Deregulating Antitrust Policy

By Mark Stelzner[1] and Mayuri Chaturvedi[2]

Abstract: Starting in the 1980s, market concentration began to rise dramatically decreasing competition and increasing market power for the firms that remain. Such developments have important effects on a number of economic variables like the efficiency of our economy and income inequality. Thus, it is important to ask: how has the administration of antitrust policy changed over the last half century? To shed more light on these important questions, we explore both change in policy outline by the Department of Justice in its Horizontal Merger Guidelines and change in administrative actions looking at both secondary requests for mergers and acquisitions of different sizes, and pre, post, and change in HHI in mergers and acquisitions contested by the Department of Justice through the courts.

[1] Connecticut College, Department of Economics. Email: mark.stelzner@conncoll.edu.
[2] Columbia University, Department of Economics. Email: mc4495@columbia.edu.

1. *Introduction*

How has the administration of antitrust law changed over the last half century? The answer to such a question has implications on the level of competition in the economy, the distribution of benefits from engaging in economic activity, and even the rate of economic growth over time. Indeed, in terms of distribution, many have argued that the increase in concentration over the last four decades in the United States is tied to the dramatic increase in income inequality (for example see Stiglitz, 2012; 2017). In this paper, we seek to better understand recent changes in concentration by analyzing changes in antitrust administration. As we will see, beginning in the early 1980s, administrative authorities deregulated antitrust law, much like with finance, allowing for dramatic increase in concentration.

Since the 1980s, market concentration has increased rapidly. For example, Peltzman (2014) shows that the average Herfindahl-Hirschman Index (HHI), a commonly used measure for market concentration,[3] increased 25 percent for manufacturing industries between 1982 and 2002. Other economists have shown similar trends. In a Congressional Research Service study, Shields (2010) shows that the average market share for the top four firms in fluid milk, cheese products, meatpacking, meat processing, poultry slaughter, feed, corn wet milling, soybean processing, and flour milling increased from 31.7 percent in 1972 to 48.7 percent in 2002. Using Census Bureau data, Furman and Orzag (2015) show the market share of the top 50 firms has increased in the majority of industries between 1997 and 2007. For example, the market share of the top 50 firms increase by 12 percent in transportation and warehousing, 7.6 percent in retail trade, 7.4 percent in finance and insurance, 6.6 in real estate, and 5.6 percent in utilities. Vogt and Town (2006) find that the market concentration of hospitals in metropolitan areas increased from an average HHI of 1,576 in 1990 to 2323 in 2003. Corbae and D'Erasmo (2011) show that the loan and deposit market share of the top four banks was relatively constant around 15 percent in the loan market and 10 percent in the deposit market in the late-1970s through the mid-1990s. However, in the mid-1990s, concentration started to increase with the loan and deposit market shares of the top four banks each reaching almost 40 percent in 2010. And a recent FTC report

[3] HHI is the measure of the sum of the squares of the market shares of all producers in an industry: $HHI = \sum_{i=1}^{N} \theta_i^2$. θ_i is the market share of the ith firm in the industry. N is the total number of firms. Market shares always sum to 100: $\sum_{i=1}^{N} \theta_i = 100$. Thus if $N = 1$, i.e. there is a pure monopoly, the HHI of the industry is 10,000. In perfect competition, where it is assumed that each firm has an infinitesimal market share, the HHI for any industry is zero.

shows that the market share of the top four mobile wireless providers has increases from around 65 percent in 2003 to almost 100 percent in 2014.

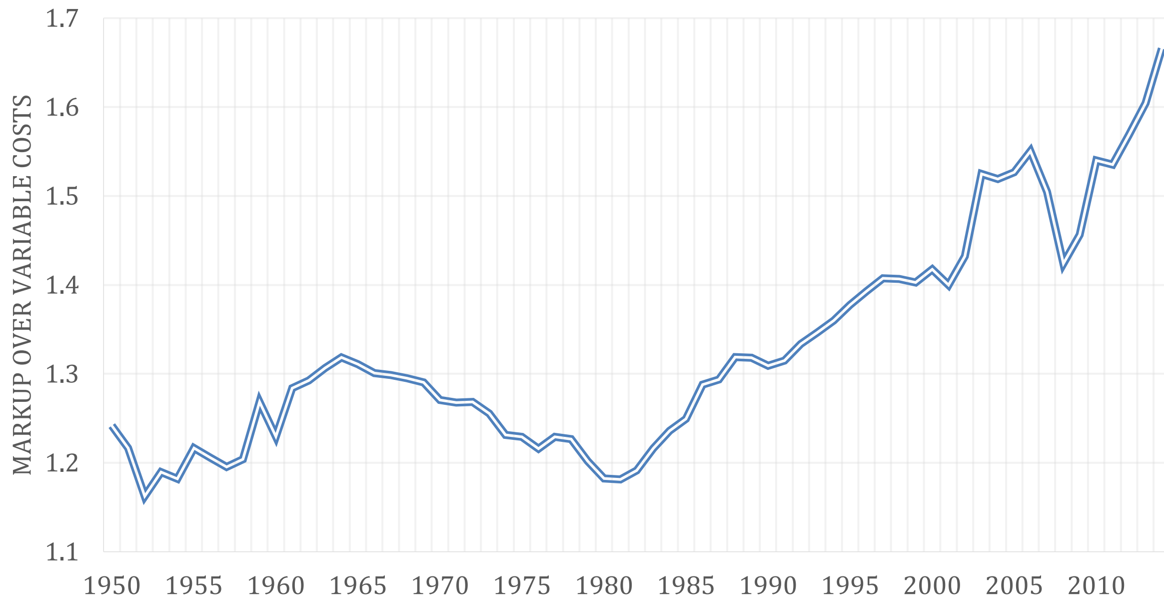
The increase in market concentration means that competition between firms have decreased, and thus the firms that remain control a larger share of the market than before and exercise more market power.[4] Indeed, there is a growing body of empirical work that shows the increase in price resulting from increased market power. For example, Philippon (2015) estimates the user cost of finance, the total income of the financial sector divided by the amount of assets intermediated. He finds that the average user cost was 1.8 percent of assets intermediated between 1960 and 1980. Starting in the 1980s, it increased reaching around 2.4 percent of assets intermediated in 2014. While some of the increase in the user cost of finance is from an increase in asymmetric information, a significant part of it is due to increased concentration in finance (Epstein and Montecino, 2016). Davis et al. (2007) document the dramatic rise in average real health care spending per capita and total expenditures on health care as a percentage of GDP in the United States between 1980 and 2004. They show that average real costs per capita have increase over five hundred percent between 1980 and 2004 – more than double the increase in real cost per capita in other advanced industrialized countries. Indeed, the United States spent around 15 percent of GDP on healthcare in 2004 while other advanced industrialized nations spent between eight and ten percent of their GDP on healthcare and achieved vastly superior outcomes. Davis et al. argue that the increase in concentration in health care insurance and health care provision are important factors in understanding the increase in the cost of healthcare.

In a more comprehensive look at the increase in market power, Loecker and Eeckhout (2017) use firm-level production data to calculate the markup over variable cost across industries for publicly listed firms in the United States. Their results are depicted in Figure 1 below. They find that the markup was relatively constant at around 18 percent above variable cost during the 1950s, 1960s, and 1970s. Starting in the 1980s, across industries, markups increased reaching a weighted average of 67 percent above variable cost in 2014. From analyzing the relationship between the markup and profit, Loecker and Eeckhout conclude that the dramatic increase in the

[4] Analysis of the Nash equilibrium price and quantity in an N firm Cournot oligopoly shows that market power increases when concentration increases – even if firms make production decisions in a decentralized manner. Market power is the ability of firms to influence the market price of the goods they buy or sell.

markup is not due to rising fixed costs resulting from a change in the organization of production but stems from increasing market power.

Figure 1: The Rise of Market Power in the United States



Source: Loecker and Eeckhout (2017).

Thus, given the dramatic increase in market concentration and market power, one must ask: what is driving these trends? Is it a result of exogenous changes like new technologies creating more opportunities for economies of scale? Or is the increase in concentration the result of changes in the rules of the game? To be sure, there have been little statute change in antitrust laws since the 1960s – except for the Hart–Scott–Rodino Antitrust Improvements Act of 1976 and several changes to the statutory maximum fines for violation of the Sherman Antitrust Act.[5] However, a lack of statute change doesn't mean the operation of the law has been constant. Changes in interpretation and administration of law can have as significant an effect as statute

[5] The Antitrust Procedures and Penalties Act (APPA)of 1974 increased the maximum fine from $50,000 per count for both individuals and corporations to $100,000 for individuals and to $1 million for corporations. APPA also elevated violations of the Sherman Antitrust Act from a misdemeanor to a felony and increase maximum prison terms from one to three years per count. The Criminal Fine Enforcement Act of 1984 increased the maximum penalties for antitrust violations to $250,000 for individuals and left unchanged the corporate maximum. The Antitrust Amendments Act of 1990 further raised the maximum fine to $350,000 for individuals and to $10 million for corporations per count (Gallo et al., 2000).

changes and be less readily detectable. Thus, one must ask, how has administration of antitrust law changed over the last half century?

