Analyzing Telecom Mergers

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Outline

- Introduction
- Horizontal Mergers
- Benefits/Efficiencies
- Remedies
- Appendix
  - Vertical Mergers

Introduction

- Review of Telecommunications Mergers
  - In general, U.S. telecommunications carriers and firms holding spectrum licenses that seek to merge must receive prior approval from the FCC.
  - In addition, for mergers exceeding specified size thresholds, parties must file a pre-merger notification with the Antitrust Division of the DOJ and the Federal Trade Commission.
  - Note: In the United States there is disagreement as to whether dual review makes sense.

Introduction

- FCC's Public Interest Analysis for Mergers
  - Assess competitive effects
  - Assess impact on other Commission goals and policies – e.g., diversity of voices, deployment of advanced services
  - Consider potential benefits of the merger
  - Balance potential harms against potential public interest benefits

Introduction

- FCC's Public Interest Analysis for Mergers
  - The burden of proof is on Applicants to demonstrate that proposed merger is in the public interest
  - In contrast, when the DOJ seeks to challenge a merger, it must sue in court, and it bears the burden of proof.

Horizontal Mergers

- *Horizontal Merger*: The merger of two firms that sell products in the same relevant product and geographic markets, whose products are viewed as reasonable substitutes by buyers.
- Horizontal mergers may raise concerns because they eliminate a competitor and increase concentration in the relevant markets.

Horizontal Mergers

1. Market Definition (SSNIP)
2. Identify Participating Firms
3. Calculate Market Shares and Concentration
4. Examine Ease of Entry
5. If Necessary, Evaluate Competitive Effects (Unilateral and Coordinated)
6. Examine Other Public Interest Harms
7. Evaluate Efficiency Benefits

Horizontal Mergers

1. **Market Definition**: *See* previous set of slides on market definition
   - Note 1: When in doubt, err on the side of the narrower market definition, since this will tend to exaggerate likely effects on competition.
   - Note 2: Many economists are now favoring "*First Principles Approach,*" where one first examines competitive effects as the framework of analysis, without first defining the relevant markets or performing a structural analysis.
     - This is reflected in the *Revised Horizontal Merger Guidelines (2010),* which acknowledge that, in some cases, it may not be necessary to define relevant markets.

Horizontal Mergers

2. **Identify Participating Firms**

- Identify firms that currently compete in the relevant markets
- Identify other firms, not currently competing, that are either: (1) already committed to entering, or (2) likely to enter quickly, without having to incur significant sunk costs, in response to SSNIP ("rapid entrants").
  - With respect to (2) particularly consider firms that have assets that could quickly be shifted or extended to produce relevant products in relevant geographic market. E.g., suppose that production runs at a factory could be quickly shifted from one product to another at low cost.

Horizontal Mergers

3. **Calculate market shares** of participating firms– e.g., revenues, number of customers, or capacity.
   - Calculate Herfindahl-Hirschman Index (HHI), which is the sum of the squares of the individual market shares of all the participants.
     - Ex.1: Mkt. with 10 equal size firms has an HHI of 1000
     - Ex. 2: Mkt. with three firms with shares of 50, 25, and 25 has an HHI of 3750 (2500+625+625)
     - Ex. 3: A monopoly market has an HHI of 10,000.

Horizontal Mergers

What would be the change in HHI for the following scenario?

	Market Shares				HHI
Premerger Firms	**A**	**B**	**C**	**D**	--
Shares	25%	25%	25%	25%	
Post-merger firms	A-B		C	D	--
Shares	50%		25%	25%	
Change in HHI					

Horizontal Mergers

3. **Calculate market shares (cont.)**
   - Competitive effect depends on both post-merger HHI and change in HHI resulting from the merger
   - Appropriate thresholds vary with industry.
     - The *Revised Guidelines* state that:
       - In *Moderately Concentrated* markets (1500<HHI<2500), an increase in the HHI of >100 could "potentially raise significant competitive concerns and often warrant scrutiny;" and
       - In *Highly Concentrated markets* (HHI>2500), an increase in HHI of between 100 and 200 could "potentially raise significant competitive concerns and often warrant scrutiny," and an increase of >200 will be presumed to be likely to increase market power.

   Number of "significant competitors" post-merger also is frequently relevant.

Horizontal Mergers

3. **Calculate market shares** (cont.)

   Ex. 1: *EchoStar-DirecTV*

   - FCC staff calculated market shares for a sample of 4,984 relevant geographic markets (based on market shares of two DBS providers and incumbent cable co.).
   - Found that the mean post-merger HHI for all markets was 6043 and the mean increase in HHI was 1163.
   - Further calculated mean concentration measures for markets with high-capacity cable systems and low-capacity cable systems.

