall. The results indicate that this decrease is due to decrease in female researchers. It seems that the graduated females were engaged in sectors other than research sectors.

- Total number of research projects had a 3.7 increase compared with 1387, shows a 3.7 percent growth while fundamental projects had a 13.1 percent growth. Developmental projects have decreased.

¹ . Iranian year

² . Iranian year

- In this sector, all economic indices have increased in contrast with the previous year.

Selected Results of Survey of the Establishments with Research and Development Activity, 1388

A. Full-time equivalent researchers

The results of the survey of the establishments with research and development activity show that over the year 1388, totally a number of 52255 researchers have been working in this sector as full-time equivalent (full-time + full-time equivalent),out of whom 39606 and 12649 were male and female respectively.

For both groups of female and male researcher, the graduated persons in Technical and Engineering Group and the graduated in Art Group ranked first and sixth respectively.

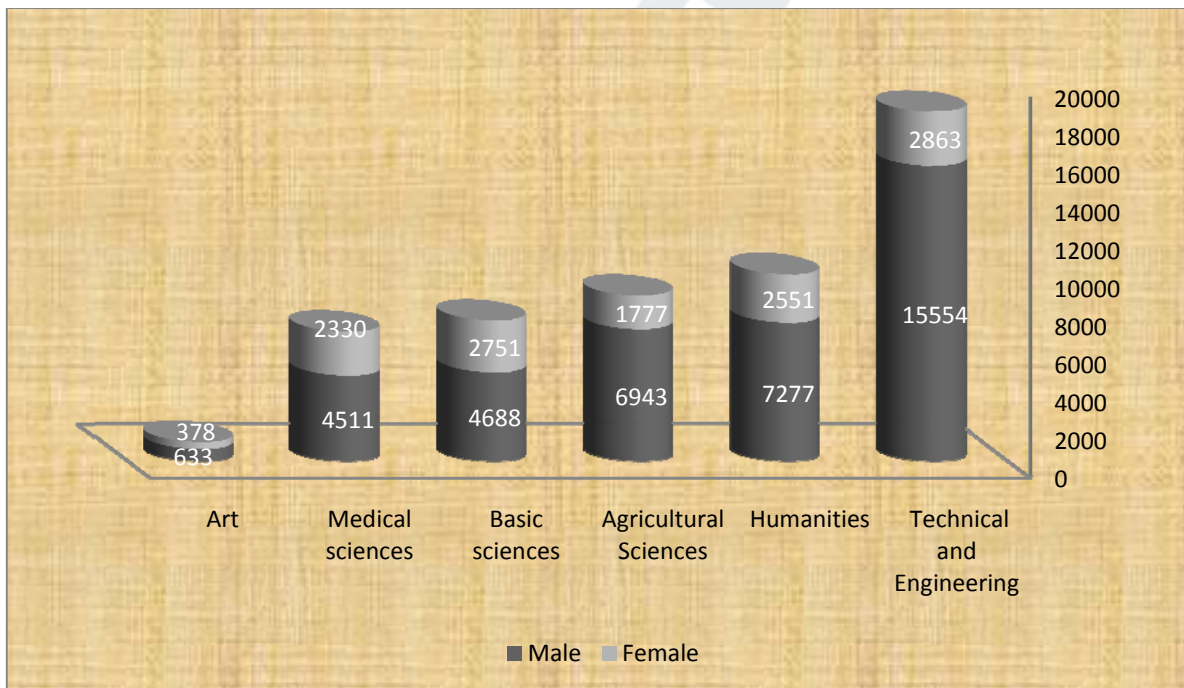


Figure 1 - Number of full-time equivalent researchers by academic group and sex, 1388

B. Research projects

According to the results of the survey of the establishments with research and development activity, a number of 63019 research projects were conducted by the establishment itself¹ or jointly² (whether completed or under implementation) in 1388, out of which 28615 projects (45.4 percent) were completed and 34404(54.6 percent) projects were under implementation.

1. Number and percent of research projects by type, 1388

Description	Total	Fundamental	Applied	Developmental
Number	63019	18167	34360	10492
Percent	100	28.8	54.5	16.6

Among projects, applied project with 54.5 percent had the highest share.