2. *The Literature*

Antitrust law falls under the Sherman Antitrust Act, the Federal Trade Commission Act, the Clayton Antitrust Act, and the number of amendments to these laws. In terms of mergers and acquisitions, Section 7 of the Clayton Act prohibits mergers and acquisitions that substantially "lessen competition, or tend to create a monopoly."[6] The very broad language of this law gives the courts and antitrust authorities, the Federal Trade Commission (FTC) and the Antitrust Division of the Department of Justice (DOJ), significant room in deciding exactly what classifies as a substantial reduction in competition.

There is a relative consensus in the literature that starting with Reagan's appointments to the FTC and DOJ in the early 1980s, antitrust policy changed dramatically. In 1982, the DOJ dramatically redefined what it classified as a substantial reduction in competition (Peltzman, 2014). In doing so, the DOJ gave official sanction to mergers and acquisitions which were previously deemed illegal by antitrust authorities. This change is born out in the data. For example, data from Posner (1970) and Gallo et al. (2000) on the number of antitrust cases instituted by the DOJ between 1891 and 1997, displayed below in Figure 2, show a marked decrease in the intensity of antitrust actions starting in the mid-1970s with a more dramatic decrease in the 1980s. Indeed, Peltzman finds that increasing permissiveness of antitrust authorities after the redefinition of Section 7 of the Clayton Act in 1982 led to the increase in market concentration highlighted above.

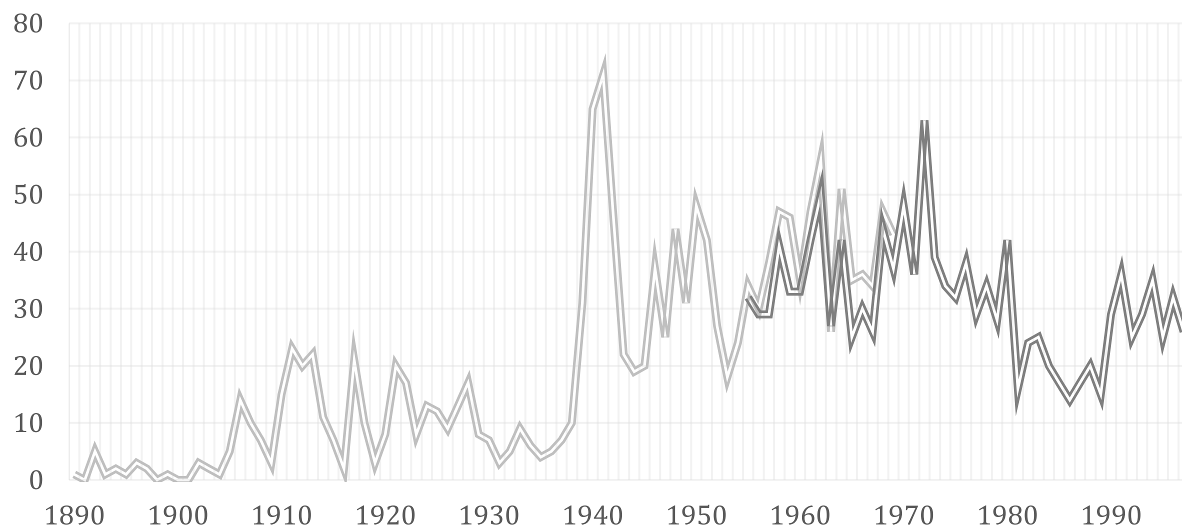
Many in government positions at the DOJ and the FTC outwardly recognize and applaud the shift (for example, see Valentine (1996) and Leary (2002)). Indeed, in a speech in 1985, the newly appointed head of the Antitrust Division at the Department of Justice, William Baxter, explained that antitrust policy is moving "away from the most insane outcomes it has produced over the last 30 or 35 years [when mergers and acquisitions in even thinly concentrated markets were contested] . . . in the direction of a fairly sensible antitrust policy."

The consensus quickly evaporates on questions of intensity of the shift in the early 1980s and change in policy from the early 1980s until present. For example, data from Figure 2 seems

[6] 64 Stat. 1125 (1950), 15 U.S.C. § 18 (1958), amending 38 Stat. 731 (1914).

to show an increase in application of antitrust law from 1990 through 1997. However, such an interpretation is misleading because antitrust activity, as calculated by Posner (1970) and Gallo et al. (2000) and depicted in Figure 2, is not shown relative to the total number of mergers and acquisitions occurring yearly, and because antitrust case data combines actions by the DOJ against horizontal and vertical integration, price setting, and price discrimination cases. Under Reagan and Bush Senior, the DOJ pursued mainly criminal offenses under the Sherman Act involving horizontal per se offenses – like ancillary agreements such as territory and customer allocation schemes, and bid-rigging schemes with the government as the buyer (Gallo et al.). Strict pursuit of non-horizontal merger cases by antitrust authorities has no direct bearing on merger and acquisition policy and indeed can lead to an increase in merger activity as firms who previously pursued other price control strategies are forced to change tactics.

Figure 2: Antitrust Cases Instituted by the Department of Justice

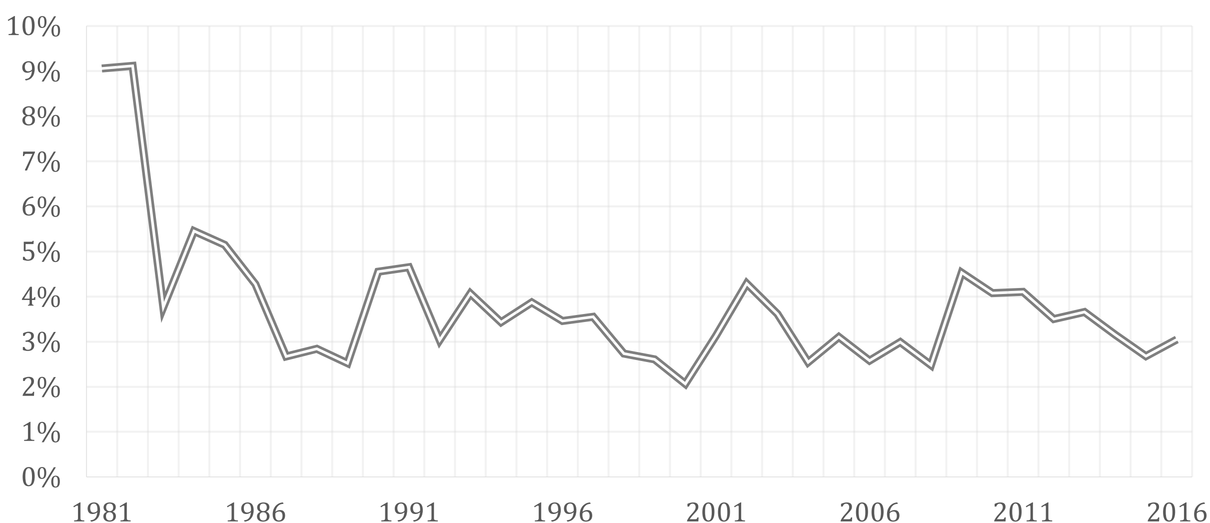


Source: Posner (1970) and Gallo et al. (2000). The light grey line is the series from Posner, and the dark grey line is the series from Gallo et al. The slight difference between the years which they overlap stems from the different ways Posner and Gallo try to eliminate double counting.

Peltzman (2014) only identifies a singular structural shift in the administration of antitrust law in 1982; thus, the implication is that de facto policy was constant after 1982. Leary (2002) makes the same point, but more explicitly, for policy under Reagan, Bush Senior, and Clinton. And the Council of Economic Advisers to Obama, in a brief on competition and market power in 2016, points to the lack of trend in secondary requests for information on mergers by antitrust

authorities, depicted in Figure 3, as evidence of policy stability under Obama. Since the passage of the Hart–Scott–Rodino Antitrust Improvements Act in 1976 merging parties valued above a certain threshold must notify antitrust authorities. If the government wants to intervene, its first step in that process is a secondary request for more information on the merger to see if it will harm competition. Adjusted total transaction represents the total number of mergers and acquisitions reported to antitrust authorities each year. As we can see in Figure 3, except for the initial drop after 1982 when the DOJ dramatically redefined merger policy, there has not been much change in secondary requests for the last thirty years.

Figure 3: Second Requests/Adjusted Total Transactions[7]



Source: Annual Competition Reports: https://www.ftc.gov/policy/reports/policy-reports/annual-competition-reports. For 1985 through 2016, data is for fiscal year (transactions reported between October 1 and September 30). For 1982 through 1984, data is for calendar year.

[7] Total adjusted transactions omit from the total number of transactions reported all transactions for which the agencies were not authorized to request additional information. These include (1) incomplete transactions (only one party filed a complete notification); (2) transactions reported pursuant to the exemption provisions of Sections 7A (c)(6) and 7A(c)(8) of the Act; (3) transactions which were found to be non-reportable; and (4) transactions withdrawn before the waiting period began. In addition, where a party filed more than one notification in the same year to acquire voting securities of the same corporation, e.g., filing one threshold and later filing for a higher threshold, only a single consolidated transaction has been counted because as a practical matter the agencies do not issue more than one Second Request in such a case. These statistics also omit from the total number the transactions reported secondary acquisitions filed pursuant to §801.4 of the Premerger Notification rules. Secondary acquisitions have been deducted in order to be consistent with the statistics presented in most of the prior annual reports.

