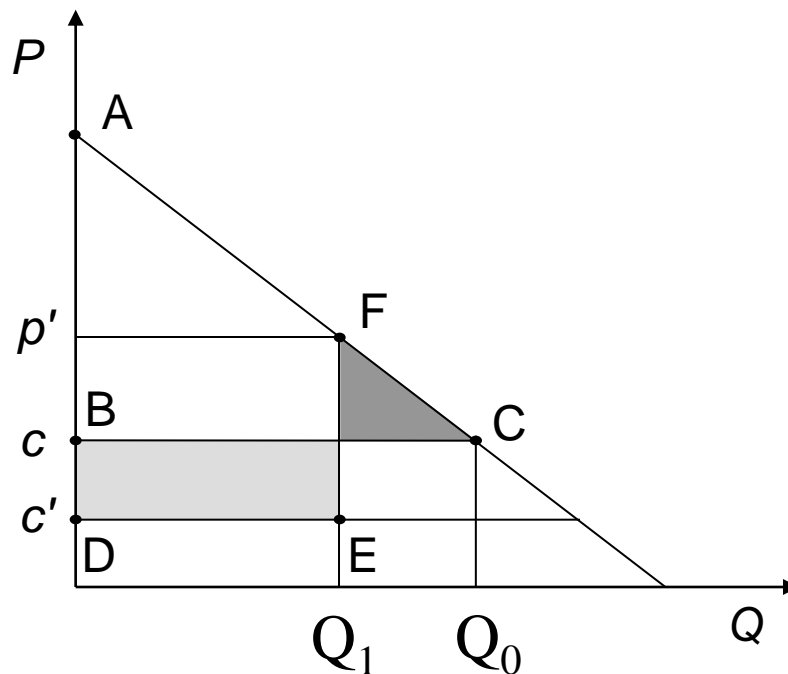


# *Horizontal Merger Policy: New Approaches and Open Issues*

Michael Whinston

- Merger policy is a central pillar of antitrust policy.
- Going back to Williamson (*AER* 1968), the traditional approach to the review of horizontal mergers emphasizes a ***tradeoff between market power and efficiencies***

- *Williamson diagram:*



- *Fancier version: Farrell-Shapiro (AER 1990).*

- Aside perhaps from collusion, the area of horizontal mergers is the area of antitrust that commentators would regard as the most well understood.
- Still, on closer examination, there remain many aspects of the horizontal merger problem that we do not understand well.

*As a result, the literature has in recent years seen contributions on a number of questions:*

1. Prediction of merger effects
2. Measurement of effects of actual mergers
3. Merger effects in producer markets
4. Dynamics
5. Optimal policy

# 1. Prediction of merger effects

- First question: Reduced form “treatment effect” prediction versus structural model? (Angrist-Pisike vs. Nevo-Whinston, *JEP* 2010)
- Simulation methods (Nevo *EMA* 2001)
- More recently: ***Upward Pricing Pressure*** (Farrell-Shapiro *BEJ* 2010)

- Pre-merger:  $(p_i - c_i) \frac{\partial x_i}{\partial p_i} + x_i = 0$
- Post-merger:  $(p_i - c_i^M) \frac{\partial x_i}{\partial p_i} + x_i + \underbrace{(p_j - c_j^M) \frac{\partial x_j}{\partial p_i}}_{\text{internalized externality}} = 0$

Note: post-merger costs

- Pre-merger:  $(p_i - c_i) \frac{\partial x_i}{\partial p_i} + x_i = 0$
- Post-merger:  $(p_i - c_i^M) \frac{\partial x_i}{\partial p_i} + x_i + \underbrace{(p_j - c_j^M) \frac{\partial x_j}{\partial p_i}}_{\text{internalized externality}} = 0$

Rewriting:

$$p_i \left(1 + \frac{1}{\varepsilon_i}\right) = c_i^M + \underbrace{(p_j - c_j^M) \left[ \frac{\partial x_j / \partial p_i}{\partial x_i / \partial p_i} \right]}_{D_{ij}}$$

