

A Work Project, presented as part of the requirements for the Award of a Master's degree in Finance from the Nova School of Business and Economics.

Regulatory Hurdles in M&A transactions: Focus on the Hart-Scott-Rodino Act

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12-12-2023

Abstract

This thesis investigates the intricacies of mergers and acquisitions, specifically emphasizing the impact of the Hart-Scott-Rodino (HSR) Antitrust Improvements Act on the regulatory framework governing these types of deals. Considering the growing globalization of businesses, the research examines the relationship between clearances from the Department of Justice (DOJ) and the Federal Trade Commission (FTC), as well as the effect of transaction size on the likelihood of second request investigations by antitrust authorities. The study makes use of a dataset of transactions covered by the HSR Act and uses descriptive statistics, Pearson correlation analysis, and Chi-square testing to investigate the relationship between regulatory actions, transaction features, and the performance of the participating enterprises.

Keywords (Mergers and Acquisitions,Hart-Scott-Rodino Act,Antitrust Regulations,Regulatory Landscape).

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

Introduction

Mergers and Acquisitions are strategic undertakings for companies to expand their market presence, obtain competitive advantages and fulfill growth objectives in today's fast shifting global business scene. However, the intricacies of M&A transactions are heightened when they cross international borders. This thesis is built around M&A deals that are identified by their stringent regulatory regimes and particular competitive hurdles.

M&A transactions, may involve the merger of firms from various countries, each of which is bound by its specific list of legislative limitations and impacted by miscellaneous cultural standards and business practices. Scholars and practitioners alike have examined the complexities of M&A transactions throughout the years, providing an insight on the various aspects of this occurrence.

The competitive environment for M&A deals is challenging. Distinctions in organizational cultures, management styles, and strategic goals can either improve or worsen synergy (Haspeslagh & Jemison, 1991). Cultural differences, in particular, have long been recognized as a possible source of competitive advantage as well as a considerable barrier to overcome (Cartwright & Cooper, 1992). Integrating diverse company cultures and coordinating goals post-merger are difficult processes that can determine the venture's success or failure (Larsson & Finkelstein, 1999).

The regulatory issues prevailing mergers and acquisitions have garnered significant interest. Regulatory framework set forth by different countries have a critical role in establishing the transactions' landscape. Antitrust laws, for instance, are widely used to guarantee equal access to markets and discourage monopolistic behavior. Companies that intend to merge across borders must abide by the rules of antitrust approvals, which can have a major influence on the viability and success of a deal. (Bhagat & Malhotra, 2015).

Moreover, taxations hurdles and foreign investment restrictions impede M&A deals. While some countries may be open to international investments, other may enact severe regulations that necessitate rigorous compliance and negotiation approaches. Legal compliance, which includes variances in labor regulations, intellectual property rights, and company governance, presents substantial challenges that must be tackled throughout the M&A process (Li, 2019). The growing internationalization of company operations has compounded the complications associated with M&A deals. Companies that start on global expansion initiatives have a plethora of regulatory frameworks that they must go through. According to Dunning (2018), the proliferation of M&A transactions needs a thorough understanding of the regulatory frameworks in which corporations operate. Antitrust legislation, such as the Hart-Scott-Rodino Act (HSR) Antitrust Improvements Act in the United States, provide an additional layer of complication and scrutiny to these transactions in this global setting.

Governments across the world require entities interested in merging to inform authorities ahead of time. This gives antitrust regulators additional time to scrutinize the acquisitions' competitive effect before finalizing the transaction. However, due to their size, the vast majority of transactions are not required to file the premerger notification. In the United States, these exemptions primarily rely on the idea that only big transactions would have substantial market implications to support potential merger reviews (Wollmann, 2019).

However, the assumption has never been scientifically tested. This is true despite the fact that M&A transactions have increased to the point where trillions of dollars in ownership rights are transferred annually in the United States alone, posing numerous risks, and despite a potential mistake in reasoning revealed by many years of research in industrial organization economics.

