

# Strategic Complementarities in a Dynamic Model of Fintech Adoption\*

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## Abstract

We study a dynamic model of technology adoption featuring a network externality: the benefits for users increase with the number of adopters. We show that complementarity gives rise to multiple equilibrium paths, multiple steady states, and to suboptimal allocations. The model generates slow adoption, as individuals optimally wait for others to adopt before doing so. We add gradual learning about the new technology which contributes to the slow adoption. We apply the theory to the adoption of SINPE Mobile, an electronic means of payment developed by the Central Bank of Costa Rica. We use transaction-level data on the use of SINPE and several administrative data sets informative about the network structure. We exploit plausible exogenous variation to document the presence of strategic complementarities. In our calibrated model the optimal subsidy moves the economy to 100% adoption.

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