

Local Content Requirement, International Technology Diffusion, and Indigenous Innovation: Evidence from Chinese Wind Technology Industry

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Abstract

This paper empirically studies the impacts on domestic technological innovation of local content requirement policy, one of widely used trade and industrial policies, in the context of the Chinese wind turbine manufacturing industry. The Chinese government implemented a local content requirement policy in 2003 and tightened it in 2005, in an effort to stimulate the development of its infant domestic sector, which has in turn indeed experienced rapid growth during the past decade. Using solar photovoltaic as a comparison technology, our DD (Dif-in-Difs) estimation finds that the policy significantly increased China's domestic innovation in wind turbine technology, as reflected by the quantity and quality of invention patent filings in the State Intellectual Property Office of China. The increase has been primarily driven by Chinese firms and individual inventors, not universities and research institutes. The results hold true with a DDD (Dif-in-Dif-in-Difs) estimation using as an additional control foreign patent filings in China in both technologies. We also find that, after the policy took effect, the amount of wind turbine installation by foreign firms was more significantly correlated with domestic innovation in China. These results, together with detailed records on the FDI activities in China of major foreign wind turbine manufacturers, suggest that the local content requirement policy has stimulated technology transfer and spill over from foreign firms to the domestic.

Keywords: Local Content Requirement, Innovation, Technology diffusion, Wind Turbine

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