Might hope to get measure of this from documents, etc.



$$p_i \left(1 + \frac{1}{\varepsilon_i}\right) = c_i^M + (p_j - c_j^M) \underbrace{\left[ \frac{\partial x_j / \partial p_i}{\partial x_i / \partial p_i} \right]}_{D_{ij}}$$

- From this, we can derive:
  - The post merger efficiency gains that prevent any price increase  
*(solve for  $c_i^M$  and  $c_j^M$ )*

$$p_i \left(1 + \frac{1}{\varepsilon_i}\right) = c_i^M + (p_j - c_j) \underbrace{\left[ \frac{\partial x_j / \partial p_i}{\partial x_i / \partial p_i} \right]}_{D_{ij}}$$

- From this, we can derive:
  - The post merger efficiency gains that prevent any price increase
    - Even simpler: “upward pricing pressure” (Farrell-Shapiro; Werden *JIE* 1996)
  - **Problem:** *What if UPP is positive for some goods and negative for others? ... might still get all prices rising or all falling... need to know magnitudes*

$$p_i \left(1 + \frac{1}{\varepsilon_i}\right) = c_i^M + M(p_j - c_j^M) \underbrace{\left[ \frac{\partial x_j / \partial p_i}{\partial x_i / \partial p_i} \right]}_{D_{ij}}$$

- Can also use UPP values to derive a first-order approximation of merger-induced price effects =  $dP_i/dM$ 
  - Depends on pass-through rates/curvature of demands and cost (Farrell-Shapiro; Weyl-Jaffe *AEJ Micro* 2013)
- **Questions:** How good an approximation? Easier than estimating the demand system for simulation? Consumer surplus effect? <sup>11</sup>

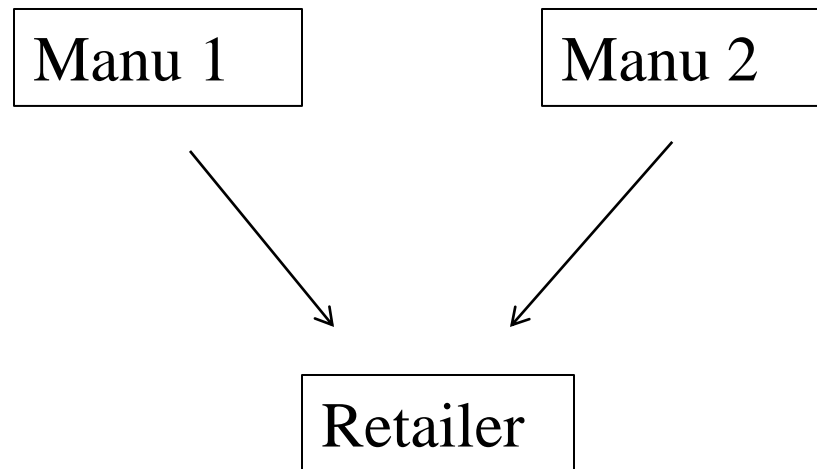
## 2. Measurement of effects of actual mergers

- Peters (*JLEO* 2006), Ashenfelter-Hoskin (*wp* 2008, 2009) look at effects on prices
- Two aims:
  - Evaluate methods for structural merger prediction
  - Develop evidence of treatment effects
- Big under-researched issue: effects on productivity