Horizontal Mergers

3. **Calculate market shares** (cont.)

   Ex. 2:AT&T/T-Mobile

   - An FCC staff Report calculated market shares for two sets of relevant geographic markets
   - It then applied a screen to identify markets where:
     - The post-merger HHI > 2800 and the Δ >100; or
     - The Δ > 250; or
     - The combined spectrum of the merged entity > 1/3 of spectrum that is being used or can be used for mobile wireless

Horizontal Mergers

3. **Calculate market shares** (cont.)

Ex. 2: AT&T/T-Mobile Merger

- Found that in 95 of the top 100 CMAs, the post-merger HHI would be > 2800 and the delta would be > 100, and in 93 of the top 100 CMAs, the delta would be > 250.
- Further, the Commission found that the spectrum screen would be exceeded in 274 CMAs covering 71 of the top 100 markets.
- Viewed, nationally, there would be a reduction in the number of national carriers from 3 to 2.
- The Staff then performed a more in-depth analysis of potential unilateral and coordinated effects.

Horizontal Mergers

4. **Ease of Entry**: If, in response to SSNIP, entry would be *timely, likely,* and *sufficient in magnitude*, then anticompetitive effects are unlikely.
   - *Timeliness:* Entry must be sufficiently timely to counteract anticompetitive effects (the 2 year time line under the 1992 *Guidelines* was eliminated under the *Revised Guidelines*)
   - *Likelihood:* Entry must be profitable at *premerger* prices. Relevance of *minimum viable scale.*
     - If entry is only possible with large scale and sunk costs, then it may be deterred by fear of post-merger price war.

Horizontal Mergers

4. **Ease of Entry**:
   - *Sufficiency:* Entry must be sufficient to counteract likely price increase. Ex. 1: Will entry occur in areas of competitive concern? Ex. 2: Will incumbent control over essential assets prevent adequate entry?
   - The existence of significant ***sunk*** entry costs will make entry less likely and less timely.

Horizontal Mergers

4. **Ease of Entry**:
   - In *Echostar-DirecTV*, FCC found that entry was difficult and unlikely, both because of the sunk costs associated with building another cable network or acquiring spectrum and launching additional DBS satellites.
   - In *AT&T/T-Mobile,* the FCC found that entry of new carriers was unlikely because of limited spectrum and high sunk costs.
   - But, in the *AT&T Reclassification Order,* the Commission found entry into the U.S. domestic long-distance market to be easy due to excess capacity on wide availability of wholesale capacity.
   - In most telecom markets, facilities-based entry is likely to be difficult and slow due to significant sunk costs and time required to construct facilities.

Horizontal Mergers

5. **Competitive Effects –**
   - If initial structural analysis suggests possible anticompetitive effects, then need to examine more closely possible effects of the merger on competitive behavior.
   - Two general types of behavioral effects:
     1. Unilateral effects
     2. Coordinated effects

Horizontal Mergers

1. Unilateral Effects Analysis

- Unilateral effects arise when the merging firm finds it profitable to alter its behavior following the merger – e.g., by raising price or reducing output.
- Unilateral effects are particularly likely when the merging firms are:
  1. in *differentiated products* markets; and
  2. the merging firms' products are close substitutes for each other
- The likely price increase will be greater, the more buyers of one product consider the merging partner's product to be their next choice.