The Hart-Scott-Rodino Act of 1976 is frequent in the field of merger and acquisition regulation, particularly in the United States. This essential section of legislation requires

firms interested in certain merger and acquisition transactions to notify both the Federal Trade Commission (FTC) and the Department of Justice (DOJ) before the transactions can be completed. Scholars such as Smith and Johnson (2020) have been instrumental in raising awareness regarding the implications of the HSR Act for M&A transactions. Their research has emphasized the significance of comprehending the Act's requirements, the intricacies of the review process, and the potential consequences of regulatory scrutiny. Ownership changes that have an influence on domestic company activity are subject to US competition law. They must comply with the criteria outlined in Section 7 of the Clayton Act of 1914, which prohibits any transaction that could potentially reduce competition or aim to create a monopoly. Despite being considered the cornerstone of merger-related enforcement today (Baer, 2014), the initial draft of the Clayton Act was proved to be problematic for reasons that are paramount to understanding this study. Many direct competitors discovered the possibility of a successful merger even after the majority of significant loopholes were closed in 1950. These companies discreetly merged their activities and engaged in quiet negotiations, disclosing as little information as possible to avoid being investigated. When the agencies finally found out about these transactions, it was too late to reverse them because assets had already been commingled and information had already been communicated, making it as difficult as “unscrambling eggs” (Baer, 1996). As a result, although the 1914 law gave rise to the ability to halt anticompetitive agreements before they were finalized, it didn’t provide means to the opportunity to discover such agreements when they were just beginning. When Congress supported the HSR Act with bipartisan backing in the late 1970s, this practice ceased and the US premerger notice scheme was established. Unless specifically exempted, the act mandates parties to any proposed ownership transfer to file a premerger notification to inform agencies of their intentions, submit pertinent information, and wait up to thirty days. Files are first scrutinized during this period, and if they raise any concerns, one

agency will be required to request “clearance” to investigate. The act is notable for prohibiting companies from purposefully avoiding reporting requirements through transaction structuring and for imposing severe penalties for non-compliance.

Only mergers that will decrease consumer welfare are attempted to be blocked or modified by the Federal Trade Commission and the Department of Justice. The task of enforcing laws effectively is huge.

The antitrust agencies have a limited amount of time to assess the anticipated impact of major adjustments in market structure on consumer welfare. Furthermore, mergers occur in practically every sector of the economy, requiring teams of economists and lawyers to deal with highly different institutional aspects from case to case.

Considering the complexity of the regulators' role, there is remarkably little empirical evidence on the effects of mergers to help regulators make decisions. Empirical research on the returns of completed mergers can help regulators establish if previous antitrust enforcement was handled effectively, as well as develop more effective strategies for forecasting the anticipated consequences of mergers on competition.

THE HART-SCOTT-RODINO ANTITRUST IMPROVEMENTS ACT

The HSR Act tackled two hurdles experienced by agencies tasked with executing Section 7 of the Clayton Act. To begin with, under the 1962 Antitrust Civil Process Act, the Department of Justice couldn't compel third parties, such as competitors and trade groups, to submit information concerning corporate acquisitions until a Section 7 complaint was filed.

As a result, during pre-complaint investigations, the Antitrust Division was dependent on voluntary cooperation from interested third parties. Congress believed that this type of cooperation was withheld far too frequently, leaving both Divisions two unfulfilling options: drop an investigation due to a lack of information, or file a “skeleton complaint” based on

limited data, with the expectation that post-complaint discovery would reveal information that endorsed the charge. Congress recognized that the FTC, as well as several federal and state entities, possessed investigative capabilities that the DOJ lacked. Prior to filing a complaint, the DOJ has the authority under the HSR Act to make Civil Investigative Demands to the merging firms and other entities not directly involved in the transaction. Moreover, prior to the HSR Act, the government was not able to demand the deferral of prospective acquisitions while they were being investigated. The agencies believe that preventing mergers is the most effective strategy to address anticompetitive issues. The agencies can always ask a court to stop a planned acquisition, but it's mandatory to give evidence to the court that the transaction will be anticompetitive. Such proof is tough to gather in a matter of days. Before finalizing a large merger, companies were compelled by the HSR Act to notify the FTC and the DOJ.