However, total secondary requests as a percent of adjusted total transactions is also a crude measure of the intensity of antitrust enforcement. First, a secondary request by the DOJ or the FTC does not necessarily mean either of the agencies will contest the merger. They could proceed to give the merger clearance – letting the deal continue unobstructed. Or they could allow the merger to proceed if the merging parties submit to certain structural remedies. The degree to which these remedies are good substitutes to blocking the merger are debatable. Second, secondary requests only started in the late 1970s after the passage of the Hart-Scott-Rodino Act. Thus, they do not offer good comparison with the merger policy during the 1960s and 1970s. Third, data on total secondary requests conflates information on mergers in thinly concentrated markets with data on mergers in highly concentrated markets. Thus, it does not show change over time in how antitrust authorities are dealing with mergers of different sizes or that create different levels of concentration.

In addition to the ideas outlined above, there are also many in the popular press who have argued that antitrust policy has oscillated since the early 1980s as control of the White House shifts between Republicans and Democrats.[8] Thus, the question remains: how has the administration of antitrust policy changed over the last half century? How intense was the shift in the early 1980s and how has it changed since? To shed light on these important questions, in the following section, we explore change in the DOJ's Horizontal Merger Guidelines – looking at both change in HHI thresholds for contestation and change in exceptions to the general policy. In the fourth section, we analyze change in secondary requests for mergers and acquisitions of different size. In the fifth section, we look at pre, post, and change in HHI in mergers and acquisitions contested by the DOJ through the courts. In the sixth section, we explore the reason for this dramatic shift in antitrust administration, and, in the seventh section, we compare current administration of antitrust law with the past and conclude.

3. *Horizontal Merger Guidelines*

In Table 1, we display data on the DOJ's definition of unconcentrated, moderately concentrated, and highly concentrated markets. These definitions are the foundation for

[8] For example, see John M. Broder, F.T.C. Rejects Deal To Join Two Giants of Office Supplies, New York Times, Apr. 5, 1997, p. 1; Robert D. Hershey, Jr., An Energetic Trustbuster, but Not a Boat Rocker, New York Times, July 25, 1994, p. 1; James Vicini, Antitrust Enforcement Tougher Under Clinton, Chicago Sun-Times, Nov. 6, 1994; Sharon Walsh, Antitrust Head Bingaman to Leave Post By Nov. 15, Washington Post, Aug. 2, 1996, at A19.

administration of antitrust policy; they specifically define what is meant by a substantial reduction in competition per Section 7 of the Clayton Antitrust Act. These definitions were first laid out in 1968 with the DOJ's publications of the Horizontal Merger Guidelines (HMGs) of that year and were redefined in 1982 and 2010 under newer editions of the said guidelines. As highlighted by Peltzman (2014) and as we can see below, policy changed dramatically between 1968 and 1982. Indeed, under the 1968 HMGs, the DOJ did not even define unconcentrated markets – meaning that consolidation in even thinly concentrated markets could be contested. Also, the definition of moderately and highly concentrated markets was lower, the change in HHI inside these categories that triggered contestation was also lower, and the wording on the likelihood of contestation by the DOJ was much stronger. In terms of the latter, in the 1968 guidelines, the DOJ did not mince words stating that mergers and acquisitions would be challenged if change in concentration exceeded the limits laid out in Table 1. Furthermore, the 1968 HMGs also had a "trend toward concentration" category which essentially lowered the bar for DOJ contestation of mergers and acquisitions in both moderately and highly concentrated markets when the market share of the top four firms had increased by seven percentage points over the last five to ten years. This category was eliminated from later HMGs.

In 1982, the DOJ created the "Unconcentrated Market" category – giving a free pass to mergers and acquisitions by companies in markets with an HHI of less than 1000. At the same time, the DOJ increased the threshold for contestation in moderately and highly concentrated markets – reducing the likelihood that a merger or acquisition would be blocked by the DOJ. Indeed, the change in HHI threshold for DOJ contestation in moderately concentrated markets doubled from 50 to 100 in 1982. Likewise, in the 1982 HMGs, the DOJ outline more grey area; some mergers could "potentially" lead to DOJ contestation and other mergers were "likely" to lead to contestation. Indeed, the change in HHI thresholds outlined in Table 1 for 1982 and 2010 represents mergers and acquisitions that "potentially" would be contested.

In 2010, the HMGs were again dramatically redefined. The definition of unconcentrated markets was stretched from an HHI of less than 1000 to include HHIs of 1500, and highly concentrated markets were defined to only start with HHIs greater than 2500 – up from 1800 in the 1982 HMGs. Also, the change in HHI that "potentially" triggered contestation inside a highly concentrated market was increased to 100, and the change in HHI that was "likely" to lead to contestation was increased to 200.

Table 1: Department of Justice Horizontal Merger Guidelines

	1968		1982		2010	
	Definition of Category	**Challenge mergers**	**Definition of Category**	**Challenge mergers**	**Definition of Category**	**Challenge mergers**
Unconcentrated Markets	--	--	HHI < 1000	--	HHI < 1500	--
Moderately Concentrated	HHI < 1406[9]	ΔHHI ≥ 50[10]	1000 ≤ HHI < 1800	ΔHHI ≥ 100	1500 ≤ HHI < 2500	ΔHHI ≥ 100
Highly Concentrated	HHI ≥ 1406	ΔHHI ≥ 30	HHI ≥ 1800	ΔHHI ≥ 50	HHI ≥ 2500	ΔHHI ≥ 100

Source: Horizontal Merger Guidelines, Department of Justice, https://www.justice.gov/atr/merger-enforcement.

These three HMGs defined de jure antitrust policies for the broad periods that separates them. Thus, there are substantial periods which were covered by the same guidelines (1968 – 1982, 1982 – 2010, and post-2010). However, de jure policy did not stay completely constant over these intervals. In the HMGs published in between 1982 and 2010,[11] there was a change in scope for exceptions to general antitrust policy outlined in Table 1. In 1968, the DOJ did not leave much room for exceptions to the general policy: "Unless there are exceptional circumstances, the Department will not accept as a justification for an acquisition normally subject to challenge under its horizontal merger standards the claim that the merger will produce economies." However, starting in 1982 and intensifying in 1984 and after, the DOJ included more potential for exceptions to the general guidelines. This showed up as both changes in

[9] The 1968 HMG were defined in terms of market shares. The DOJ defined moderately concentrated market in 1968 as where the largest four firms had a market share of less than 75 percent. The lower bound HHI equivalent for such a market share is 1406 – where the top four firms each have a market share of 18.75 percent and the rest of the firms in the market have an infinitesimally small share.

[10] The 1968 HMG defined which mergers and acquisitions would be challenged inside each category based on size of the acquiring and acquired firms. For example, if the acquiring firm had a market share of five percent or less, then the DOJ would only challenge the merger if the acquired firm had a market share of greater than five percent. The different thresholds for firms with different market shares led to different HHI thresholds for challenging mergers and acquisitions inside moderate and highly concentrated markets.

[11] The DOJ promulgated HMGs in 1968, 1982, 1984, 1992, 1997, and 2010. The guidelines in 1984, 1992, and 1997 repeated the same general formula for contestation as those before them. However, wording and content in other parts of these guidelines changed.

language highlighted above and in giving more space to outlining the different exceptions to the general policies.

For example, in the 1984 HMGs, the DOJ explained that "[s]ome mergers that the Department otherwise might challenge may be reasonably necessary to achieve significant net efficiencies." Parties just had to demonstrate clear evidence of benefit from economies of scale or elsewhere. In the 1997 HMGs, the DOJ outlined more explicitly the potential for exceptions from economies of scale and for mergers that lead to increased research and development. And in the 2010 HMGs, the DOJ seemed to lower the burden of proof to exceptions to its general guidelines for challenging mergers and acquisitions. It first highlighted the difficulty of showing the purported increase in innovation from consolidation but continued to say that the Department was still open to exceptions made on claims of increased innovation.

Thus, the definition of unconcentrated, moderately concentrated, and highly concentrated markets and change in HHIs inside these markets that trigger contestation give us a clear picture of change in antitrust policy in 1982 and 2010 as outlined by the DOJ. However, the increase in exceptions and the increase in grey areas in the post 1968 HMGs opens up the potential for an increasing divergence between actual antitrust policy and that outline in Table 1. Thus, it is important to look at de facto policy to understand the evolution of antitrust administration.

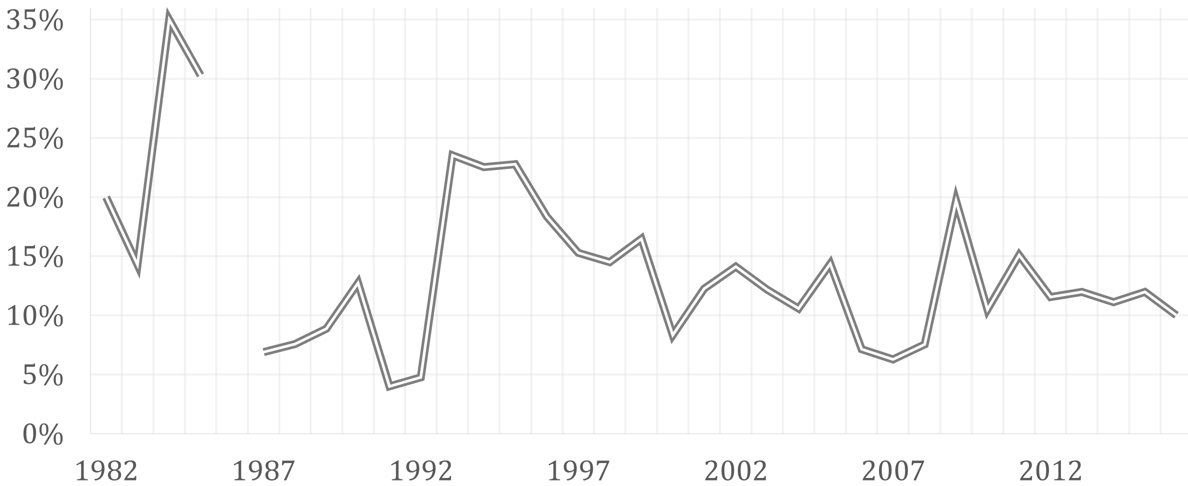
4. *Secondary requests by size category*

To shed some light on changes in de facto policy since the 1980s, in this section, we look at secondary requests filed by the FTC and DOJ against mergers and acquisitions of different sizes. As mentioned above, a secondary request by the FTC or the DOJ is the first step antitrust authorities take if they want to contest a merger or acquisition. In Figures 4 through 8, we present data on second requests for mergers where the size of the transaction is greater than $1 billion, between $1 and $0.5 billion, between $0.5 and $0.3 billion, between $0.3 and $0.2 billion, and between $0.2 and $0.15 billion all as a percent of adjusted total transactions of the same size.[12] Adjusted total transaction represents the total number of mergers and acquisitions of the said size reported to antitrust authorizes each year.