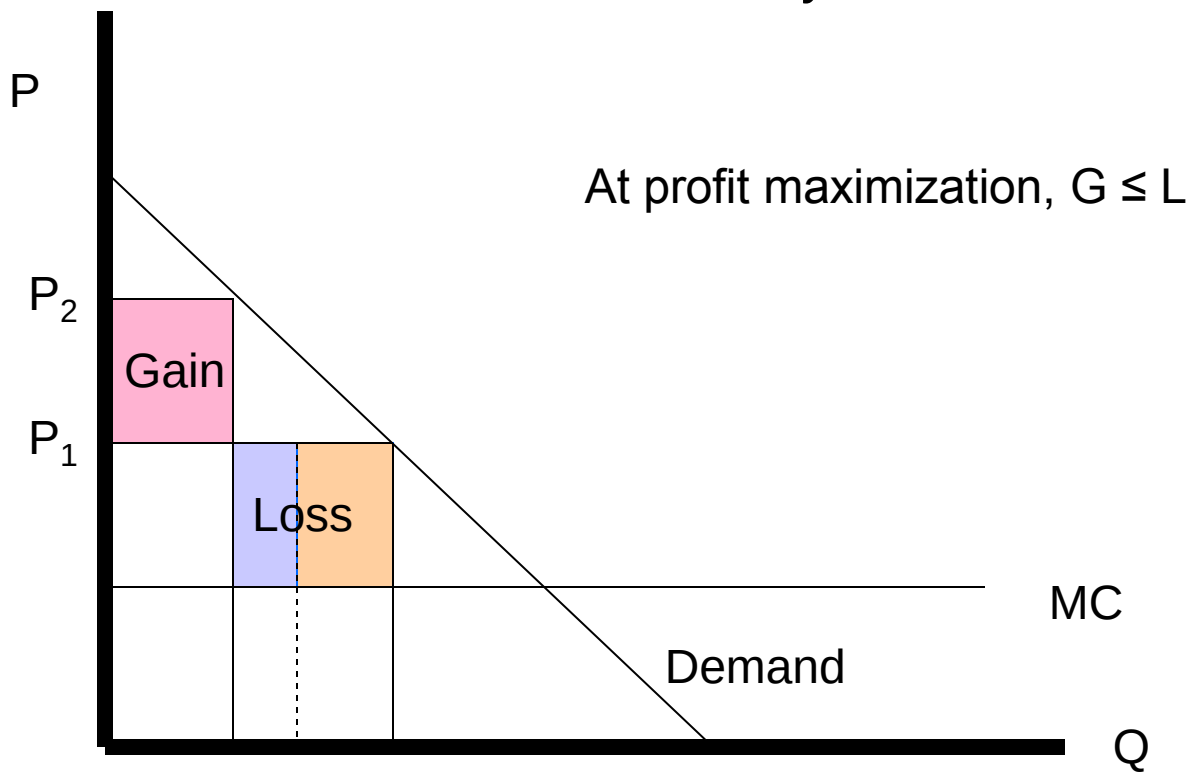
Horizontal Mergers

1. Unilateral Effects Analysis

- Diversion Analysis
  - When considering a price increase a firm must balance the <u>margin</u> effect (it will earn more on every sale) against the <u>sales</u> effect (it will lose some units of sales).
  - Merger can "internalize" lost sales from a price increase, thus increasing incentive to raise price
  - *Diversion Ratio*: Fraction of lost sales captured by merger partner (i.e., measures closeness of substitutes).
    - Higher Diversion ratio increases profitability of price increase

Horizontal Mergers

Diversion Analysis



Horizontal Mergers

1. Unilateral Effects Analysis

- Upward Pricing Pressure Indicies: Simple indicies that attempt to measure unilateral effects.
- $UPP_1 = D_{12} (P_2 - C_2) - E_1C_1$

- Where: D_{12} = Diversion ratio from product 1 to product 2
- $(P_2 - MC_2)$ = Price-cost margin for product 2
- E_1C_1 = Efficiencies accruing to Product 1

- Note that for anticompetitive effects both UPP must be positive for both products.
- UPP analysis has become popular among antitrust agencies.

Horizontal Mergers

1. Unilateral Effects Analysis

- Merger Simulation: A more complicated tool for measuring likely unilateral effects. All simulations need data on:
  - Demand
  - Marginal cost
  - Prices
  - Firm behavior (e.g., Cournot vs. Bertrand competition)
  - Merger efficiencies that affect marginal cost

Horizontal Mergers

- Example:
  - In EchoStar/DirecTV, the FCC found the applicants' merger simulation unpersuasive. The parties' virtually identical products suggested that consumers found the two DBS providers to be closer substitutes to each other than to cable and consequently the merged firm would likely have a greater incentive to raise price.

Horizontal Mergers

2. Coordinated effects include explicit collusion, tacit collusion, price leadership, and accommodating reactions of non-merging firms.
   - Stigler's Collusion Model (J. of Pol. Economy, v. 72 (1964))
     - The ability of firms to collude depends on:
       - Their ability to reach an agreement
       - The incentives of individual firms to cheat on the agreement
       - The ability of the other firms to detect cheating and punish it

Horizontal Mergers

2. Coordinated Effects -- Stigler's Collusion Model
   - Factors affecting the likelihood of collusion
     - Market concentration, including impact of merger, and number of firms
     - Ease of entry
     - Nature of transactions: Repeat transactions vs. big, lumpy transactions & long-term contracts
     - Information environment: Are prices published or individually negotiated? Do sellers use Most-favored-nation clauses?
     - Homogeneous vs. Differentiated products
     - Existence of "Maverick" firms
   - Note: prior efforts to collude may be evidence that collusion is likely.

