A Theory of Conglomerate Mergers

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Conglomerate Mergers

- Antitrust: neither horizontal nor vertical
  - Separate product markets
  - Same customers (independent / complementary products)
- Recent wave in digital economy
  - Google / Motorola - $12.5 billion, 2014
  - Facebook / WhatsApp - $22 billion, 2014
  - AT&T / DIRECTV - $48.5 billion, approved by the FCC in July 2015
  - Dell / EMC (data storage) - $67 billion, 2015
  - Microsoft / LinkedIn - $26.2 billion, December 2016
  - AT&T / Time Warner - pending

AT&T / DIRECTV

- Parties
  - AT&T: largest Internet and telephone service provider in the US
  - DIRECTV: second largest pay-TV supplier
- Complaints
  - American Cable Association: harm to competition (video distribution)
  - Netflix: abuse of market power (interconnection)
  - Biglaiser (2014): higher prices for TV programs (content)
- Defence
  - AT&T: save costs for consumers
  - Katz (2014): consumers' benefit from one-stop shopping
  - Berry and Haile (2014): simulations confirming this
- Five months after the merger, AT&T raised prices for TV packages

Policy divide

- US
  - Robert Bork (1978): no threat to competition
  - US Merger Guidelines: concerns disappear in 1982
  - Antitrust authorities: no prohibition in 40 years
  - Deputy Assistant Attorney General William Kolasky on *GE/Honeywell*:
    - "After fifteen years of painful experience with these now long-abandoned theories, the U.S. antitrust agencies concluded that antitrust should rarely interfere with any conglomerate merger"
    - "US agencies simply could not identify any conditions under which a conglomerate merger would likely to give the merged firm the ability and incentive to raise price and restrict output"
- EU
  - Concerns about portfolio & bundling effects (exclusionary effects)
  - EC blocked *GE/Honeywell* (2001, after US approval) and *Tetra Laval-Sidel* (overturned by CFI/ECJ)
  - *Eurotunnel/SeaFrance*: unbundling remedy (British and French NCAs)

This paper

- A simple theory of conglomerate mergers
  - Gain: consumption synergies
    - *AT&T/DIRECTV*: single installation / bill / helpdesk
    - *Aérospatiale/de Haviland*: pilot cert. & training, spare parts & maint.
    - *Eurotunnel/SeaFrance*: urgent versus non-urgent freight
  - Harm: portfolio differentiation softens competition
- Baseline setting
  - Independent demands for two products
  - Homogenous single-product firms
- Variants and extensions
  - Better integration / interoperability versus "one-stop shop" benefit
  - Product differentiation
  - Merger dynamics

Insights

- Impact on prices
  - Consumption synergies confer a competitive advantage
    - Merged entity appropriates part of them
  - Portfolio differentiation: bundle versus mix-and-match
    - Heterogeneous benefits across consumers: softens competition
    - Exacerbated in case of pure bundling
    - [Double marginalization across stand-alone firms]
- Impact on consumers
  - Positive impact is markets are not too concentrated or no bundling
  - Consumers (particularly multi-stop shoppers) can be hurt otherwise

Baseline Setting

- Two markets A and B; independent demands
  - Demand: Unit demands, homogeneous valuations u_A and u_B
  - Supply: Bertrand competition in both markets
    firms $A_1, A_2, ...$ (same constant unit cost c_A)
    firms $B_1, B_2, ...$ (same constant unit cost c_B)
  - Social gain from trade: $w = u_A - c_A + u_B - c_B$
- Pre-merger
  - Bertrand competition drives prices down to cost
  - Consumers obtain w
- Suppose firms A_1 and B_1 merge $\longrightarrow$ can offer bundle $A_1 - B_1$
  - Generates heterogeneous consumption synergies: $s \backsim F(s), f(s)$
  - Assumptions: $h(s) \equiv \frac{F(s)}{f(s)}$ is increasing, $k(s) \equiv \frac{1-F(s)}{f(s)}$ is decreasing

Mixed Bundling

Proposition

- *Stand-alone prices are at cost*
- *There exists τ^* such that:*
  - *consumers with $s < \tau^*$ mix-and match and get w (as before)*
  - *those with $s > \tau^*$ buy the bundle and get more than w (better-off)*
  - *The bundle is sold at a premium; the merged firm obtains $\Pi^* > 0$*

Intuition:

- Bertrand competition for multi-stop shoppers (stand-alone prices)
  - Obvious is $n_j \geq 3$; but applies as well if $n_j = 2$
  - Multi-stop shoppers are thus unaffected
- The bundle creates consumption synergies
  - The merged firm appropriates part of it
  - Revealed preference: one-stop shoppers are better-off

Pure Bundling

Proposition

- *Same as mixed bundling when* $n_A, n_B \geq 3$
- *When instead* $n_i = 2$ *for some* $i \in \{A, B\}$
  - *consumers who mix-and match face higher prices (worse-off)*
  - *fewer consumers mix-and match (those with* $s \leq \tau^{**} < \tau^{*}$*)*
  - *the bundle is sold at even higher price; the merged firm obtains* $\Pi^{**} > \Pi^{*}$
- *The effect is more pronounced when* $n_A = n_B = 2$

Intuition: Portfolio differentiation

- Heterogeneous preferences for bundle: softens competition
- Whenever $n_i = 2$ for $i \in \{A, B\}$, stand-alone firm increases its price $\longrightarrow$ the merged firm responds by increasing its price and market share
- Double marginalization across stand-alone firms if $n_A = n_B = 2$

Welfare Analysis

- Merger generates efficiency gains for consumers
  - These are partly appropriated by the merged firm
  - Sole effect if $n_A, n_B \geq 3$ *OR* in the absence of pure bundling
    - Consumers who mix and match are unaffected
    - Consumers who opt the bundle benefit from this
- Portfolio differentiation may soften competition
  - Effect arises if $n_i = 2$ for some $i \in \{A, B\}$ *AND* pure bundling
  - Consumers who mix and match are harmed
  - Total consumer surplus may be reduced
- Note: merger always increases total welfare here
  ... but would need to account for allocative distortion

One-stop shop benefit

- Benefits for one-stop shoppers – with or without bundling
  - Mixed bundling equivalent to "no bundling"
  - Cannot charge "more" to one-stop shoppers (arbitrage)
- When $n_A, n_B \geq 3$, same as before (with or without bundling)
- When $n_i = 2 < n_j$
  - No bundling or mixed bundling: similar outcome
    - merged firm offers good i at cost (more concentrated market)
    - exploits its competitive advantage on good j
  - Pure bundling: same outcome
    - portfolio differentiation
    - higher price for good i
- When $n_A = n_B = 2$
  - Market power even without pure bundling
  - Mixed strategy equilibrium

Product Differentiation

- Baseline setting: homogeneous products / "extreme" competition
  - Absent bundling, perfect competition even with $n_i = 2$ firms
  - Bundling is the only source of product differentiation
- Assume now that products are differentiated
  - $n_A = n_B = 2$: Hotelling duopoly in each market
    - Firms A_1 and B_1 are located at one end of the Hotelling line
    - Firms A_2 and B_2 are located at the other end
  - Consumers
    - Perfect correlation of preferences across markets
    - Uniform distribution
- Mixed bundling

Product Differentiation

Proposition

The merger:

- *Increases stand-alone prices for all products*
  $\longrightarrow$ *harms consumers who mix and match*
- *Benefits consumers buying the bundle*
  increases total consumer surplus if s is uniformly distributed
- *Increases profit of merging firms*
  but reduces the profits of stand-alone firms

Intuition:

- Consumption synergies: competitive advantage for merged firm
- Portfolio differentiation: competition softening
  - Double marginalization for stand-alone firms
  - But merged firm less aggressive on stand-alone prices
    $\longrightarrow$ lower market share for multi-stop shoppers

Merger Dynamics

Intuition:

- So far, static analysis; dynamics?
- $N = 2$ markets
  - First conglomerate merger is profitable
  - Second conglomerate merger would not be profitable
- $N > 2$ markets, many stand-alone firms in each market
  - "Merger game"
    - One firm is randomly selected and proposes a conglomerate merger, which is implemented is all targeted firms accept it
    - Another firm is randomly selected among stand-alone ones, and so on...
  - Merger wave
    - One conglomerate for every "portfolio size" $N, N-1, ...$
    - Larger conglomerates are more profitable

Conclusions

- Antitrust treatment of conglomerate mergers
  - US
    - rather lenient until recently
    - AT&T-Time Warner?
  - EU
    - Initial focus on creation / reinforcement of dominance
    - Portfolio effects: exclusionary abuse, bundling
    - European courts have imposed rather strict standard
- This paper: portfolio differentiation effect
  - Pure bundling, versus mixed or no bundling
  - Policy implication: no pure bundling