EC 360: Industrial Organization
Horizontal Mergers

Brett Garcia

Copyright © 2020 Brett Garcia. All rights reserved.

Mergers

A **merger** is any acquisition of assets, stock, or share capital of another person or entity

- Both the Clayton Act and the Sherman Act try to outlaw anticompetitive mergers
- The Sherman Act targets collusive agreements once they have already formed
- Section 7 of the Clayton Act outlaws mergers "where in any line of commerce in any section of the country the effect of such acquisition may be substantially to lessen competition, or to tend create a monopoly"

Horizontal mergers

A **horizontal merger** occurs whenever two firms that compete with each other in the same market are brought together under common control

- The two firms must have previously been rivals

- The two firms must have previously engaged in the same product market and geographic market

Incentives to merge

Incentives to merge

- There are two main reasons firms choose to merge
    - Gain monopoly power
    - Gain efficiency

Mergers to gain monopoly power

- Horizontal mergers to gain monopoly power tend to lower welfare
    - These types of mergers are the main concern for antitrust authorities
    - These mergers can be thought of as an incredibly efficienct form of collusion
    - They eliminate incentives to dispute over prices, territories, market shares, etc.
- If a horizontal merger is successful, the new firm must still deter any future entry (or buy out all new entrants)
    - This can be very difficult
    - Graph 12.1

Mergers to gain monopoly power

- The new entrant is making a large profit, and the merged firm has several ways to respond
  - Engage in predatory behavior to lower the value of the entrant, and then convince them to merge
  - Ignore the entrant and act as a dominant firm
  - Collude

Mergers to gain efficiency

- Some horizontal mergers are done to increase efficiency, rather than to purely gain monopoly power
  - If these mergers lower costs and the merging firms don't have significant market power, then these mergers could lead to a lower equilibrium price
- Firms could have different marginal costs, and a merger could allow them to rellocate production to gain efficiency
- Two firms could have different areas of specialization (i.e. production and advertising), and a merger could reduce costs of their total operation
- Two firms could each own a different patent, and a merger would allow them to pool their patents

Mergers to gain market power and efficiency

- Since a horizontal merger can both cut costs and increase market power, the overall welfare effects may be positive or negative
  - The Williamson Tradeoff allows us to measure the overall welfare effects
  - Graph 12.2
  - If this tradeoff is positive, then the cost savings are larger than the loss in consumer welfare

$$\underbrace{(AC_1 - AC_2)q_2}_{\textit{cost saving}} - \underbrace{\frac{1}{2}(P_2 - P_1)(q_1 - q_2)}_{\textit{consumer welfare loss}}$$

Horizontal merger theory and policy

Economic foundations of horizontal merger policy

- Most horizontal merger policy is based on the **concentration doctrine**
  - As market concentration increases, industry competition decreases
- There are two types of anticompetitive effects associated with horizontal mergers
  1. Unilateral effects: welfare decreases because there are fewer firms, which allow firms to exercise market power
  2. Coordinated effects: welfare decreases because there are fewer firms, which facilitates collusion

Unilateral effects theories

- When analyzing any merger, there are several questions to think about
  - What are the entry barriers?
  - How much will price and quantity change?

Unilateral effects: Cournot model

- The Cournot duopoly model can be extended to include any number of firms

$$Q_E = \frac{n}{n+1} Q_C$$

  - Q_E is the total quantity supplied in the Cournot market
  - Q_C is the total quantity that would be supplied if the market were perfectly competitive
  - n is the number of the firms
- In the Cournot model, firms aren't colluding; however, the quantity is still restricted
  - As the number of firms increases, the quantity converges to the competitive quantity

Unilateral effects: Cournot model

- A horizontal merger would reduce the number of firms
  - If there are no cost savings, then the welfare effects are unambiguously negative
  - However, firm profits increase

