Do Stronger Patents Stimulate or Stifle Innovation? The Crucial Role of Financial Development

Abstract

This study explores the effects of patent protection in a distance-to-frontier R&D-based growth model with financial frictions. We find that whether stronger patent protection stimulates or stifles innovation depends on credit constraints faced by R&D entrepreneurs. When credit constraints are non-binding (binding), strengthening patent protection stimulates (stifles) R&D. The overall effect of patent protection on innovation follows an inverted-U pattern. An excessively high level of patent protection prevents a country from converging to the world technology frontier. A higher level of financial development influences credit constraints through two channels: decreasing the interest-rate spread and increasing the default cost. Via the interest-spread (default-cost) channel, patent protection is more likely to have a negative (positive) effect on innovation under a higher level of financial development. We test these results using cross-country regressions and find supportive evidence for the interest-spread channel.