Benefits

- Mergers may generate significant benefits and efficiencies, including:
  - Better utilization of existing assets
  - Combining of complementary assets that permits reduction in costs or development of new products or services
  - Increased ability to engage in R&D
- Will the efficiencies accrue to:
  - Customers (increase in consumers' surplus), or
  - Merged Entity (increase in producers' surplus)?

Benefits

- FCC's Evaluation of Benefits
  - Burden is on parties to demonstrate benefits
  - Claimed benefits must be:
    1. *Merger-specific* – i.e. claimed benefit must be likely to be accomplished by merger and unlikely to be accomplished by other means that entail fewer competitive harms.
    2. *Verifiable* – Because of information asymmetries, parties should present sufficient evidence such that regulators can verify claimed benefits.
       - Benefits should be estimated net of the costs of achieving them.
       - Speculative benefits and long-delayed benefits will be discounted or disregarded.

Benefits

- FCC's Evaluation of Benefits (cont.)
  - Claimed benefits must be:
    3. Benefits generally counted only to the extent that they mitigate any anticompetitive effects of the merger.
       - Because reductions in marginal cost are more likely to result in reductions in consumer prices, marginal cost reductions are more likely to be cognizable than reductions in fixed costs.
    4. "Sliding Scale": Where potential harms appear both substantial and likely, the claimed benefits must meet a higher degree of magnitude and likelihood. I.e., the scrutiny of benefits will increase, the greater the magnitude and likelihood of harms.

Remedies

- Where the costs of a merger exceed the benefits, regulators and competition authorities frequently consider whether there are remedies that will change the balance.
- Two types of remedies
  - Structural
  - Behavioral

Remedies

- Structural Remedies
  - Requiring the merging firms to divest business units, assets or customers.
  - Potential problems
    - Choosing assets or business units that can survive divestiture
    - Finding a buyer that will prove an effective competitor
    - Preventing the merging parties from sabotaging the divestiture

Remedies

- Behavioral Remedies
  - Imposing conditions that attempt to constrain possible anticompetitive behavior.
    - Examples: (1) Access requirements, (2) nondiscrimination provisions, (3)arbitration requirements.
  - Main problem is that such conditions generally require continuing monitoring and enforcement.

Selected References

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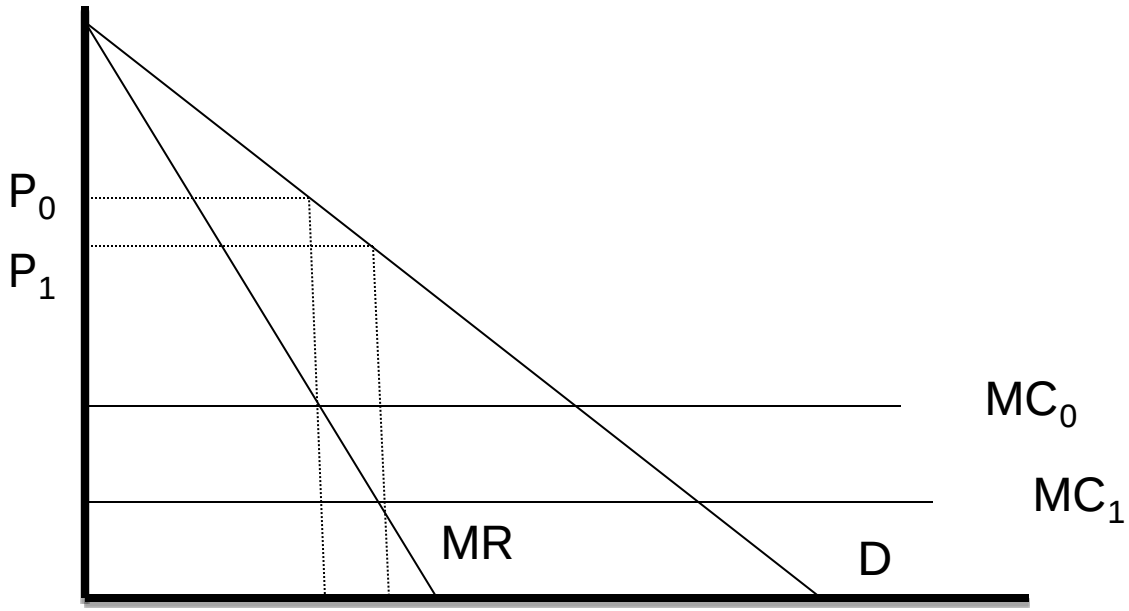
Appendix

Vertical Mergers

- Vertical mergers are generally viewed more favorably because:
  - Standing alone, they do not increase concentration in upstream or downstream markets; and
  - Vertical mergers can generate significant efficiencies, including:
    - Reducing transaction costs,
    - Limiting free-riding (where competitors benefit from another firm's efforts (e.g., R&D) without contributing to the cost)
    - Allowing merged firm to take advantage of technological economies
    - Eliminating "double marginalization" problem.