Coordinated effects

- Another branch of oligopoly theory believes that at some level of concentration, firms start coordinating
  - Firms may merge for any reason, which will eventually make the industry very concentrated
  - Once the industry is concentrated, the firms recognize that it's easier to coordinate and collude
  - Thus, horizontal mergers can lead to coordinated non-competitive outcomes

Policy

Legal foundations

Section 7 of the Clayton Act, the Hart-Scott-Rodino Act of 1976, and the Celler-Kefauver Amendment serve as the basis for modern merger law

- "No corporation engaged in commerce shall acquire, directly or indirectly, the whole or any part of the stock or other share capital and no corporation subject to the jurisdiction of the Federal Trade Commission shall acquire the whole or any part of the assets of another corporation engaged also in commerce, where in any line of commerce in any section of the country, the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly."

Enforcement policy

Prior to 1976, merger policy was handled by the courts; however, after 1976 merger policy became agency driven

- Due to a growing trend toward market concentration, the DOJ and FTC created merger guidelines to analyze the competitive consequences of a merger

- These guidelines were created in 1968 and revised as recently as 1997

The Hart-Scott Rodino (HRS) Act of 1976 requires firms to submit detailed filing with the FTC and DOJ prior to the completion of the merger

- The agencies will determine whether the merger will impact competition

- Only applies to large mergers

Enforcement policy

- The guidelines follow a 5-step process

  1. The agency (DOJ or FTC) identifies the relevant market
  2. The agency calculates market concentration pre-merger and the expected post-merger concentration
  3. The agency considers the competition in the market due to entry conditions
  4. All other variables that may lead to anticompetitive outcomes in the industry are analyzed
  5. Any efficiency gains associated with the merger are considered

Enforcement policy: step 1 - define the market

- Define a buyer's geographic market
- Define a seller's geographic market
- Define a buyers's product market
- Define a seller's product market

Enforcement policy: step 2 - calculate concentration

- Concentration is calculated with the **Herfindahl-Hirschman Index (HHI)**

$$HHI = \sum_{i=1}^{n} s_i^2$$

  - n is the number of firms in the market
  - s_i is the market share for each firm (as a percent)
- Some things to note about HHI
  - The maximum value for HHI is $(100\%)^2 = 10,000$
  - Bigger firms get must more weight than smaller firms
  - Example 12.1

Enforcement policy: step 2 - calculate concentration

- The merger guidelines have three cutoffs that they care about

  1. Postmerger HHI below 1,500:
     the market is considered unconcentrated, and there mergers are usually considered fine
  2. Postmerger HHI between 1,500 and 2,500:
     the market is considered moderately concentrated, and a change in HHI is less than 100 points will probably not have anticompetitive consequences
  3. Postmerger HHI above 2,500:
     the market is considered highly concentrated

     - An HHI change of 100-200 points can "potentially raise significant competitive concerns"
     - An HHI change over 200 is presumed to enhance market power

Enforcement policy: step 2 - calculate concentration

		Increase in post-merger concentration		
		< 100	100 to 200	> 200
Post HHI	$< 1{,}500$	No challenge	No challenge	No challenge
	1,500 to 2,500	No challenge	Scrutiny	Scrutiny
	$> 2{,}500$	No challenge	Scrutiny	Presumed unlawful

Enforcement policy: step 3 - entry conditions

- The guidelines consider two types of entry
  1. **Uncommitted entry**
     - Entry that would occur within a year as a result of a "small but significant and nontransitory" price increase
     - Doesn't involve sunk costs
  2. **Committed entry**
     - Entry that requires sunk costs
     - Whether entry will be timely, likely, and sufficient to deter or counteract any competitive concerns raised by the merger

Enforcement policy: step 4 - other factors

- The agency looks at a few things in particular when analyzing other changes resulting from the merger
  - The ability of firms to collude
  - The ability of firms to detect cheaters from the collusive agreement
  - The ability of firms to punish the cheater