[12] The size of transaction is based on the aggregate total amount of voting securities, non-corporate interests and/or assets held by the acquiring person as a result of the transaction and are taken from the response to Item 2(d)(iii), 2(d)(vii), and 2(d)(ix) of the Notification and Report Form.

Figure 4: Second Requests/Adjusted Total Transactions

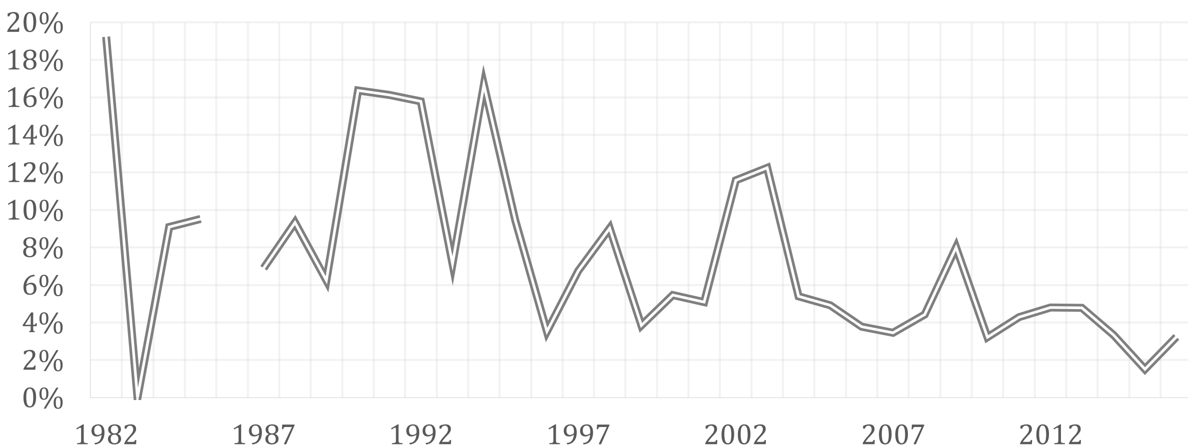
(For Mergers where size of Transaction is greater than $1 Billion)



Source: Annual Competition Reports: https://www.ftc.gov/policy/reports/policy-reports/annual-competition-reports. For 1985 through 2016, data is for fiscal year (transactions reported between October 1 and September 30). For 1982 through 1984, data is for calendar year.

Figure 5: Second Requests/Adjusted Total Transactions

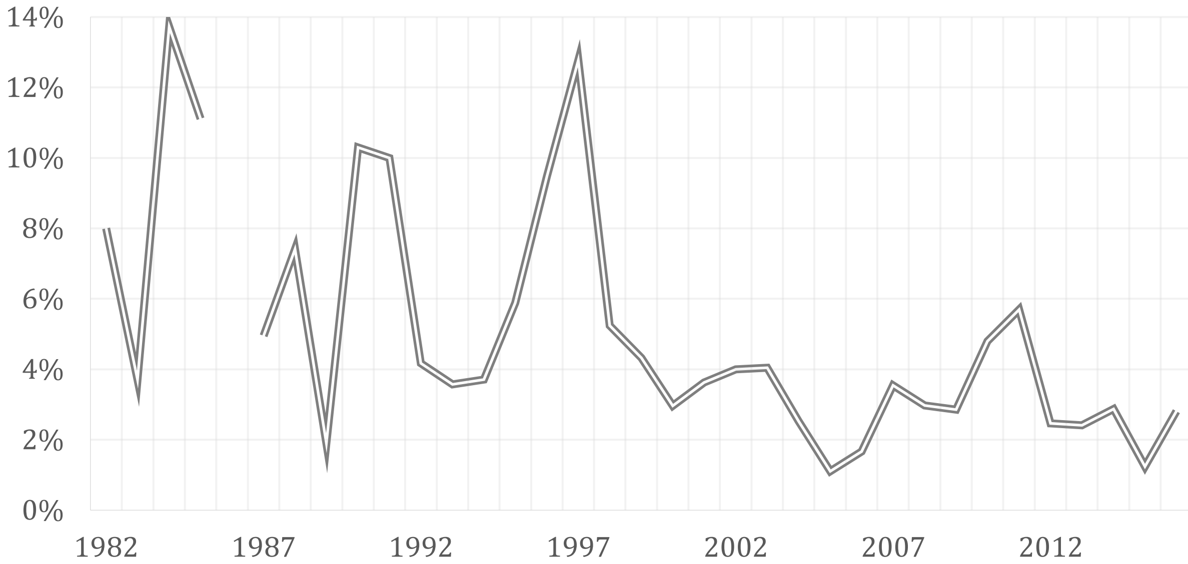
(For Mergers where size of Transaction is between $0.5 - $1 Billion)



Source: Annual Competition Reports: https://www.ftc.gov/policy/reports/policy-reports/annual-competition-reports. For 1985 through 2016, data is for fiscal year (transactions reported between October 1 and September 30). For 1982 through 1984, data is for calendar year.

Figure 6: Second Requests/Adjusted Total Transactions

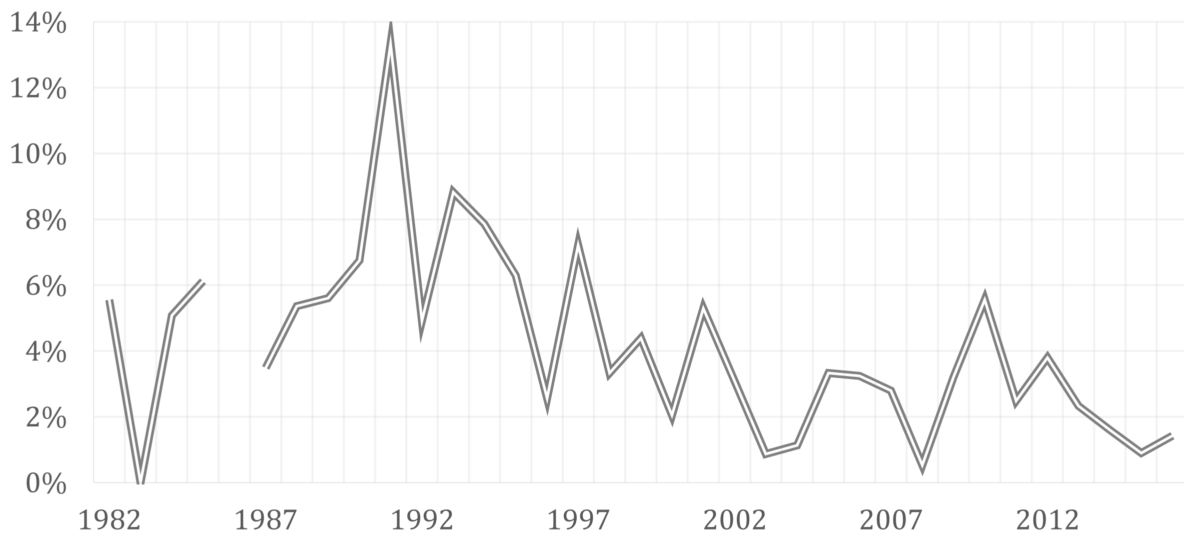
(For Mergers where size of Transaction is between $0.3 - $0.5 Billion)



Source: Annual Competition Reports: https://www.ftc.gov/policy/reports/policy-reports/annual-competition-reports. For 1985 through 2016, data is for fiscal year (transactions reported between October 1 and September 30). For 1982 through 1984, data is for calendar year.

