

Discussion: THE ECONOMICS OF PLATFORMS IN A WALRASIAN FRAMEWORK

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Jain and Townsend examine a model of general equilibrium competition in platforms. They compute the Walrasian equilibrium, the Social Planner's choice, and the monopoly outcome.

Intermediaries sell "slots" on all feasible finite platforms, so network effects are internalized. Platforms experience diminishing returns to scale. All platforms of equal size provide a homogenous experience.

Agents prefer to be matched with agents of a different type; agents of the same type create "congestion" -- agents have a disutility for more same-type agents; with a fixed proportion of types of agents, larger platforms are preferred.

Adoption, but not usage, effects are modeled.

The first and second welfare theorems are established for the environment.

Comparative static features of the model are reviewed.

“All models are wrong, some are useful.” George Box

“The point of this exercise is to show that by suitable and indeed not unnatural reinterpretation of the commodity space, externalities can be regarded as ordinary commodities, and all the formal theory of competitive equilibrium is valid, including its optimality.

It is not the mere fact that one man’s consumption enters into another man’s utility that causes the failure of the market to achieve efficiency. There are two relevant factors which cannot be discovered by inspection of the utility structures of the individual. One, much explored in the literature, is the appropriability of the commodities which represent the external repercussions; the other, less stressed, is the fact that markets for externalities usually involve small numbers of buyers and sellers.

The first point, Musgrave’s “exclusion principle,” (1959, p. 86) is so well known as to need little elaboration. Pricing demands the possibility of excluding nonbuyers from the use of the product, and this exclusion may be technically impossible or may require the use of considerable resources. Pollution is the key example; the supply of clean air or water to each individual would have to be treated as a separate commodity, and it would have to be possible in principle to supply to one and not the other (though the final equilibrium would involve equal supply to all). But this is technically impossible.

The second point comes out clearly in our case. Each commodity (i,j,k) has precisely one buyer and one seller. Even if a competitive equilibrium could be defined, there would be no force driving the system to it; we are in the realm of imperfectly competitive equilibrium.”

“The Organization of Economic Activity: Issues Pertinent to the Choice of Market versus Non-market Allocation,”
Kenneth J. Arrow, Joint Economic Committee of Congress, 1969

Presuming that the market structure allows all network effects to be incorporated in prices makes the question of whether “interchange fees” should be regulated moot.

Is perfect competition a reasonable first approximation for platforms?

After some size, diminishing returns to scale.

Hard to justify in all cases, e.g., Facebook and Google. The phenomenon of machine learning more quickly with more data is a fundamental economy of scale displayed by many platforms.

Compatibility

“...many providers of network...goods have the option of making their goods...incompatible with components produced by other firms...it is not always in the best interests of a firm to allow full compatibility...” Economides (2008) Antitrust Issues in Network Industries, *The Reform of EC Competition Law*.

“Providers of platforms often prefer incompatibility on the grounds that it locks in current customers and locks out competitors.” Rysman (2009) The Economics of Two-Sided Markets. *JEP*

Usage economies

McAndrews and Wang (2012, under revision, FRB Richmond) model the network effects of a platform as arising from (heterogenous) fixed and marginal usage costs of agents.

Ex-Ante and Ex-Post utilities and pricing

“Retailers often complain that they are “forced” to accept card transactions that increase their net costs. To understand this “must-take card” argument, one must distinguish between ex post and ex ante considerations. Once the customer has decided to buy from the retailer, it is in the latter’s interest to “steer” the former to pay by cash or check instead of by card whenever $p_s > b_s$. But from an ex ante point of view, the retailer must also take into account the increase in store attractiveness brought about by the option of paying by card. Because a retailer ex ante can always turn down cards, the “must-take card” argument refers to the ex post perspective.”
Rochet and Tirole (2007)

The question here is that usage considered, are the contracts feasible? Seem to require futures markets in usage. But the generalized lack of futures markets and the uncertainties surrounding the conditions in which a transaction may or may not be desirable, issues Arrow (1969) discussed, seem to make usage externalities particularly difficult to internalize through “club” membership alone. Further, what is the external effect being modeled? Is there “price coherence”? Not clear.

Path dependence

Because of incompatibilities and network effects, past decisions on technical specifications can have a strong influence on current decisions.

Multihoming

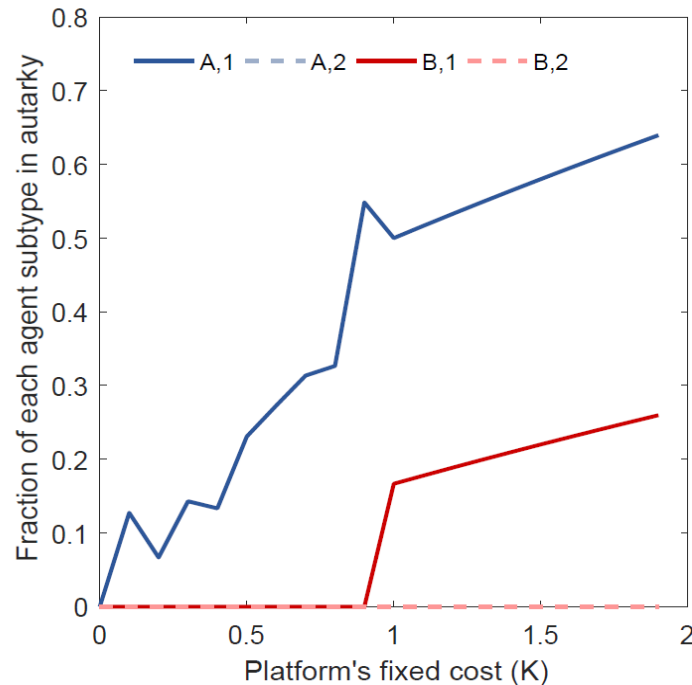
For technical reasons, multihoming is not easy to interpret in the model.

Comparative Statics and monopoly:

Interesting and useful comparisons.

The monopoly is inefficient by restricting output.

FIGURE 7. How does participation by subtype change as the fixed cost of building a platform rises?



“Less wealthy” consumers and “smaller” retailers increasingly adopt, as costs of deploying a platform fall.

Market in “slots” in multi-sided platforms an interesting modeling device. Delivers comparative static results that are useful.

Not so useful for examining pricing in platforms. Questionable realism on the structure and existence of the market, usage is not well-captured, and not clear how side payments (interchange fees) would be interpreted.

As Rysman (2009) suggested, “openness” or compatibility is an important aspect of platforms that is understudied.

A contribution to the literature, but I question the benefit relative to the Ramsey pricing/Social planner in environments that don’t assume complete markets.