

Discussion

Hold-up on a Monopoly-owned Network

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Question

What prevents a network from introducing a new technology?

- Answer: It might be network externalities
- But: We know that and we know the solution → coordination
- This paper:
 - Ownership structure might be more important
 - Why? Even with coordination, “hold-up” problem in a monopoly might prevent technology adoption

Model

- players send *and* receive payments either on or off a network
- have no control on how they receive payments (externality)
- technology offers individual cost savings for network payments
- each player has to invest γ ; but cost savings depend on how many other players invest and send payments over the network (network externality)

Goal:

Analyze whether adoption occurs through coordination with

- (i) Break-even on network costs
- (ii) profit maximization on the network (“hold-up”)

Three questions:

1. Why does coordination work?
2. Why concentrate on adoption?
3. Why is there a hold-up problem?

Why does coordination work?

- Without coordinator: investment returns depend on *both* receiving and sending payments
- Coordinator: Price mechanism
 - cost of receiving: identical with and without the technology
 - cost of sending: strictly lower with technology
 - *independent* of other players' actions
- “Two-sided market helps you”
- price mechanism is able to separate investment decision from the externality and, hence, change “beliefs”

Why concentrate on adoption?

- high investment is not always optimal
- conditions to implement a high level of investment
- *not only* prevent too little *but also* too high investment

How can we prevent too much investment?

Raising costs of receiving payments through the network might not discourage investment in the technology...

Why is there a hold-up problem?

- monopolist can extract all profits
- no dead-weight loss and utility is transferable
- hence: monopolist's objective corresponds to the social optimum
- friction: cannot commit up-front to pricing schedule of payments for network
- real friction: coordinator and monopolist are different entities, i.e. the monopolist cannot invest

But: Look at Deutsche Telekom and DSL technology

give DSL modem for free; then charge a high price for it anyway

Now:

- Charge $p^r = R$ and give technology for free
- Total profit is basically $R - \gamma$ which coincides with the social optimum if γ is sufficiently low

Why does this work?

- monopolist can exploit participants for receiving payments
- “Two-sided markets haunts you”

Conclusion

- “Hold-up problems” and innovation are fashionable - I like that
- Special situation for payment systems: networks; CB involvement (coordination/social planner); industry arrangements (mutually owned); highly tiered systems (monopoly owned)
- Interesting question; but, if there is one, what really causes the “hold-up problem”?