Enforcement policy: step 5 - efficiency

- Merger efficiency gains are used to analyze the legality of a merger
    - Any efficiency gains that could be made without the merger are thrown out
- The merger guidelines mention, but do not place great weight on efficiency in merger analysis
    - This has received criticism for undervaluing an important component of welfare

Court cases

Brown Shoe Company, Inc. v. US (1962)

- Brown Shoe Co. and G.R. Kinney both manufactured and retailed shoes
  - Combined, they had a 4.5% market share in manufacturing and a 2% market share in retail in the US
  - The Supreme Court believed the merger would eliminate competition at both the manufacturing and retail stage; however, they were only concerned about retail
- The relevant market was defined as all cities of at least 10,000 with both Brown and Kinney outlets
  - In some cities, the two firms had a combined market share of 57%, and at least 5% market share in 118 markets
- The Supreme Court ruled against the merger, as they felt a 5% market share was significant enough to deter competition
  - Notably, there was no economic analysis in this case

US v. Philadelphia National Bank (1963)

- In 1959, there were 42 commercial banks in Philadelphia
  - The second and third largest, Philadelphia National Bank (PNB) and Girard Trust Corn Exchange Bank merged
- The relevant market was defined as various types of banking services in the Philadelphia area
  - PNB argued the merger would attract businesses to Philadelphia
- The Supreme Court ruled against the merger, as they felt stopping concentration was their biggest concern
  - Again, there was no economic analysis

US v. Von's Grocery Company (1966)

- Von's was the third largest LA grocery store and Shopping Bag Food Stores was the sixth largest
  - The relevant market was defined as grocery stores in LA
  - Combined, the firms would have 7.5% market share
- The Supreme Court ruled against the merger, as single stores were declining and chain stores were rising
  - Again, there was no economic analysis

US v. General Dynamics Corporation (1974)

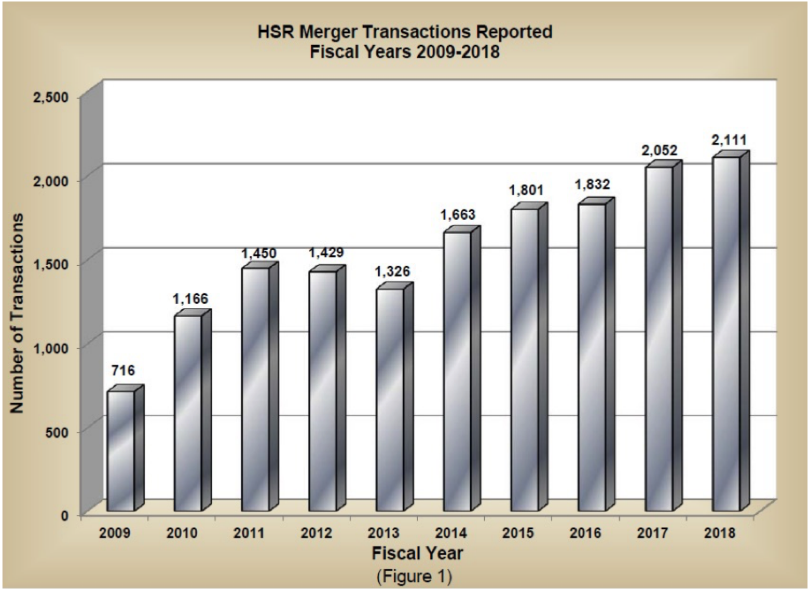
- The US tried to continue its strategy of defining the relevant market and showing market concentration
  - Material Service Corporation owned a lot of coal mines, and was acquired by General Dynamics
  - The relevant market was defined as coal mined from Illinois
- The Supreme Court ruled in favor of the merger, as they believed concentration did not hinder competition in this industry
  - Since coal is an exhaustible resource, the courts ruled that current market concentration is irrelevant
  - This did not change how most mergers are evaluated, since most mergers involve non-exhaustible resources

