Welfare Effects of Patent Protection in a Growth Model with R&D and Capital Accumulation

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Abstract
This study explores the welfare effects of patent protection in a Romer-type expanding-variety model in which R&D and capital accumulation are both engines of growth. It shows that the comparison between the productivity of R&D and that of capital plays an important role in the welfare analysis. When the relative productivity of R&D compared to capital is high (low), social welfare takes an inverted-U shape for (is decreasing in) the strength of patent protection, and the welfare-maximizing degree of patent protection is no greater than (identical to) the growth-maximizing degree. Moreover, the model is calibrated to the US economy and the numerical results support these welfare implications.