Antitrust Markets: Hypothetical Monopolist Test

Class 3

Merger Guidelines

- Merger guidelines provide a framework for assessing horizontal mergers considering:
  - Relevant legal precedent
  - Economic arguments
  - "The unifying theme of these Guidelines is that mergers should not be permitted to create, enhance, or entrench market power or to facilitate its exercise." p. 2, 2010 *U.S. Horizontal Merger G.*
  - Similar in Canada

Major Steps to Assess a Merger

1) Gather evidence
2) Relevant market delineation
3) Would the merger significantly increase concentration in any relevant market?
4) Assess any potential adverse competitive effects
5) Would entry be timely, likely, & sufficient to offset harm?
6) Quantify merger-specific efficiencies

Burden of Enforcers

- "By showing that a transaction will lead to an undue concentration for a particular product in a particular area, the government establishes a presumption that the transaction will substantially lessen competition." *United States v. Baker- Hughes, Inc.*, 908 F.2d 981, 982 (D.C. Cir. 1981)
- What is the justification for focusing on concentration?

4

How to calculate market shares?

Example 4: Firms A and B, sellers of two leading brands of motorcycles, propose to merge. If Brand A motorcycle prices were to rise, some buyers would substitute to Brand B, and some others would substitute to cars. However, motorcycle buyers see Brand B motorcycles as much more similar to Brand A motorcycles than are cars. Far more cars are sold than motorcycles. Evaluating shares in a market that includes cars would greatly underestimate the competitive significance of Brand B motorcycles in constraining Brand A's prices and greatly overestimate the significance of cars. (p. 8, 2010 US HMG)

5

Delineating the Relevant Market

- How to systematically decide which products and geographic area to include in the antitrust (relevant) market?
  - For example consider these possible markets:
    - Credit card network services in Canada. Market shares: Visa 60%, MasterCard 30%, Amex 10%
    - Payment services in Canada. Market shares: cash 25%, pre-paid debit 18%, debit 18%, 17% Visa, 9% MasterCard, 5% check, 5% store credit cards, 3% Amex, <1% other

"Response of MasterCard" at http://www.ct-tc.gc.ca/CasesAffaires/CasesDetails-eng.asp?CaseID=333

6

Battle Ground: Relevant Market

- Market delineation and market concentration may make or break a merger case
- Antitrust market: A group of products and a geographic area used to evaluate the legality of a horizontal merger
  - "Hypothetical monopolist approach"
  - U.S. Supreme Court: "The 'market' that one must study to determine when a producer has monopoly power…is composed of products that have reasonable interchangeability"

7

Example: Fountain Pens

- 1993 DOJ challenges Waterman (Gillette) and Parker Pen Holdings merger
  - Waterman and Parker both sold high end fountain pens: horizontal overlap
  - Two key issues in this case:
    - Market delineation
    - Entry
  - See Church and Ware pp. 734 – 738

8

Fight over Relevant Market

- DOJ (Dr. George Rozanski): "premium fountain pens" priced from $50 to $400
  - Cross-elasticities from survey asking buyers of each pen what second choice would be
- Defense (Dr. Carl Shapiro): "highline pens" that also includes other pen types such as ballpoint priced over $10
  - Argued this is a conservative approach as other gift items really should also be included

9

And the Winner Is?

- Judge Lamberth: "all premium writing instruments" (including pencils) priced between $50 to $400
  - Ruled that "the product market proposed by the plaintiff is far too narrow"
- Judge allowed merger based on finding a broad, relatively unconcentrated market and possible entry in the long-term

10

Defining the Product Market

- Hypothetical Monopolist Test: "Requires that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future seller of those products ('hypothetical monopolist') likely would impose at least a small but significant non-transitory increase in price ('SSNIP') on at least one product in the market, including at least one product sold by one of the merging firms." p. 9, 2010 *U.S. Horizontal Merger Guidelines*

11

Example 5: Products A and B are being tested as a candidate market. Each sells for $100, has an incremental cost of $60, and sells 1200 units. For every dollar increase in the price of Product A, for any given price of Product B, Product A loses twenty units of sales to products outside the candidate market and ten units of sales to Product B, and likewise for Product B. Under these conditions, economic analysis shows that a hypothetical profit-maximizing monopolist controlling Products A and B would raise both of their prices by ten percent, to $110. Therefore, Products A and B satisfy the hypothetical monopolist test using a five percent SSNIP, and indeed for any SSNIP size up to ten percent. This is true even though two-thirds of the sales lost by one product when it raises its price are diverted to products outside the relevant market. (p. 9, 2010 US HMG)

12

Set up the Economic Analysis

Example 5: Products A and B are being tested as a candidate market. Each sells for \$100, has an incremental cost of \$60, and sells 1200 units. For every dollar increase in the price of Product A, for any given price of Product B, Product A loses twenty units of sales to products outside the candidate market and ten units of sales to Product B, and likewise for Product B.