Figure 7: Second Requests/Adjusted Total Transactions

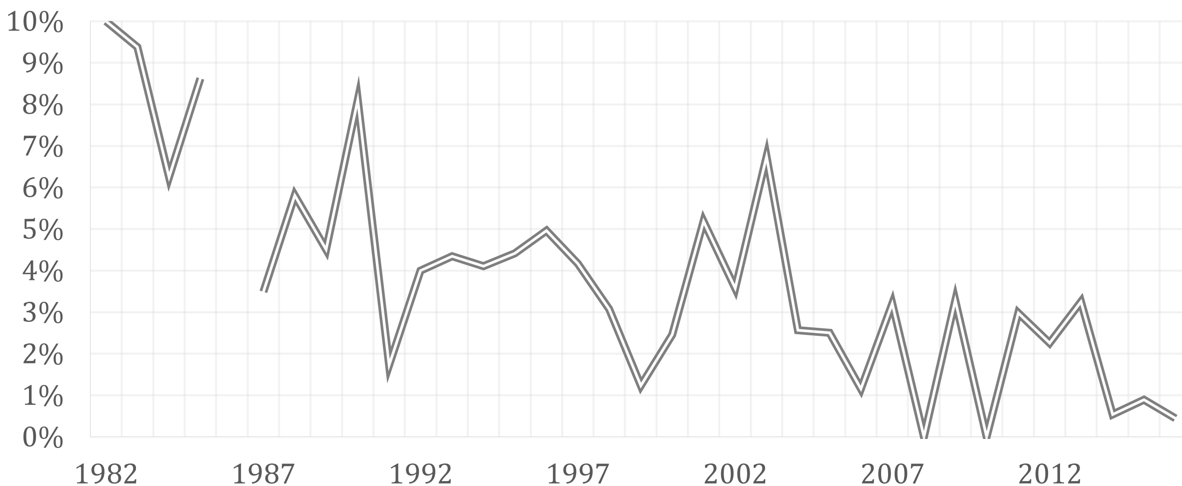
(For Mergers where size of Transaction is between $0.2 - $0.3 Billion)



Source: Annual Competition Reports: https://www.ftc.gov/policy/reports/policy-reports/annual-competition-reports. For 1985 through 2016, data is for fiscal year (transactions reported between October 1 and September 30). For 1982 through 1984, data is for calendar year.

Figure 8: Second Requests/Adjusted Total Transactions

(For Mergers where size of Transaction is between $0.15 - $0.2 Billion)



Source: Annual Competition Reports: https://www.ftc.gov/policy/reports/policy-reports/annual-competition-reports. For 1985 through 2016, data is for fiscal year (transactions reported between October 1 and September 30). For 1982 through 1984, data is for calendar year.

As we can see, except for Figure 7, starting in the early 1980s and continuing until at least the early 2000s, there is a clear downward trend in the percent of mergers and acquisitions where the FTC and DOJ file secondary requests. For example, between 1982 and 1985, the DOJ and FTC filled second requests on one quarter of all merger valued at over $1 billion. Between 2010 and 2014, the DOJ filed second requests on less than 12 percent of all mergers valued at over $1 billion. Thus, a growing percent of very larger mergers and acquisitions have been allowed to go through after just initial reporting. The decline in scrutiny has been more intense for mergers and acquisitions where the total valuation is less. In Figure 7, the downward trend is there, but it starts a little later – in the 1990s – and continues – like with mergers of other sizes – through the mid-2000s. In some of the size categories, like for mergers between $0.5 and $1 billion and between $0.3 and $0.5 billion, the downward trend seems to continue, although less marked, until the end of the series in 2014.

It is important to note that we should be careful about making strong conclusions from second request data. For example, even though second requests were decreasing, the percent of

second request that were converted into district court cases contesting the merger or acquisition by antitrust authorities *could* have been increasing. Depending on the relative changes, the result *could* be that antitrust administration, as measured by actual contested cases in district court as a percent of mergers and acquisitions per year, has been constant or even intensifying.

That said, the trends depicted in Figures 4 through 8 are evidence of increasing permissiveness of consolidation by antitrust authorities. Figures 4 through 8 seem to show that antitrust policy has steadily become less rigorously applied since the promulgation of the 1982 HMGs. Thus, even though the years between 1982 and 2010 were under the same general formula for DOJ contestation, that of the 1982 HMGs, de facto policy seems to have been steadily changing. In this light and because there is no abrupt change in secondary requests in 2010, the HMGs from that year could have been de jure policy catching up with policy on the ground.

5. *Antitrust Cases*

Ultimately, the Department of Justice defines Section 7 of the Clayton Antitrust Act by trying to block or modify mergers and acquisitions through the courts. In this section, we look at pre, post, and change in HHI values for horizontal mergers and acquisitions contested through the courts by the DOJ – the final stage of antitrust enforcement. The data on DOJ horizontal mergers cases is located on the DOJ website.[13] From the list of antitrust case filings, we use competitive impact statements and complaints filed by the DOJ to compile data on concentration before the merger or acquisition, change in HHI from the transaction, and the level of concentration if the transaction was allowed to go through.[14] In Figures 9 through 11, we plot yearly means and standard deviations and a five year moving average for pre, post, and change in HHI levels for all DOJ horizontal merger cases from 1968 through 2015.

These values allow for visualization and estimation of the de facto definition of permissible mergers. The five-year moving average and yearly means in each figure represent two different ways to estimate the focus of DOJ antitrust policy and thus two estimates of the acting definition of a substantial reduction in "competition, or tend to create a monopoly." By

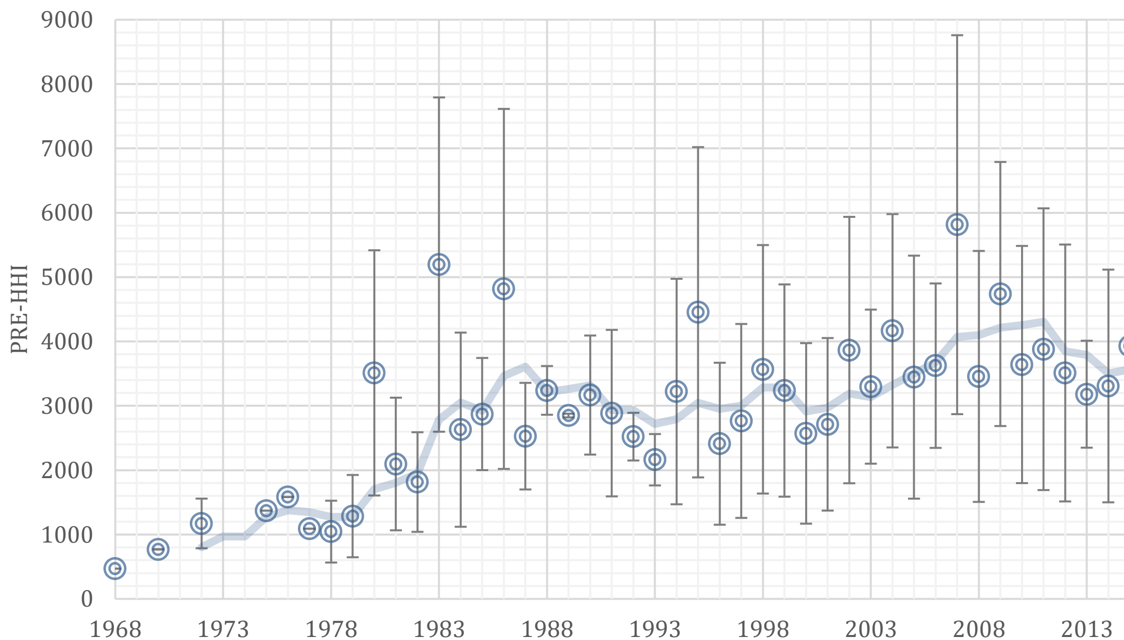
[13] See https://www.justice.gov/atr/antitrust-case-filings?field_case_date_value%5Bvalue%5D%5Byear%5D=&field_case_type_value=civil_merger&field_brief_federal_court_value=All&field_case_violation_tid=7211&industry-code=.

[14] These reports are also available on the DOJ website.

focusing on these mergers and acquisitions, the DOJ effectively demonstrates to the private sector the threshold for contestation. Mergers and acquisitions below the threshold are deemed permissible and those above are deemed illegal by the DOJ. The standard deviation represents the degree to which the DOJ threshold for contestation is conditional. A small standard deviation demonstrates that the private sector perceives the threshold for the DOJ contestation to be without exceptions, and a large standard deviation demonstrates that the private sector perceives the threshold for DOJ contestation to be open to exceptions.