Modern horizontal mergers

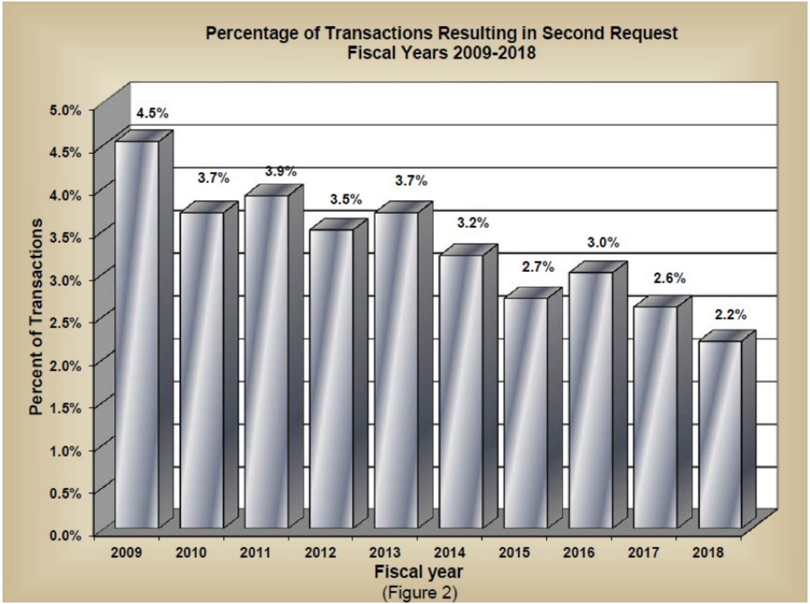
Recent cases

- Merger cases have gradually evolved
  - Enforcement agencies are more selective in choosing which mergers to challenge
  - Governments lose merger cases much more frequently
  - The courts care a lot more about economic analysis
- The most important part in any antitrust case is **defining the relevant market**
  - "Determination of the competitive market for commodities depends on how different from one another are the offered commodities in character or use, how far buyers will go to substitute one commodity for another"

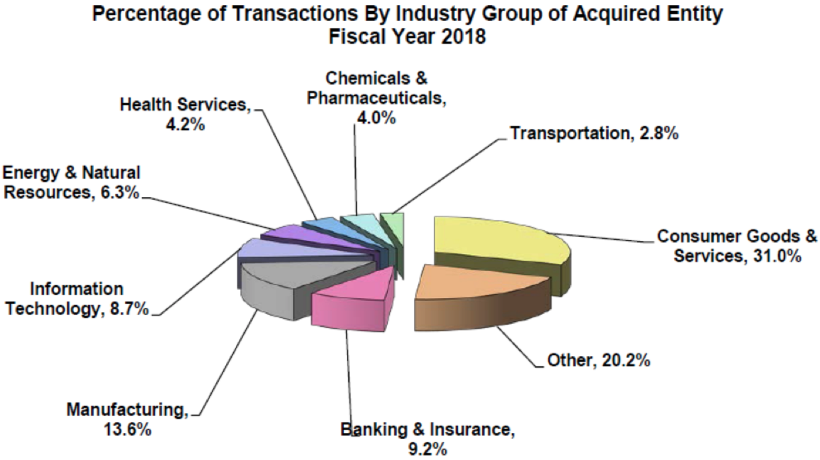
Recent growth in number of mergers...



… with less scrutiny (FTC HSR Report)



Mergers & acquisitions by industry (FTC HSR Report)



(Figure 3)

FTC v. Staples - Office Depot (1997)

Staples wanted to acquire Office Depot, reducing the numer of major firms operating as office superstores (OSS) from three to two

- Office Depot: 500 stores in 38 states, mostly in the South and Midwest
- Staples: 550 stores in 28 states, mostly in the Northeast and California
- Office Max: 575 stores in 48 states

The FTC filed suit, claiming the combined firm would be able to "control prices for the sale of office supplies in numerous metropolitan areas in the US"

- The courts blocked the merger

FTC v. Staples - Office Depot (1997): geographic concerns

Staples and Office Depot were the only two OSS firms in 15 relevant geographic markets

- San Diego, CA; Salinas, CA; Visalia-Tulare-Porterville, CA; Lakeland-Winter Haven, FL; Ocala, FL; Tampa-St. Petersburg-Clearwater, FL; Fort Pierce-Port St. Lucie, FL; Champaign-Urbana, Illinois; Louisville, KY; Baltimore, MD; Greenville, NC; Florence, SC; Charlottesville, VA; Washington, D.C.; and Spokane, WA

Economic evidence showed that Staples and Office Depot priced based on ...

