

Optimal R&D Subsidies, Industry Location, and Productivity Growth

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This paper studies how national research subsidies affect productivity growth and national welfare through adjustments in the geographic location of research and development (R&D) across countries. Our two-country framework features a tension in the firm-level innovation location decision between accessing technical knowledge and sourcing low-cost high-skilled labor. With trade costs and imperfect international knowledge diffusion, the larger country has a greater share of industry and tends to host a larger share of innovation. In this setting, we find that an R&D subsidy expands the implementing country's share of innovation and raises the rate of productivity growth. Although the non-implementing country experiences a welfare improvement, the rising cost of the policy generates a concave relationship between the R&D subsidy and the welfare of the implementing country, yielding an optimal R&D subsidy rate. In addition, we examine the effects of improved market integration on R&D policy competition between the two countries.