Premerger notification is required if:

- **Size-of-Transaction Threshold:**

If the acquisition meets or exceeds a certain value, known as the "size-of-transaction" threshold, notification to the Federal Trade Commission (FTC) and the Department of Justice (DOJ) is required. As of 2023, the size-of-transaction threshold is \$111.4 million. This means that if the total value of the stock acquisition is equal to or exceeds \$111.4 million, the HSR Act filing requirement is triggered. If the value of the transaction exceeds a significantly higher level—now set at **\$445.5 million**—a filing may be required even if the size-of-person test is not satisfied.

- **Size-of-Persons Threshold:**

This threshold is based on the total assets or annual net sales of the acquiring person and the acquired person. If both the acquiring and acquired persons have at least \$18.4 million in total assets or annual net sales, the size-of-persons threshold is met. If only one of the parties meets the threshold, the size-of-persons threshold may still be satisfied if the other party has at least \$184 million in total assets or annual net sales. When both parties to a transaction have assets or revenue exceeding \$10 million (the smaller size of person), as adjusted, and \$100 million (the larger size of person), as adjusted, then the Size of Person test is satisfied. The smaller size of a person is expected to be \$22.3 million in 2023, while the larger size is expected to be \$222.7 million.

The HSR essentially causes the U.S. antitrust regulators to make determinations under stringent legally mandated time limitations because it is undesirable to postpone efficient mergers. Though it usually only lasts 15 days for cash tender proposals, the HSR Act allows the government 30 days to complete its initial review. The government sends the merging parties a "second request" if they think there could be concerns with the merger. A comprehensive subpoena asking documentary evidence (including quantitative data) pertinent to the government inquiry is the second request. Although there isn't a set timeline for the merging parties to comply with the second request, it would be in their best interests to do so immediately in order to avoid unduly delaying the transaction

A- Antitrust Investigations and Regulatory Clearances: Exploring Transaction Size and Correlations between FTC and DOJ Approvals

1.2 Rationale for the Study

The study delves into the intricate and diverse landscape of M&A transactions, emphasizing the need for a comprehensive examination of regulatory challenges posed by the HSR Act

and their implications for entities involved. The research aims to enhance the existing knowledge base by addressing the following key aspects:

The impact of transaction size on the likelihood of facing second request investigations from antitrust authorities. The correlation between clearances granted by the FTC and DOJ, and how this correlation shapes the regulatory landscape.

By exploring these aspects, the research provides nuanced insights into the interplay between transaction characteristics, regulatory actions, and the subsequent performance of firms engaged in M&A transactions. Subsequent chapters will delve into the methodology, present empirical results, and discuss the practical and policy implications of the findings. The goal is to contribute valuable insights to the understanding of HSR Act impacts in M&A transactions and their repercussions on market competition.

2. Sample Selection and Methodology

2.1 Sample Selection

Our research focuses on a dataset of transactions subject to the Hart-Scott-Rodino (HSR) Act, with a particular emphasis on horizontal mergers challenged under Section 7 of the Clayton Act. The information ranges from 2012 to 2021 and provides an in-depth overview of the latest changes in M&A regulatory scrutiny. The sample is categorized based on transaction size, with three distinct groups: "50M - 100M," "200M - 300M," and "Over 1000M."

To ensure relevance and comparability, we limit our sample to transactions challenged by antitrust authorities, resulting in a dataset of thirty mergers.

2.2 Selection of Variables

2.2.1 Size of Transaction

The size of the transaction serves as a key independent variable, categorized into three groups: "50M - 100M," "200M - 300M," and "Over 1000M." This classification enables a more in-depth analysis of the impact of transaction size on regulatory actions.