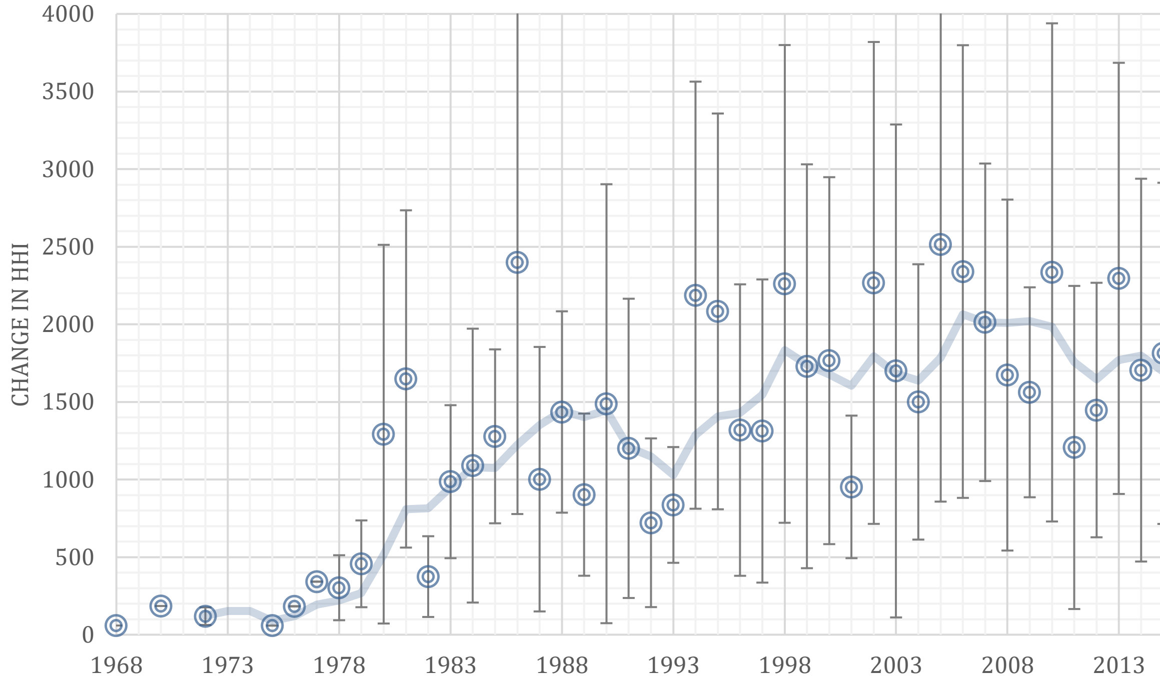
As we can see from Figures 9 through 11, in the late 1960s through the mid-1970s, the bar for DOJ contestation of a merger or acquisition was much lower and more well defined. The antitrust division at the Department of Justice contested mergers and acquisitions in even thinly concentrated markets making clear to companies that mergers that would more severely reduce competition were not permissible. Indeed, the average change in HHI of mergers and acquisitions contested through the courts by the DOJ was just over 100 between 1968 and 1974.

Figure 9: Pre-Merger HHI for DOJ Case Filings



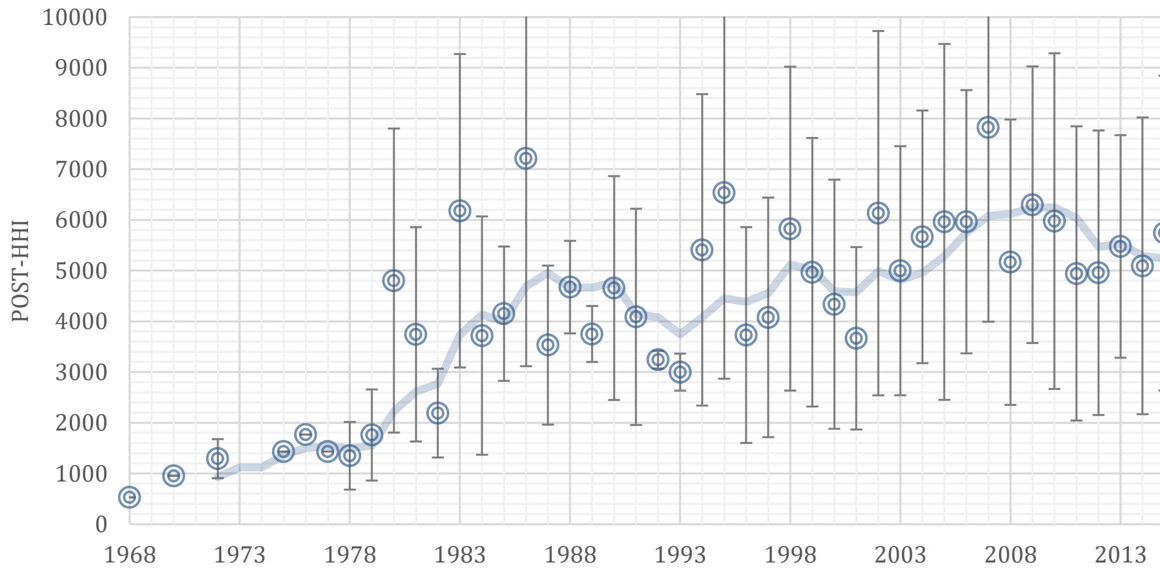
Source: Authors compilations using DOJ complaint filings and competitive impact statements.

Figure 10: Change in HHI from Merger for DOJ Case Filings



Source: Authors compilations using DOJ complaint filings and competitive impact statements.

Figure 11: Post-Merger HHI for DOJ Case Filings



Source: Authors compilations using DOJ complaint filings and competitive impact statements.

In the late 1970s, the DOJ seems to have already been moving in a more permissive direction. The average change in HHI for mergers and acquisitions contested by the DOJ increased to over 320 in the late 1970s and it continued to increase in the 1980s. Thus, it seems that the change in the HMGs in 1982 only marked a formalization of change in de facto antitrust policy already underway. Throughout the 1980s, 1990s, and early 2000s the mean level of pre, post, and change in HHI of DOJ horizontal merger cases moved upwards. In doing so, the Department of Justice opened more ground for permissible mergers and acquisitions. Thus, like with the late 1970s, between 1982 and 2009, horizontal merger policy was made more permissive even though the operating HMGs did not change during this period.

We can also see a dramatic increase in the dispersion of pre, post, and change in HHI for DOJ horizontal merger cases starting in the 1980s. Presumably, this means that the private sector perceived that, starting in the early 1980s, many exceptions to general DOJ merger policy existed. Indeed, as highlighted in the section above, after 1982, the DOJ made considerable effort to demonstrate the many exceptions the general HMGs thresholds. Thus, on top of having to define de facto threshold for contestation, the Department of Justice had to define acting definitions for the proliferating exceptions to the general rule leading to a dispersion of cases at widely varying levels of pre, post and change in HHI.

6. *Why did policy change?*

Why did antitrust policy change so dramatically in 1982 and thereafter? Defenders of the change argue that it was due to recognition of efficiency gains from mergers and acquisitions (For example, see Williamson, 2002; James, 2002; Kolasky and Dick, 2002). In the 1960s and early 1970s, merger policy solely focused on preventing an increase in market power. For example, in *Brown Shoe Co. v. U.S.* in 1962, the Supreme Court ruled that "we cannot fail to recognize Congress' desire to promote competition, through the protection of viable, small, locally-owned business. Congress appreciated that occasional higher costs and prices might result from the maintenance of fragmented industries and markets. It resolved these competing considerations in favor of decentralization."[15] Five years later in *FTC v. Procter & Gamble Co.*, the Supreme Court explained that "Possible economies cannot be used as a defense to illegality.

[15] Brown Shoe Co. v. U.S., 370 U.S. 294 (1962).

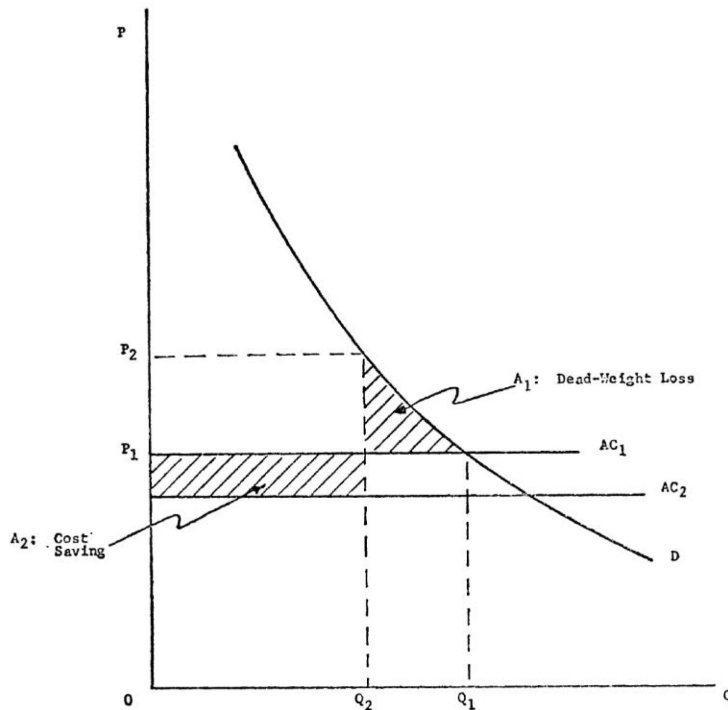
Congress was aware that some mergers which lessen competition may also result in economies, but it struck the balance in favor of protecting competition."[16] These ideas were reflected in the DOJ's 1968 HMG through the possibility of blocking any merger – even in unconcentrated markets, the low thresholds for contestation in moderately and highly concentrated markets, the trend towards concentration provision which lowered thresholds even more, and the extremely low possibility of exception from the basic guidelines even if a company could demonstrate economies of scale.

In the 1980s, policy solidified around the idea that a decrease in net surplus from a decrease in competition must be weighed against increases in efficiency from economies of scale (Williamson, 2002; James, 2002; Kolasky and Dick, 2002). In Figure 12, we replicate the basic partial equilibrium model used by Oliver Williamson (1968) to promote this change. D represents the market demand curve. AC_1 represents the average cost of production for firms before the merger or acquisition. AC_2 is the average cost by the combined firm as a result of economies of scale. P_1 is the market price of the product before the merger, and P_2 is the price after. Area A_1 represents the dead weight loss from the merger – the sole focus of the DOJ in the 1960s and early 1970s. Area A_2 represents the cost savings from the decrease in average cost from economies of scale. Thus, the idea promoted by Williamson and later adopted by the DOJ and the courts is that if the cost savings, A_2, is greater than the dead weight loss, A_1, antitrust authorities should allow the merger to go through, because it would increase net benefits. Thus, even if a merger or acquisition leads to a decrease in competition and an increase in price, it could be overall efficiency enhancing by lowering producers' cost and thus increasing net benefits to producers.