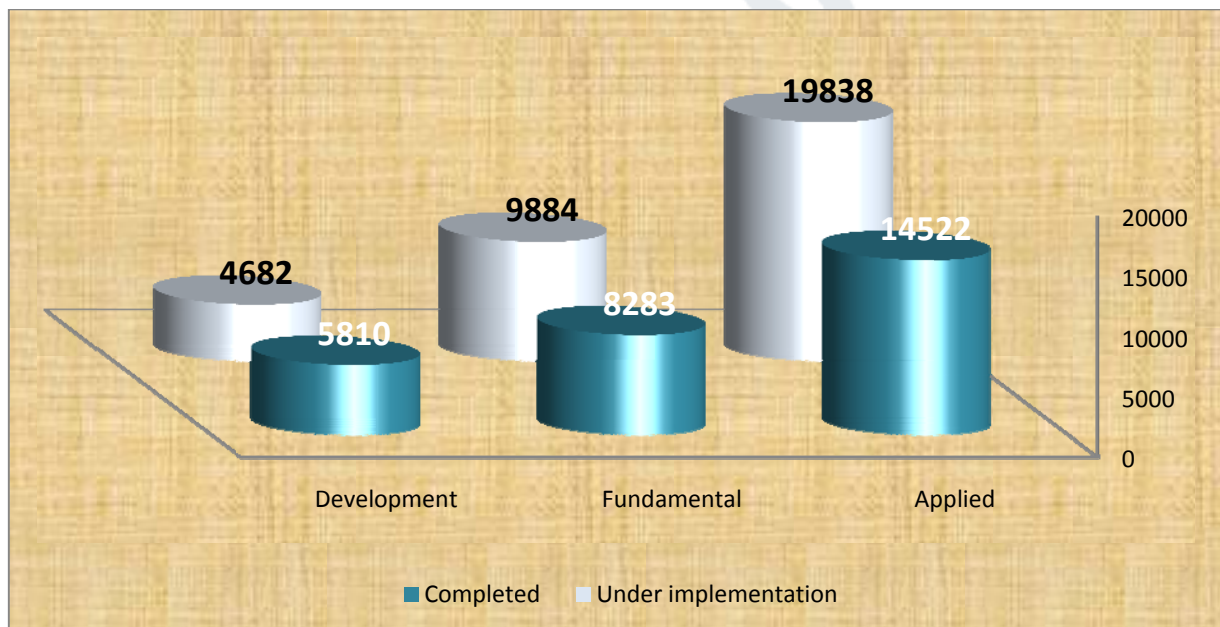


Figure 2. Number of projects by type and conduct status, 1388

C. Investment value

In 1388, the investment amount for the units with research and development activity was 2780495 million rials. Results of the survey reveals that among provinces, Tehran with 964736 million rial(34.7 percent) and Hormozgan with 610 million rials (0.0002 percent) had the highest and the lowest investment rate, respectively.

¹. Establishment itself conducts research project through employing human resources working in the establishment.

². The establishment conducts the research products with others' contribution.

2. investment rate and percent for the units having research and development activity by province, 1388 (mln rial)

Description	Total country	Tehran	Esfahan	Mazandaran	Markazi	Khorasan-e-Razavi	Other provinces
Investment value	2780495	964736	485879	219440	132087	99605	878748
Percent	100	34.7	17.5	7.9	4.8	3.6	31.6

