

Study for Evaluating the Achievements on the S&T Basic Plan in Japan: Qualitative Analysis of R&D Output

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The purpose of this study is to statistically and systematically grasp R&D activities under the Science and Technology Basic Plans in terms of R&D output.

For this purpose, we analyzed the quantitative transition of scientific papers and patents produced by Japanese research institutes, universities, and business enterprises during the S&T Basic Plan Terms (1996–2000 and 2001–2005) and pre-Basic Plan Term. We also analyzed the qualitative change of Japanese R&D output, taking into account citation frequency of scientific papers and patents. Furthermore, we illustrated the influence of the S&T Basic Plans on Japanese R&D system by focusing the structural change.

This presentation reviews the major findings of first-year research, specifically as follows;

- (1) Macro-analysis of scientific paper production in Japan under the Basic Plans
- (2) Scientific paper production in 8 priority areas
- (3) Transition of scientific paper production by research field and growth pattern
- (4) Transition of number of scientific papers by citation frequency rank
- (5) Number of scientific papers by industrial/academic/governmental sector
- (6) Change of science co-author structure in Japan
- (7) Global trend of patent application
- (8) Patents in 8 priority areas (analysis of US patent data)
- (9) Macro-analysis of growth areas in US patent
- (10) Analysis of linkage between scientific papers and patents

Finally, issues for the second-year examination and future discussion are also presented.