While increasing efficiency was the official claim, it seems hard to substantiate for several reasons. First, if maximizing efficiency is the main goal and economies of scale exist, the optimal strategy would be to allow a merger or acquisition to take place *and* regulate the price of the expanded company. However, this possibility seems to never have been considered. Indeed, in several other spheres, like in antitrust, the government went in exactly the opposite direction allowing companies to have more freedom over setting the price. For example, Scherer (2009) documents the change in law and administration which allowed patent holders to exercise more market power.

[16] FTC v. Procter & Gamble Co., 386 U.S. 568 (1967).

Figure 12: Partial Equilibrium Analysis of Net Benefit Changes from Mergers and Acquisitions



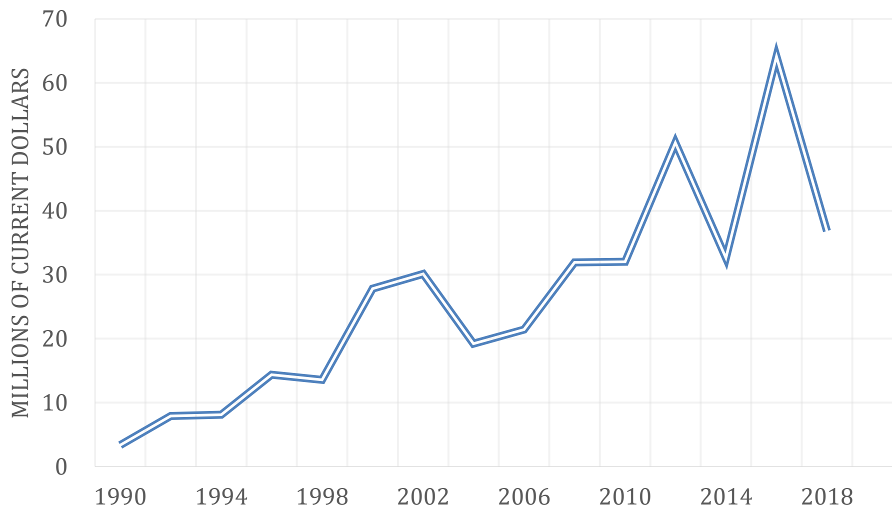
Source: Williamson (1968).

Second, increases in concentration that increases market power on the selling side, as depicted in Figure 12, might also increase market power on the buying side, not shown in Figure 12. For example, Belemelch et al. (2018) look at labor market concentration and wages between 1977 and 2009 across manufacturing industries and counties in the United States. They find that the average county-manufacturing industry Herfindahl-Hirschman Index (HHI) went from 0.698 in 1977 through 1981 to 0.756 in 2002 through 2009. After controlling for labor productivity and other relevant factors, Benmelech et al. find that higher levels of concentration are associated with lower wages, and that employers' ability to push down wages has increased over time. This monopsony power would signify that the dead weight loss in Figure 12 doesn't capture all efficiency loses from consolidation. At the same time, some of the decrease in average cost of production which is attributed to economies of scale might come from increased market power in buying labor or other factor inputs.

Third, the basic partial equilibrium model does not account for growth effects. Yet, there are several ways increased concentration can hurt growth. For example, the huge profits to be earned through market power incentivize firms to dedicate significant resources to lawyers to probe the many exceptions to antitrust law and to spend money in political campaigns to elect politicians that will serve their needs and in lobbyists to influence politicians already in office to create or keep rules favorable to consolidation. The larger the rent the more money firms are incentivized to spend to protect it. In Figure 12 for example, it would be maximizing for the firm to spend up to $(P_2 - A_2)Q_2$ to politically secure its market power.

Indeed, the actual amount spent at present in some industries in the United States is immense. In Figure 13, we show data on total expenditures on political campaigns by pharmaceutical companies between 1990 and 2016. As we can see, the amount spent per year is astronomical. In 2018, pharmaceutical companies spent over $64 million dollars on political campaigns. This doesn't count money used for lobbying to influence politicians already in office or on lawyers to navigate antitrust laws. This investment, and similar investment by other industries, represent resources diverted from other, more socially beneficial activities – like investing in research and development. As a result, increased market concentration is likely to have a negative effect on the overall growth of the economy.

Figure 13: Political Campaign Spending by Pharmaceutical Companies



Source: https://www.opensecrets.org/industries/totals.php?cycle=2018&ind=H04.

Fourth, change in antitrust administration was not just a change in exceptions for cases where companies could demonstrate economies of scale. Indeed, the change in thresholds in the 1982 and 2010 HMGs allow for increased market power for any firm – independent of demonstration of economies of scale. Fifth, the DOJ's evaluation of economies of scale and other benefits from mergers and acquisitions does not seem to require much evidence. For example, as highlighted above, in the 2010 HMGs, the DOJ admitted that it is difficult to show the purported increase in innovation from consolidation but continued to say that the Department was still open to exceptions made on claims of increased innovation – even though it would be difficult to prove. At the same time, there is evidence that economies of scale are more limited than implied by antitrust administrators from the amount of consolidation they allowed to take place. For example, Johnson and Kwak (2010) explain that economies of scale for financial institutions vanish at some point below $10 billion in total assets – far less than that of big American financial institutions.[17]

Because of this long list of inconsistencies, it doesn't seem like increased efficiency was the driving force behind change in antitrust law. What then was the driving force? In the 1960s and early 1970s, elites became increasingly aware of the negative effect changes in antitrust law and other developments (like the minimum wage, environmental regulation, patent law, etc.) had on their situation and began to mobilize. In 1971, Lewis Powell, a Richmond lawyer, former president of the American Bar Association, member of the board of directors of several large corporations, and soon to be Supreme Court Justice, wrote a confidential memorandum calling on businessmen to act collectively: "as every business executive knows, few elements of American society today have as little influence in government as the American businessman, the corporation, or even the millions of corporate stockholders… the American business executive is truly the 'forgotten man.' Business must learn the lesson, that political power is necessary; that such power must be assiduously cultivated; and that when necessary, it must be used aggressively and with determination – without embarrassment and without the reluctance which has been so characteristic of American business."

Responding to the same pressures that motivated Powell and his call and other calls to action, corporations opened offices in Washington D.C. and exponentially expanded their

[17] In 2010, the smallest of the top six financial institutions in the United States, Morgan Stanley, had $712.5 billion in assets. The biggest of the top six, Bank of America, had $2.28 trillion in assets.

lobbying activities. Additionally, elites expanded business organizations to push collective issues. For example, between 1974 and 1980, the Chamber of Commerce's doubled its membership and tripled its budget, and between 1970 and 1979, the National Federation of Independent Business also doubled its membership. Business interests also started new organization like the Business Roundtable in 1972 and the Heritage Foundation in 1973. Membership of the former was only extended to top CEOs with the intent of mobilizing them "as a collective force to lobby for the advancement of shared interests." By 1977, it "had enlisted 113 of the top Fortune 200 companies, accounting for nearly half the economy" (Phillips-Fein, 2009; Hacker and Pierson, 2010; Stelzner, 2014, 2015).

This mobilization reoriented political alignments and re-centered policy. By the early 1980s, the realignment had solidified (for example, see Phillips-Fein, 2009; Hacker and Pierson, 2006 and 2010; Stiglitz, 2013; or Stelzner, 2014). Indeed, the direct benefits of the transformation of antitrust law in the early 1980s and thereafter are clear; as can be seen in Figure 12, an increase in concentration would lead to transfers, equal to $(P_2 - A_2)Q_2$, from consumers to producers and thus an increase in inequality. As talked about in the introduction and depicted in Figure 1, Loecker and Eeckhout (2017) show that this transfer has taken place, and has been growing, from the 1980s to present. Likewise, as a result of this political reorientation, several parallel changes in administration to benefit elite took place in other areas, like in financial and labor law (Sherman, 2009; Epstein and Montecino, 2016; Stelzner, 2017; Hoyt, Stelzner, and Ramchurn, 2019).

7. *Historical perspective and Conclusion*

Antitrust policy since 1981 is eerily reminiscent of the late Gilded Age and Progressive Era. In the end of the nineteenth century, antitrust policy focused on price setting and other restraint of trade violations and gave a green light to mergers and acquisitions. For example, in *U.S. v. E.C. Knight Co.* (1895), the Supreme Court held that consolidation did not constitute a restraint of trade under the Sherman Antitrust Act of 1890 – even if the firm controlled 90 percent of the market. Thus, the Court made mergers legal. Two years later in *U.S. v. Trans-Missouri Freight Association* (1897), the Supreme Court held that railroad pooling, a type of price fixing, was illegal and implied that similar agreements between industrial firms were also illegal. Eliminating any further doubt, in February 1898 in *Addyston Pipe and Steel Co. v.*

United States, the Court of Appeals held price fixing illegal in manufacturing (Bittlingmayer, 1985). Thus, business turned to merger. In 1898, firm disappearance from mergers and acquisitions increased fivefold from the previous three years. And in 1899 through 1901, mergers and acquisitions further increased with the value of firms that disappeared from consolidation reaching 12.9 percent of gross domestic product (GDP) in 1899 and 9.8 percent of GDP in 1901 (Nelson, 1959).

