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New technologies and the protection of intellectual property

Increasing investment in research and development (R&D) and changes in public R&D funding have put pressure on companies and developers to commercialize technical innovations quickly and to protect their intellectual property. This, along with increasingly fierce competition, has led to "patent races," but also to innovations which ensure the protection of intellectual property and to political efforts to extend legal protection to subjects that were not patentable before. These developments influence R&D investment decisions and the path of technical progress. They have also triggered technical innovations aimed at circumventing intellectual property protection, initiatives towards "open" R&D (Open Source), and a debate about legal reforms to cut through the patent thicket and avoid the underutilization of resources that are already protected (the "anticommons dilemma"). Diverging institutional and technical constellations and traditions at the national and regional level interact with global technological and institutional trends. They set off an interactive dynamic which shapes technical and institutional development and creates new public policy challenges. These issues will be explored by conducting case studies in the area of information and communication technology and biotechnology but also by re-analyzing historical accounts of relationship of technical change and intellectual property protection. Theoretical approaches to institutional development are linked to concepts of technical change.