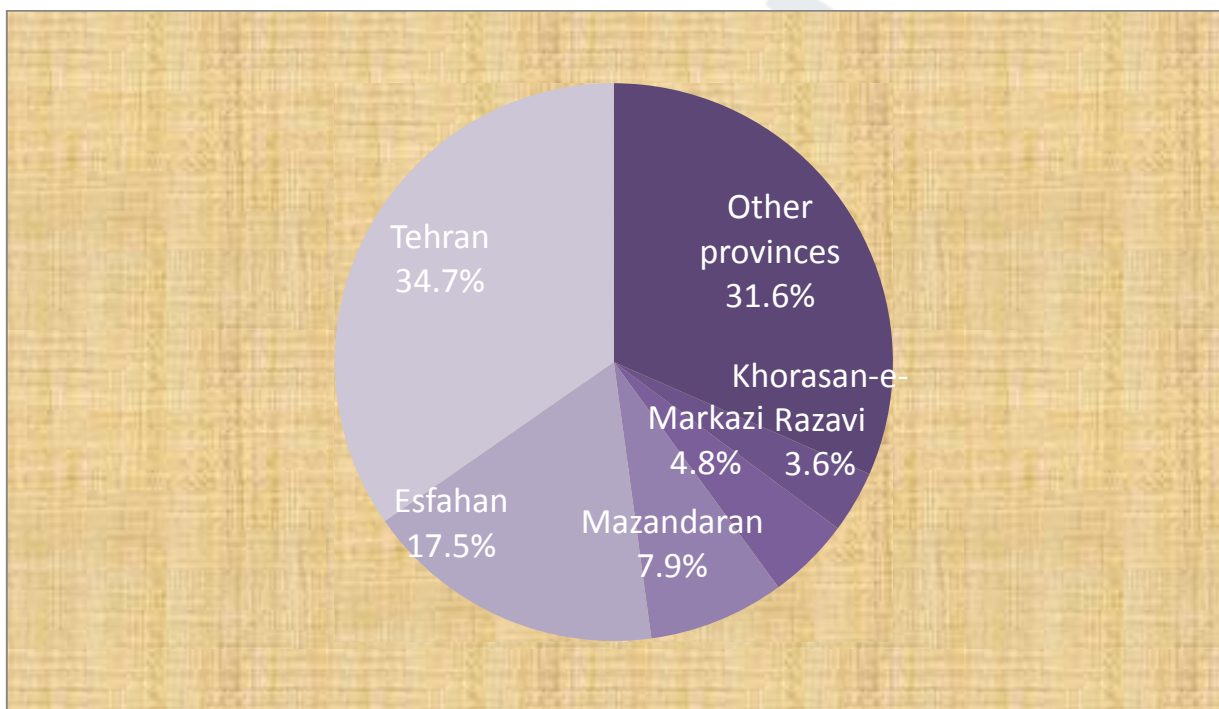


Figure 3. Percent of investment value of the establishments with research and development activity by province, 1388

D. Value added

Results of the survey of the establishments with research and development activity in 1388 reveals that value added of these establishments was 6568897 million rials. Review of value added created by the establishments with research and development activity indicates that Tehran with 3263269 million rial(49.7 percent) and South Khorasan with 6124(0.09 percent) had the highest and the lowest value added, respectively.

3. value added rate and percent created by the establishments with research and development activity by province, 1388 (mln rial)

Description	Total country	Tehran	Esfahan	Mazandaran	East Azarbayejan	Gilan	Other provinces
Investment value	6568897	3263269	452560	436757	299519	213669	1903122
Percent	100	49.7	6.9	6.6	6.4	4.6	29.0

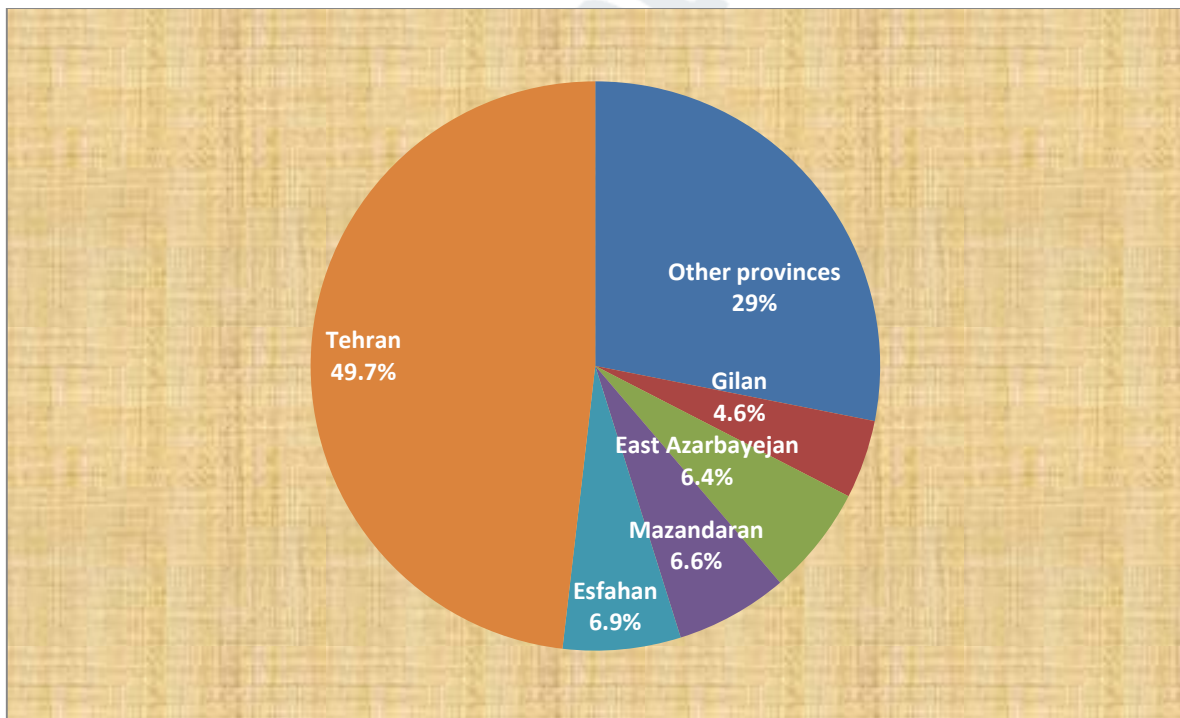


Figure 4. Percent of value added created by the establishments with research and development activity by province, 1388