

Distance (Still) Hampers Diffusion of Innovations

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BACKGROUND

- Distance has regularly been found to reduce the diffusion of ideas and innovations
- This is surprising as costs of communication have decreased significantly since 1980
- There is evidence that distance no longer affects diffusion of ideas in the sciences
- We test how distance affects diffusion of innovations using a new measure that covers more industries and innovations than any previous study

METHODOLOGY

- We extract new words (tokens) used to describe goods and services trademarked in the United States between 1980 and 2012
- We analyse diffusion of these tokens using Instrumental Variables Poisson Models in a panel of over 10000 ZIP-code to ZIP-code pairs

KEY FINDINGS

- Trademark tokens reflect diffusion of innovation as captured in patent data for key innovations introduced in the US after 1980
- Endogenizing the creation of new diffusion links between ZIP codes, our results show that spatial distance no longer affects the creation of diffusion links within the US after 1996
- Contingent on previous diffusion from a sending to a receiving ZIP code, we find persistent, strong and negative effects of greater spatial distance on the intensity (extent) of diffusion for existing links between locations within the US

POLICY ISSUES

- The speed with which innovations diffuse affects how quickly new products spread and subsequently the degree to which competition increases in new markets as a result of entry
- This paper introduces a new means of capturing diffusion and tests it against a well-established finding in the literature, suggesting that many interesting results can be obtained using this source of data
- The paper provides further evidence that the cost of communication is not the principal barrier slowing diffusion of innovations

SUGGESTED CITATION

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