Since the early 1980s, the DOJ has recreated very similar de facto policy by reducing the number of mergers contested by antitrust authorities and by focusing on price fixing and other non-merger activity. This has had the effect of keeping one business strategy off limits – restraint of trade activity through less formal cooperation. At the same time, antitrust authorities have given the green light to mergers and acquisitions that were previously considered anticompetitive under the Clayton Act. As a result, like during the turn of the twentieth century, merger activity and market power has increased dramatically.

Some of the reorientation of law has been driven by the Supreme Court. The decrease in intensity of administration of merger policy at the DOJ in the mid-1970s seems to reflect the shock from the Supreme Court's reversal on merger policy in *United States v. General Dynamics* (1974). In this case, the Supreme Court changed course in its interpretation of antitrust law. The Court moved from focusing on preserving competitors, even in fragmented markets,[18] to defining a merger and acquisition policy that allowed mergers, even in highly concentrated markets, if the merging parties could provide some justification of merging (like economies of scale) or provide reason why it would not lead to an increase in price (like long term sales contracts, firm entry, etc.).

The difference with the past is that change in administration of antitrust policy has been the dominate driver of policy change. Since the early 1980s, the DOJ has been one step ahead of the Supreme Court in giving a green light to consolidation – even in highly concentrated markets. The DOJ reformulated antitrust policy by explicitly redefining which mergers and acquisitions it would contest and thus redefining Section 7 of the Clayton Act. At the same time, its de jure policy opened the door for an increasing number of exceptions to the general guidelines for DOJ contestation of a merger or acquisition. As we have seen, de facto policy

[18] For previous Supreme Court view's, see *Brown Shoe Co., Inc. v. United States* (1962) and *United States v. Von's Grocery Co.* (1966).

seems to have little relation that outlined in the HMGs. Indeed, as we have seen above, since the early 1980s, there has been a continuous decrease in the percent of horizontal mergers and acquisitions of all sizes that have faced DOJ scrutiny. The percent of mergers and acquisitions where the total valuation of the consolidating parties was greater than $1 billion that faced secondary requests for information from the DOJ or FTC fell by 50 percent between the beginning of the 1980s and 2014. Also, the de facto bar for contestation in terms of pre, post, and change in HHI for mergers and acquisitions contested by the DOJ through the court has moved upward giving a green light to mergers and acquisitions that were previously deemed illegal.

Like in the past, these policies are justified on the idea that the unregulated outcome is optimal, or more optimal, than the regulated outcome. However, as explained above, such arguments are both theoretically and empirically lacking, and even if taken at face value do not justify the actual policy implemented. Instead, these policy shifts seem to stem from periods of exceptional elite capture of government. Thus, the solution to addressing the deregulation of antitrust policy and the dramatic increase in consolidation at present, as in the early twentieth century, must be a political solution. Also, as the historical perspective illuminates, we must both use politics to change the law and administration but also to change the political system so that we do not find ourselves in the same situation sometime in the future.

Bibliography

Adelman, M. A. (1951). The measurement of industrial concentration. *The Review of Economics and Statistics*, 33(4), 269-296.

Baxter, William. (1985). *Antitrust: A Policy in Search of Itself*, 54 Antitrust L.J. 15, 16.

Benmelech, E., Bergman, N., and Kim, H. 2018. “Strong Employers and Weak Employees: How Does Employer Concentration Affect Wages?” (No. 24307) National Bureau of Economic Research.

Bittlingmayer, G. (1985). Did antitrust policy cause the great merger wave?. *The Journal of Law and Economics*, 28(1), 77-118.

Corbae, D., & D’Erasmo, P. (2013). *A Simple Quantitative General Equilibrium Model of Banking Industry Dynamics*. mimeo.

Council of Economic Advisers (2016). *Benefits of Competition and Indicators of Market Power*. Issue Brief April 2016. https://obamawhitehouse.archives.gov/sites/default/files/page/files/20160414_cea_competition_issue_brief.pdf.

Davis, K., Schoen, C., Guterman, S., Shih, T., Schoenbaum, S. C., & Weinbaum, I. (2007). Slowing the growth of US health care expenditures: what are the options. *The Commonwealth Fund*, 47, 1-34.

De Loecker, J., & Eeckhout, J. (2017). The rise of market power and the macroeconomic implications (No. w23687). *National Bureau of Economic Research*.

Epstein, G., & Montecino, J. A. (2016). *Overcharged: The High Cost of High Finance*. Roosevelt Institute.

Federal Communications Commission (2015). Eighteenth Mobile Wireless Competition Report. https://apps.fcc.gov/edocs_public/attachmatch/DA-15-1487A1.pdf

Flint, C. R. (1902). The Gospel of Industrial Steadiness. *The Trust: Its Book, 86*.

Furman, Jason, and Peter Orszag. 2015. “A Firm-Level Perspective on the Role of Rents in the Rise in Inequality.” Paper presented at Columbia University’s “A Just Society” Centennial Event in Honor of Joseph Stiglitz, New York, NY.

Gallo, J. C., Dau-Schmidt, K., Craycraft, J. L., & Parker, C. J. (2000). Department of Justice Antitrust Enforcement, 1955—1997: An Empirical Study. *Review of Industrial Organization*, 17(1), 75-133.

Gaynor, M., Ho, K., & Town, R. J. (2015). The industrial organization of health-care markets. *Journal of Economic Literature*, 53(2), 235-284.

Hacker, J. S., & Pierson, P. (2006). *Off center: The Republican revolution and the erosion of American democracy.* Yale University Press.

Hacker, J. S., & Pierson, P. (2010). *Winner-take-all politics: How Washington made the rich richer--and turned its back on the middle class*. Simon and Schuster.

Hawley, E. W. (2015). *The New Deal and the problem of monopoly*. Princeton University Press.

Hofstadter, R. (1955). *The age of reform: From Bryan to FDR* (Vol. 95). Vintage.

Hoyt, Stelzner, and Ramchurn (2019). Government, Labor Laws, and Distribution. Working paper.

James, C. (2002). Remarks of Charles A. James Assistant Attorney General, Antitrust Division U.S. Department of Justice on the occasion of the Twentieth Anniversary of the 1982 Merger Guidelines. https://www.justice.gov/archives/atr/giant-steps-remarks-charles-james-assistant-attorney-general-antitrust-division.

Johnson, S., & Kwak, J. (2010). *Thirteen bankers: The Wall Street takeover and the next financial meltdown.* Pantheon.

Kolasky, W. & Dick, A. (2002). The Merger Guidelines and the Integration of Efficiencies into Antitrust Review of Horizontal Mergers.

Koller, Tim et al. 2015. *Valuation: Measuring and Managing the Value of Companies*. Sixth Edition. John Wiley & Sons.

Krattemaker, T. G., & Pitofsky, R. (1991). Antitrust Merger Policy and the Reagan Administration. J. Reprints *Antitrust L. & Econ*., 21, 769. https://www.justice.gov/archives/atr/merger-guidelines-and-integration-efficiencies-antitrust-review-horizontal-mergers.

Leary, Thomas. (2002). *The Essential Stability of Merger Policy in the United States*, US/EU Conference, January 17, 2002. https://www.ftc.gov/public-statements/2002/01/essential-stability-merger-policy-united-states.

Nelson, R. L. (1959). *Merger movements in American industry, 1895-1956* (No. 66). Princeton: Princeton University Press.

Nutter, G. W. (1951). *The extent of enterprise monopoly in the United States, 1899-1939: a quantitative study of some aspects of monopoly*. University of Chicago Press.

Peltzman, S. (2014). Industrial Concentration under the Rule of Reason. *The Journal of Law and Economics*, 57(S3), S101-S120.

Phillips-Fein, K. (2009). *Invisible hands: The making of the conservative movement from the New Deal to Reagan.* WW Norton & Company.

Posner, R. A. (1970). A statistical study of antitrust enforcement. *The Journal of Law and Economics*, 13(2), 365-419.

Powell, L. (1971). Confidential Memorandum: Attack on the Free Enterprise System, Aug. 23, 1971, Powell-Sydnor Correspondence, Powell Papers, pp. 24-5.

Scherer, F. M. (2009). The political economy of patent policy reform in the United States. *J. on Telecomm. & High Tech.* L., 7, 167.

Sherman, M. (2009). A short history of financial deregulation in the United States.

Shields, D. A. (2010). *Consolidation and concentration in the US dairy industry*. Congressional Research Service Report, 41224.

Stelzner, M. (2014). Political contest, policy control, and inequality in the United States. *Review of Keynesian Economics*, 2(3), 365-383.

Stelzner, M. (2017). The new American way—how changes in labour law are increasing inequality. *Industrial Relations Journal*, 48(3), 231-255.

Stiglitz, J. E. (2012). *The price of inequality: How today's divided society endangers our future.* WW Norton & Company.

Stiglitz, J. (2017). America Has a Monopoly Problem—and It's Huge. *The Nation*. https://www.thenation.com/article/america-has-a-monopoly-problem-and-its-huge/.

Valentine, Debra. (1996). *The Evolution of U.S. Merger Law*, INDECOPI Conference, August 13, 1996. https://www.ftc.gov/public-statements/1996/08/evolution-us-merger-law.

Vogt, W. B., & Town, R. (2006). *How has hospital consolidation affected the price and quality of hospital care?.*

Williamson, O. E. (1968). Economies as an antitrust defense: The welfare tradeoffs. *The American Economic Review*, 58(1), 18-36.

Williamson, O. E. (2002). The Merger Guidelines of the U.S. Department of Justice—In Perspective. https://www.justice.gov/archives/atr/merger-guidelines-us-department-justice-perspective.