- Staples priced 13% higher in markets with one OSS, compared to three firm OSS markets

- Office Depot priced 5% higher in markets with one OSS, compared to three firm OSS markets

FTC v. Staples - Office Depot (1997): market definition

Market definition was key

- The FTC defined the market as the "sale of consumable office supplies through retail stores to small businesses and individuals with home offices"

- The defendants defined the market was office products, giving Staples and Office Depot a combined market share of 5.5%

FTC v. Staples - Office Depot (1997): market definition

The courts ruled that consumer behavior defines the market

- "Despite the high degree of functional interchangeability between consumable office supplies sold by the office superstores and other retailers of office supplies, the evidence presented by the Commission shows that even where Staples and Office Depot charge higher prices, certain consumers do not go elsewhere for their supplies"

FTC v. Staples - Office Depot (1997): evidence

The courts relied on pricing evidence...

- "The pricing evidence indicates a low cross-elasticity of demand between consumable office products sold by Staples or Office Depot and those same products sold by other sellers of office supplies"

... and possible substitutes to define the market

- "This same evidence indicates that non-superstore sellers of office supplies are not able to effectively constrain the superstores prices, because a significant number of superstore customers do not turn to a non-superstore alternative when faced with higher prices in the one firm markets"

Office Depot and Office Max merger (2013)

Office Depot and Office Max merged in 2013, combining the country’s second and third largest chains of office supply superstores (OSS)

- The FTC conducted a seven-month investigation, concluding that the deal is not likely to lead to competitive harm

- “Although sixteen years ago the Commission blocked a proposed merger between Staples, Inc. and Office Depot, the nation’s two largest OSS, our current investigation has shown that the market for the sale of consumable office supplies has changed significantly in the intervening years”

- “Customers now look beyond OSS for office supply products” and that Wal-Mart, Target, Costco, Sam’s Club, and online commerce “expanded their product offerings and sales of office supplies”

Staples tries to buy Office depot... again (2015)

The courts ruled that “the merger is presumptively unlawful under relevant case law and the Merger guidelines” and the firms abandoned the merger

- The FTC defined the relevant market as “the sale and distribution of consumable office supplies to large B-to-B customers in the US”

- Allowing the merger would result in high levels of market concentration, with Staples controlling more than 70% of the relevant market, and the next largest competitor controlling less than 5% of the relevant market

- The courts believed that Amazon was not ready to compete in B-to-B markets

T-Mobile and Sprint

- This merger was recently approved, merging the nation’s third and fourth largest wireless carriers
  - The case is framed around industry concentration
- The judge approved the merger, in part because the two sides’ “conflicting engineering, economic and scholarly business models ... essentially cancel each other out as helpful evidence”
  - The DOJ believed the deal would improve competition and make 5G networks faster
  - As part of the merger, T-Mobile and Spring agreed to divest some of their assets to satellite-TV provider Dish Network to help it set up a new wireless carrier

T-Mobile and Sprint: in favor of the merger

- T-Mobile and Sprint argued that they need the merger to roll out 5G network technology
    - They believed that without the merger, they would be unable to compete and remain in the market
    - T-Mobile promised phone bills will remain the same for the next three years

