

“Imperfect Platform Competition” by White and Weyl

discussion by In-Uck Park

January 2011

Summary in a nutshell

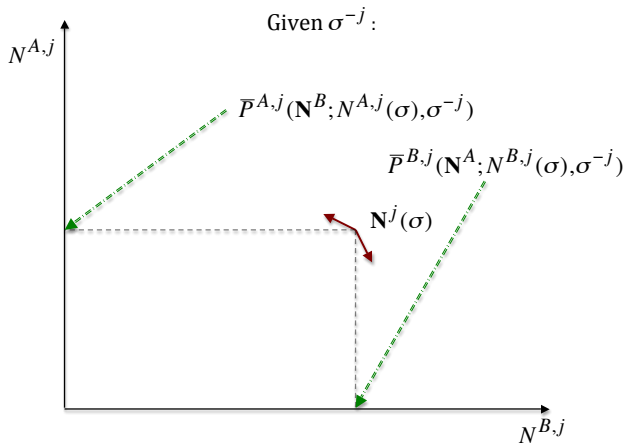
Firm j in one-sided market

- ▶ $(p_1, \dots, p_m) \rightarrow (y_1, \dots, y_m)$.
- ▶ Given \mathbf{p}_{-j} , there is 1-1 relationship between p_j and y_j .
- ▶ Thus, marginal analysis is possible and is useful.

Firm/platform j in two-sided market

- ▶ $\{(p^{A,j}, p^{B,j})\}_{j=1}^m \rightarrow$ multiple CNE (consumer coordination).
- ▶ Given σ^{-j} , 1-1 relationship breaks down between σ^j and j 's market share, nullifying marginal analysis.
- ▶ **Insulating equilibrium (IE)** restores the 1-1 relationship, resurrecting marginal analysis. **FANTASTIC!**

Graphically...



- ▶ Firm j 's **Insulating Tariff** for its share $N^{S,j}$ given σ^{-j} is a unique price $\bar{P}^{S,j}(\mathbf{N}^{S'}; N^{S,j})$ that guarantees $N^{S,j}$ for each $\mathbf{N}^{S'}$.
- ▶ **Insulating Tariff (IT)** ensures given σ^{-j} : j 's market share $(N^{A,j}, N^{B,j}) \rightarrow$ unique j 's pricing $\rightarrow j$'s profit.

Discussion/Clarification

- ▶ A SPE is **an IE** if each platform's strategy is IT for its equilibrium share (given other platform's strategy).
- ▶ Hence, in an IE, given σ , the ensuing CNE is unique.

Comment 1

- ▶ IE must be immune to any unilateral deviation pricing strategy, including those that are not IT.
- ▶ However, marginal analysis relies on the observation that no **IT deviation** is beneficial.
- ▶ Since the pricing is unique on equilibrium-path (Theorem 1), how critical is it for marginal analysis that the (off-equilibrium) equilibrium pricing is IT?
- ▶ Might it be possible to extend the marginal analysis to a larger class of SPE?

Discussion/Clarification

Comment 2

- ▶ IE refines SPE
- ▶ Is $\{\text{IE "outcomes"}\}$ a strict subset of $\{\text{SPE outcomes}\}$?
- ▶ Is $\{\text{IE outcomes}\} \neq \emptyset$ if $\{\text{SPE outcomes}\} \neq \emptyset$?
- ▶ Depending on the answer, comment 1 might have more use.

Comment 3

- ▶ One assumption: **tie-breaking rule** based on an exogenously given **bundle labelling convention**.
- ▶ Can we/you do without this? (given the dim of consumer type space is no lower than the number of possible bundles one can join)
- ▶ If not, is the exogenous bundle labelling innocuous?
- ▶ E.g., is $\{\text{SPE "payoffs"}\}$ invariant to bundle labelling?