Mergers with Unilateral Effects: An Economic Alternative to Market Definition

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6 November 2008 FTC Microeconomics Conference

Current Practice: Horizontal Merger Guidelines

- Define Relevant Market

 Detailed Algorithm, SSNIP Test
- Measure Market Shares, HHI, HHI
- Invoke Structural Presumption (?!)
- Competitive Effects (Merger Simulation?)
- Entry and Repositioning, Efficiencies
- Consumer Welfare Standard

Differentiated Products Mergers

- Wide Class of Mergers
 - Computer Hardware and Software
 - Branded Consumer Products, Retailing
 - Consumer Durables
 - Information Content
- Focus on Pricing Competition
 - Same as Merger Guidelines
- Paper Addresses Innovation Competition

Today: Alternative Method of Establishing Presumption

- Differentiated Product Mergers

 Unilateral Effects Theory
- Create New Option for Government

 Not Meant to Supplant Current Approach
- Presumption is Rebuttable

 No Change in "Back-End" Analysis

Market Definition/Concentration: A Mismatch for Unilateral Effects

- Well-Suited for Coordinated Effects
 Historical Roots of Hypo Mono Test
- Circuitous at Best for Unilateral Effects
 - Can Be Misleading, Uninformative
 - Can Distract from Central Question
- Introduces Various (Arbitrary) Parameters

 SSNIP, HHI Thresholds, 35% Safe Harbor

Market Definition: Problems in Practice

- Difficulty Defining the Relevant Market – Oracle/PeopleSoft
- Abuse of Critical Loss Methodology
 - Sungard/ComDisco
 - Whole Foods/Wild Oats
- Decline of Structural Presumption
 - Lower Payoff to Market Definition Exercise

Goal: Simple Test Diagnostic

- Market Concentration, HHI, Comports
 with Simple Cournot Model
 - Marginal Revenue Lower if Share Large
 - Output Choices for Homogeneous Product
 But Underlying Idea is Robust
- Our UPP Test Derived from Simple Bertrand Model
 - Pricing Choices for Differentiated Products
 - Underlying Idea is Very Robust

Basic Merger Tradeoff

- Merging Firms Stop Competing with Each Other
 - Generically Encourages Higher Prices
- Joint Management of Combined Assets
 Synergies Lower Costs Lower Prices
- Which Force is Stronger?
 - Focus on Direction of Price Change, Not Magnitude

Cannibalization

• Merging Firms A, B w/ Profits A

Cannibalization

Simple Underlying Model

- Firm A, Product 1; Firm B, Product 2
- Pre-Merger Prices: P₁, P₂
- Pre-Merger Marginal Costs: C₁, C₂
- D_{12} = Diversion Ratio to Product 1 from 2
 - Price of Product 1 Falls Slightly
 - Quantity of Product 1 Rises By X_1
 - Quantity of Product 2 Falls By X₂
 - $-D_{12} = X_2/X_1$, Close Cousin of Cross-Elas

Merger Efficiencies

- Reduction in Marginal Cost of Product 1
 Measure as Fraction of C₁, EC₁
- All Mergers Get Automatic Credit
 - Automatic Credit Rate E is Policy Parameter
 - Based on General Merger Synergy Evidence
- Efficiencies Considered at Front End

 Relegated to Back End in Merger Guidelines

Will Merger Create

Simple Diagnostic Test for UPP

$D_{12}(\overline{P}_2 - \overline{C}_2) > E\overline{C}_1$

• Measure Variables at Pre-Merger Levels

Test for UPP in Symmetric Case

$$D > E(\frac{1 - \overline{M}}{\overline{M}})$$

- M = (P-C)/P, Gross Margin
- Example: M = 1/3, E = 10%, Get D > 20%

Is the Price Increase "Significant"?

 Test Does Not Attempt to Quantify Price Increase for Product 1

– Key Source of Simplification

- Harm to Competition is Significant Enough to Outweigh Presumed Efficiencies
 - Efficiencies Integrated into Simple Test
- Strict Consumer Welfare Standard
 - Embraced by Agencies and Courts

Why Not Estimate Price Increases?

- Inherently Much More Complex
- Requires Information on Rate at Which Costs are Passed Through to Prices, R
 - Internalization Creates Opportunity Cost
 - See Proposition 2 in Paper
- R Depends Upon Oligopoly Behavior
- R Depends Upon Curvature of Demand

Pass-Through Rate

 Pass-Through Rate for Single Firm – Holding Fixed All Other Prices

$$R = \frac{\mathcal{E}}{\mathcal{E} - 1 + (p/\mathcal{E})(d\mathcal{E}/dp)}$$

– Bulow and Pfleiderer (1983), JPE

Can Be Substantial in "Competitive" Market
 – R = P/C with Constant Elasticity @ Profit Max

Pass-Through Rate

Pass-Through Rate for Single Firm

$$R = \frac{1}{2 + M[\frac{pX''(p)}{X'(p)}]}$$

- At Profit-Max Price

 Note: Market Definition Using SSNIP Test Also Depends Upon Pass-Through Rate

Test is Well-Rooted in Economics

- Based Directly on General Economic
 Principle: If Costs Rise, Price Will Rise
- Focus on Change Resulting from Merger
 No Attempt to Explain Price Levels
- Does Not Involve Arbitrary Parameters
- Does Not Involve Drawing Artificial Boundaries, Elaborate Algorithms

Data Requirements are Realistic

- Measure Prices and Marginal Costs
 - Routinely Done in Mergers
 - Need Margins for Critical Loss
 - Yes, MC Can Be Estimated Accurately
- Measure Diversion Ratio
 - Diversion Ratio is the Key Parameter
 - "As Simple as Possible, But No Simpler"
 - Look at Diversion to All of Firm B's Product

Test is Practical

- Need to Measure Only a Few Variables
 - Prices, Costs, Diversion Relate Directly to the Merging Parties
 - Much More Focused Than Hypo Mono Test
 - No Need to Measure Sales by Other Firms
- Firms Often Track Margins, Diversion
 - Can Use Marketing Documents and Studies
 - Reduces Scope for Litigation Distortion

Test is Transparent

- Logic Easily Explained to Judges

 Far Simpler Than Hypo Mono in HMG
- Captures "Loss of Competition" Logic
- One Simple Test Formula

 Comparable to HHI, HHI Thresholds
- Amenable to Sensitivity Analysis
- No Black Box
 - Compare with Merger Simulation

Test Subject to False Negatives

Higher P₂ and Lower C₂ Higher
 Opportunity Cost, D₁₂ (P₂ - C₂)

Direct Rebuttal

- Measurement of Diversion Ratios, Margins
- Mixed Test Results
 UPP for Product 1, Not for Product 2
- Complementary Products
 - Firm B Owns Complement to Product 1
 - Offsetting Incentive to Lower Price
 - Analogous Calculation of Margin on Complement and Stimulus to Complement

Could This Happen?

- Would New Diagnostic Test:
 Represent Radical Change?
 Reflect Current Agency Practice?
- One View of Current Agency Practice
 - Look at Loss of Head-to-Head Competition
 - But Need to Conform to Guidelines in Court
 - So Reverse Engineer Market Definition
 - Useful Discipline or Distracting Obstacle?
- First Step: Revise Guidelines