Title:

Science and the Market for Technology

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Abstract:

A well-functioning Market for Technology (MFT) enhances welfare by supporting a division of labor between upstream inventors and downstream commercializers. In this paper, we explore the relationship between science and MFT and argue that inventions based in science should be more tradable. Scientific inventions are potentially more broadly applicable, and scientific information is more easily codified, and more cheaply transferred. Conceptualizing inventions in scientific terms improves communication between buyers and sellers, reduces search costs for buyers, and enhances buyers' ability to evaluate and integrate the invention. Using large scale data, we establish a positive relationship between science and MFT. We show that this relationship is stronger for novel inventions (inventions that are more different from existing inventions), consistent with science reducing search and integration costs. To isolate the effect of science on the demand for technology acquisition, we exploit a quasi-natural experiment of the arrival of Soviet scientists to American cities. Holding fixed invention quality, an increase in the ex-post scientific understanding of an invention leads to a 19\% higher likelihood that it is traded.