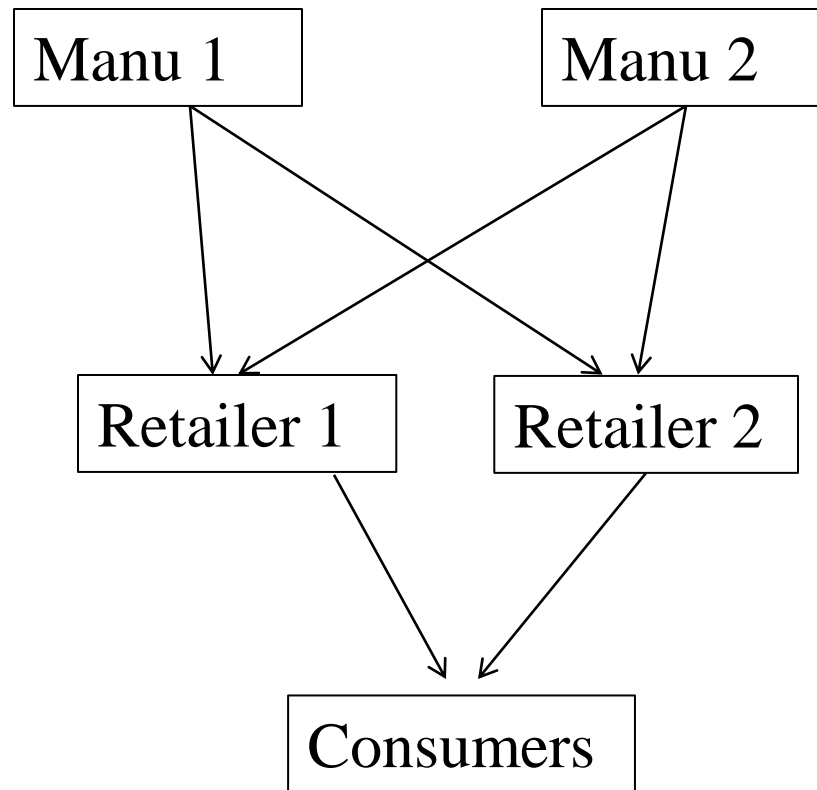
# 3. Mergers in producer markets

- In producer markets, prices often determined through bargaining, which often involves:
  - non-linear pricing
  - externalities across buyers
- **Theory:**
  - Bernheim-Whinston *QJE* 1986
  - Segal *QJE* 1999;
  - Horn-Wolinsky *RAND* 1988;
  - O'Brien-Shaffer *RAND* 2005

- Non-linear contracts can imply *no effect of a merger* on aggregate surplus:



- But this changes if there is (i) linear pricing, (ii) no bundling, or (iii) multiple buyers



# **Empirical:** Gowrisankaran et al (*wp* 2013) on hospital mergers

- builds on Crawford-Yurukoglu (*AER* 2012)
  - MSO is the “retailer”/Hospitals are “manus”
  - MSO treated as surrogate for group of employees (no modeling of MSO competition)
  - Linear prices



# 4. Dynamics

- ***Two issues:***

- (i) Competition in many industries is dynamic

- Investment, R&D, entry/exit,...

- *Theory:* Berry-Pakes (*AER* 1993),  
Cheong-Judd (2000)

- *Empirics:* Benkard et al (2010), Collard-Wexler (2009), Jerzierski (2009), Stahl (2009)

- (ii) Mergers are not one-time events

- Gowrisankaran (*RAND* 1999)

# 5. Optimal policy

Optimal policy may be more complicated than “approve mergers that increase aggregate or consumer surplus” because of:

- *asymmetric information*

- Besanko-Spulber (*JLEO* 1993)
- Lyons (*wp* 2002), Armstrong-Vickers (*EMA* 2010), Nocke-Whinston (*AER* 2013)

- *dynamics*

- Nocke-Whinston (*JPE* 2010), Nilsen-Sorgard (*EER* 1998), Motta-Vasconceles (*IJIO* 2005)

# “Internal vs. External Growth in Industries with Scale Economies: A Computational Model of Merger Policy”

with Ben Mermelstein, Volker Nocke, Mark Satterthwaite

- Looks at optimal merger policy in dynamic setting in which mergers can happen over time and investment is a critical feature of competition.

- Critical features of model:
  - Scale economies mean that firms can lower cost by investing or by merging
  - Merger policy must weigh any benefit of external vs internal growth against market power concern