T-Mobile and Sprint: against the merger

- Opponents of the deal believe the merger would lead to higher retail and wholesale prices, lower quality and variety, less choice, and slower innovation
  - For years, T-Mobile and Sprint competed against one another and tried to lure away customers by offering lower prices
- A group of U.S. state attorneys general argued the deal would cost consumers more than $4.5b annually
  - “Over and over again, consumers are promised enormous benefits and so-called ‘efficiencies’ by merging parties. But what they are left with each time are corporate behemoths who can raise prices at will, use their gatekeeper power to destroy competition and new voices, and hijack regulatory and legislative processes. We are already seeing this with the AT&T-Time Warner merger, where promises not to discriminate against rivals or raise prices were broken within months of being approved” former FCC commissioner Gigi Sohn

Delta and Latin America Airlines

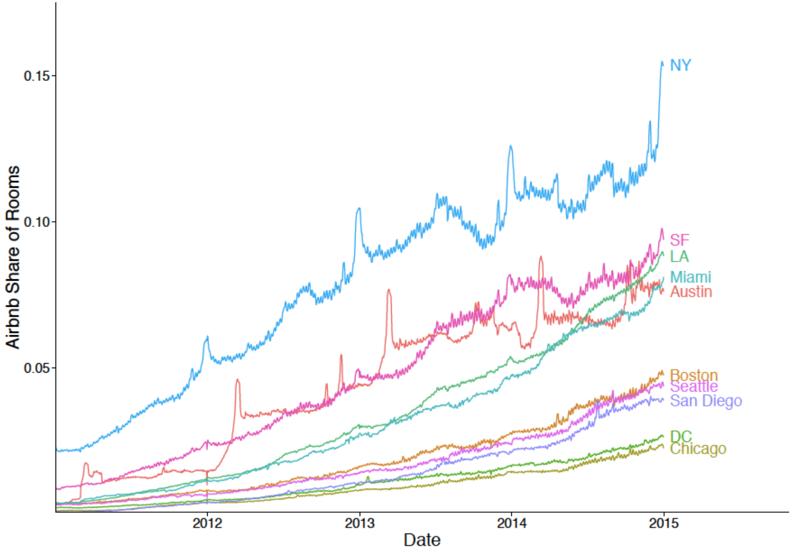
In 2019, Delta Airlines expanded its presence in Latin America by spending $1.9b for a 20% stake in LATAM, Latin America's largest airline

- Foregin ownership rules prevent airlines from buying foreign carriers outright
- Delta divested its share of Brazilian carrier Gol, which competes with LATAM in Brazil
- Delta now has a leading position in five of the top six Latin American markets from the US

Starwood Marriott

- In 2016, Marriott International acquired Starwood Hotels & Resorts Worldwide, becoming the world's largest hotel chain
    - Marriott now controls 30 hotel brands, and more than 1 out of every 15 hotel rooms around the globe
    - Does the growth of Airbnb impact the relevant market for this merger?

Hotels and Airbnb: Farronato and Fradkin (2018)



In the news

Edgewell Personal Care Co. tries to acquire Harry's, Inc. (2020)

The FTC recently filed suit to block the proposed $1.37b merger of two competitors

- The FTC alleged the acqusisition "would eliminate one of the most important competitive forces in the shaving industry"
- "Harry's is a uniquely disruptive competitor in the wet shave market, and it has forced its rivals to offer lower prices, and more options, to consumers across the country" Daniel Francis, Deputy Director of the FTC's Bureau of Competition

FTC sues to unwind Altria's $12.8b investment in JUUL (2020)

The FTC complaint alleges Altria and JUUL entered into agreements that eliminated competition and violated antitrust laws

- "For several years, Altria and JUUL were competitors in the market for closed-system e-cigarettes. By the end of 2018, Altria orchestrated its exit from the e-cigarette market and became JUUL's largest investor" Ian Conner, Director of the FTC's Bureau of Competition

- The FTC alleges that as competitors "Altria and JUUL monitored each other's e-cigarette prices closely and raced to innovate" and that "Altria dealt with this competitive threat by agreeing not to compete in return for a substantial ownership interest in JUUL"