$q_A = a_A - 30p_A + \cdots$ $\qquad 1200 = a_A - 30 * 100 + 10 * 100$

$q_B = a_B + 10p_A + \cdots$ $\qquad a_A = 3200$

$q_A = a_A - 30p_A + 10p_B$ $\qquad q_A = 3200 - 30p_A + 10p_B$

$q_B = a_B + 10p_A - 30p_B$ $\qquad q_B = 3200 + 10p_A - 30p_B$

13

Set up the Economic Analysis

Example 5: Products A and B are being tested as a candidate market. Each sells for \$100, has an incremental cost of \$60, and sells 1200 units. For every dollar increase in the price of Product A, for any given price of Product B, Product A loses twenty units of sales to products outside the candidate market and ten units of sales to Product B, and likewise for Product B.

Can verify (in Workshop 2) that *Example 5* uses a differentiated goods linear Bertrand model (Class 2), with demand system:

$q_A = 3200 - 30p_A + 10p_B$

$q_B = 3200 + 10p_A - 30p_B$

and cost functions:

$C_A(q_A) = F_A + 60q_A$

$C_B(q_B) = F_B + 60q_B$

14

Hypothetical Monopolist's Problem

$$\pi_M = TR - TC$$

$$\pi_M = p_A q_A + p_B q_B - (F_A + 60q_A + F_B + 60q_B)$$

$$\pi_M = (p_A - 60)q_A + (p_B - 60)q_B - F_A - F_B$$

$$\pi_M = (p_A - 60)(3200 - 30p_A + 10p_B) + (p_B - 60)(3200 + 10p_A - 30p_B) - F_A - F_B$$

$$\frac{\partial \pi_M}{\partial p_A} = 3200 - 30p_A + 10p_B - 30(p_A - 60) + 10(p_B - 60) \overset{set}{=} 0$$

$$\frac{\partial \pi_M}{\partial p_B} = 10(p_A - 60) + 3200 + 10p_A - 30p_B - 30(p_B - 60) \overset{set}{=} 0$$

15

Hypothetical Monopolist's Solution

$$\frac{\partial \pi_M}{\partial p_A} = 3200 - 30p_A + 10p_B - 30(p_A - 60) + 10(p_B - 60) \overset{set}{=} 0$$

$$4400 - 60p_A + 20p_B = 0$$

$$\frac{\partial \pi_M}{\partial p_B} = 10(p_A - 60) + 3200 + 10p_A - 30p_B - 30(p_B - 60) \overset{set}{=} 0$$

$$4400 + 20p_A - 60p_B = 0$$

Solving two equations with two unknowns: $p_A = 110,\ p_B = 110$.

> *Example 5:* … Under these conditions, economic analysis shows that a hypothetical profit-maximizing monopolist controlling Products A and B would raise both of their prices by ten percent, to $110.

16

Interpret the Results

> *Example 5:* … Therefore, Products A and B satisfy the hypothetical monopolist test using a five percent SSNIP, and indeed for any SSNIP size up to ten percent. This is true even though two-thirds of the sales lost by one product when it raises its price are diverted to products outside the relevant market.

17

How to find relevant market without demand parameter estimates?

- Documents
  - Parties' intent, strategy, competitors
- Data
  - collected in ordinary course of business
- Buyer interviews
  - assess substitutes
- Industry analysts

- Buyers info limitations
  - What if a buyer says of candidate market:
  - "If prices rose 1% we'd definitely switch"?
  - "Even if prices rose 15% we'd not switch"?

18

Hypothetical Monopolist Approach

- Ensures market consists of products/services that are good substitutes
  - Focuses on demand
    - NOT entry, price responses, or efficiencies
  - Given a candidate market, to what extent would buyers switch to products outside it if the hypothetical monopolist increased prices? And, what were the profit margins on the lost sales?
    - If monopolist would not choose to increase prices by a SSNIP, then market is too narrow

19

"likely *would* impose at least a SSNIP"

A hypothetical monopolist would earn higher profits raising prices 5% above current prices for a candidate market. Does this mean that it is an antitrust market?