Vertical Mergers

- Double Marginalization

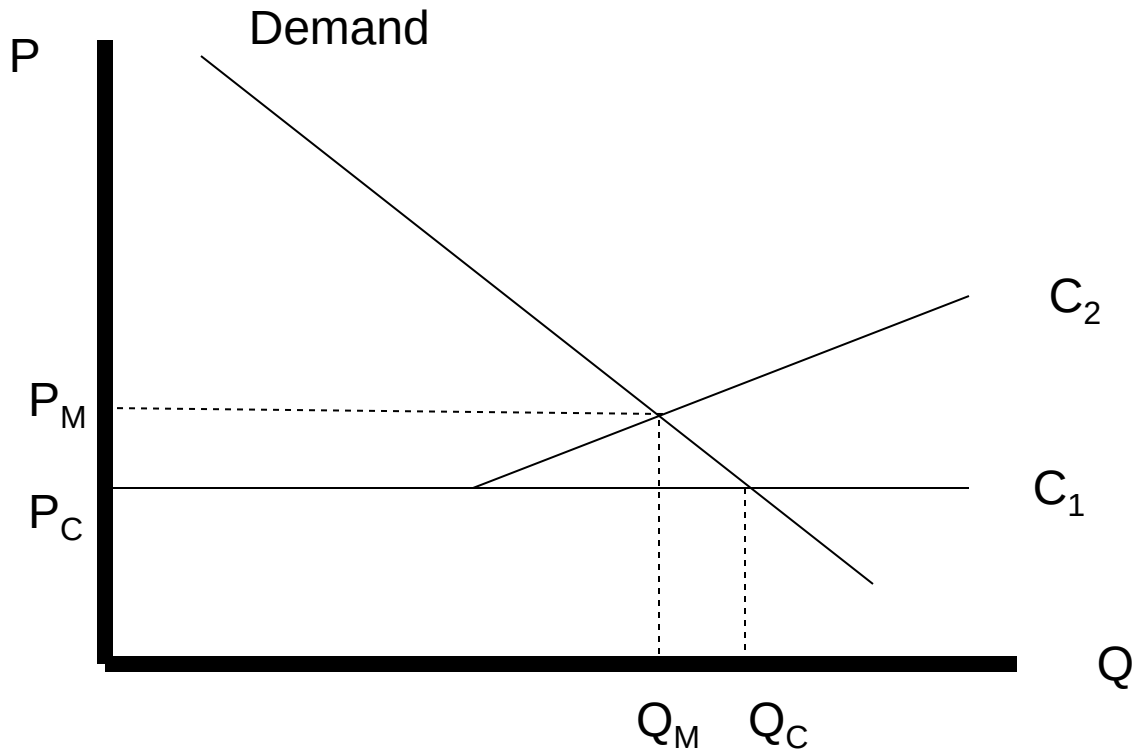


Vertical Mergers

- But vertical mergers may generate anticompetitive effects, including increasing the incentive and ability of the merged firm to:
  - Discriminate against rivals in the upstream or downstream market (through price or quality) and/or
    - Ex. Foreclosure of Customers or Inputs
  - Raise rivals' costs.
- In addition, vertical mergers can:
  - Facilitate tacit or express coordinated conduct
  - Permit the firm to evade a variety of pricing regulations.

Vertical Mergers

- Raising Rivals' Costs



Vertical Mergers

- Example: *NewsCorp.-Hughes*
  - FCC found that merger would increase merged firm's incentive and ability to engage in temporary foreclosure of competing MVPDs with respect to regional sports programming and affiliated broadcast television stations.
    - Because a significant percentage of competing MVPD customers would shift to DirecTV in response to temporary withdrawal of "must-have" programming and would be locked in beyond period of withdrawal (due to the minimum 1-year contract), temporary foreclosure was likely to be profitable, since gain in subscriber revenues would likely exceed loss in advertising revenues.
    - Moreover, the credible threat of foreclosure would increase NewsCorp.'s bargaining power and its ability to raise programming prices, which would result in higher MVPD subscription prices.

Vertical Mergers

- Example: *NewsCorp.-Hughes* (cont.)
  - To address this problem, FCC imposed a condition that limited the ability of News Corp. to withdraw certain kinds of programming during negotiations and giving MVPDs the right to seek expedited arbitration.