(A) Yes
(B) No, because 5% is not a reasonable SSNIP
(C) No, because you should not use current prices
(D) No, because 5% may be more than the profit maximizing price increase
(E) No, because the price increase must be strictly greater than 5% to have an antitrust market

20

Antitrust Market

- <u>Smallest</u> group of products and geographic area to satisfy hypothetical monopolist test

Example 7: In Example 4, including cars in the market will lead to misleadingly small market shares for motorcycle producers. Unless motorcycles fail the hypothetical monopolist test, the Agencies would not include cars in the market in analyzing this motorcycle merger. (p. 10, 2010 US HMG)

21

Hypothetical Monopolist Test

1) Start with ONE of the products with horizontal overlap: the candidate market
2) Add the next best substitute
3) Calculate the profit-maximizing price(s) for a hypothetical monopolist over these products, and compare to current prices
4) Repeat steps 2) – 3) until at least one price is 5% higher (or other SSNIP)

22

Nestle–Dreyer's (FTC 2003)

Nestle Holdings, Inc., proposed to merge with Dreyer's Grand Ice Cream, Inc. The firms were rivals in the sale of superpremium ice cream. Ice cream is differentiated on the basis of the quality of ingredients. Compared to premium and nonpremium ice cream, superpremium ice cream contains more butterfat, less air, and more costly ingredients. Superpremium ice cream sells at a substantially higher price than premium ice cream. Using scanner data, Commission staff estimated demand elasticities for the superpremium, premium, and economy ice cream segments. Staff's analysis showed that a hypothetical monopolist of superpremium ice cream would increase prices significantly. This, together with other documentary and testimonial evidence, indicated that the relevant market in which to analyze the transaction was superpremium ice cream." p. 6 of 2006 Commentary on HMG

23

Fact: New firms may enter the industry. This fact ___.

(A) is not informative about the size of the market
(B) would suggest a broad market and small market shares
(C) would suggest a narrow market and large market shares

Fact: Buyers have many good substitutes for both of the products of concern. This fact ___.

(A) is not informative about the size of the market
(B) would suggest a broad market and small market shares
(C) would suggest a narrow market and large market shares

Fact: Many buyers would choose to buy nothing in response to a large price increase. This fact ___.

(A) is not informative about the size of the market
(B) would suggest a broad market and small market shares
(C) would suggest a narrow market and large market shares

24

Two Dimensional Markets

- Relevant antitrust market must include:
  - A set of products
  - A geographic area
  - Ex: A 1999 DOJ complaint to block a merger:
    - Defines market as "aggregate used for asphalt concrete and ready mix concrete in Southwest FL"
    - http://www.justice.gov/atr/cases/f2400/2492.htm
    - Florida Rock and Harpers Bros. are two of only three significant producers

25

Delineating the Geographic Market

- Hypothetical Monopolist Test: "requires that a hypothetical profit-maximizing firm that was the only present or future producer of the relevant product(s) located in the region would impose at least a SSNIP from at least one location, including at least one location of one of the merging firms."
  - Defined by producers' locations, not buyers' locations unless buyers in some locations would be targeted for a price increase

26

Loblaws–Shoppers Drug (CB 2014)

March 21, 2014 "The Competition Bureau announced today that, following an extensive review of Loblaw Companies Limited's ("Loblaw") proposed acquisition of Shoppers Drug Mart Corporation ("Shoppers", and collectively, the "Parties"), it has reached a Consent Agreement with Loblaw that preserves competition in the retail sale of pharmacy products and drugstore-type merchandise in Canada by requiring divestitures in 27 local markets."
http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03703.html

Is the relevant geographic market Canada?

How many relevant markets?

27

Steps to Assess a Merger

1) Evidence gathering ✓
2) Market delineation ✓
3) Significantly increase concentration?
4) Potential adverse competitive effects: theories of harm
5) Entry
6) Efficiencies

28

Looking Ahead

- Workshop 2, Tuesday, 11:10 – 1:00, this room
  - Bring a laptop with Excel
  - Download the Bertrand merger simulation spreadsheets from our course site ahead of time
  - Interactive parts and there are also slides posted

29