2.2.2 Second Request Investigations

Our primary dependent variable is the occurrence of second request investigations by both the Federal Trade Commission (FTC) and the Department of Justice (DOJ). It is binary, indicating if either regulatory authority started a second request investigation.

2.2.3 Clearances by FTC and DOJ

To investigate the relationship between FTC and DOJ clearances, we collect data on the number of clearances granted by each agency. This variable measures the degree of alignment or divergence in regulatory decisions.

2.3 Methodology

To identify patterns and relationships within the dataset, we use a combination of descriptive statistics and statistical tests. Chi-square tests are used to investigate the relationship between transaction size and the beginning of second request investigations by the FTC and DOJ. A Pearson correlation analysis is also performed to study the relationship between FTC and DOJ clearances. We can quantify the degree and direction of the relationship between these two variables using this quantitative approach.

The statistical analyses are complemented by case-specific examinations, providing insight into on individual transactions and regulatory outcomes. We intend to provide an extensive understanding of the HSR act hurdle inside M&A transactions and its repercussions by using this multifaceted approach.

3. Preliminary Results

3.1 Descriptive Statistics

Before analyzing the statistical tests, we present descriptive statistics to offer an overview of the dataset. The distribution of transactions across the three size categories ("50M - 100M," "200M - 300M," and "Over 1000M") reveals insights into the prevalence of different transaction magnitudes in our sample.

SECOND REQUEST INVESTIGATIONS FTC															
Transaction Size		0	1	2	3	4	5	8	10	11	13	15	16	33	Total
	200M-300M	1	2	4	1	2	0	0	0	0	0	0	0	0	10
	50M-100M	5	3	0	1	0	0	0	0	1	0	0	0	0	10
	Over 1000M	0	0	0	0	0	2	1	1	0	2	1	2	1	10
Total		6	5	4	2	2	2	1	1	1	2	1	2	1	30
SECOND REQUEST INVESTIGATIONS DOJ															
Transaction Size		0	1	2	3	4	7	9	10	11	13	18	Total		
	200M-300M	1	5	3	0	1	0	0	0	0	0	0	10		
	50M-100M	6	0	2	2	0	0	0	0	0	0	0	10		
	Over 1000M	0	0	0	0	0	1	1	3	2	1	2	10		
Total		7	5	5	2	1	1	1	3	2	1	2	30		

Table 1: Descriptive Statistics of Transaction Size

The frequency distribution of transactions in each size group is shown in Table 1, offering an illustration of the dataset's composition. This descriptive overview serves as the foundation for the future analysis, providing preliminary insights into the distribution of transactions subject to regulatory examination.

3.2 Chi-Square Tests: Size of Transaction and Second Request Investigations

3.2.1 FTC Investigations

The Chi-square test is used to evaluate the relationship between transaction size and the beginning of second request investigations by the Federal Trade Commission (FTC). The findings show a statistically significant association, implying that transaction size is not independent of the probability of an FTC investigation.

Table 2: Chi-Square Test Results for FTC Investigations

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	44.800 ^a	24	0.006
Likelihood Ratio	51.007	24	0.001
N of Valid Cases	30		

a. 39 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

The p-values and test statistics in Table 2 show a substantial relationship between transaction size and the occurrence of FTC investigations. This finding supports our initial prediction, indicating that larger transactions are more likely to draw FTC regulatory investigation.

Chi-Square Tests (FTC) :

- **Pearson Chi-Square (44.800):** The significance value with 24 degrees of freedom is .006, showing that there is a statistically significant association between transaction size and second requests for FTC investigations.
- **Likelihood Ratio (51.007):** This supports the Pearson Chi-Square result with a significance value of .001, also indicating a significant association.
- **N of Valid Cases:** There were 30 valid cases used in this analysis.
- **Footnote (a):** which may compromise the chi-square test's validity due to the insignificant sample size in each cell.

3.2.2 DOJ Investigations

Chi-square tests, similar to those used by the FTC, are used to investigate the association between transaction size and second request investigations by the Department of Justice (DOJ).

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	47.657 ^a	20	<.001
Likelihood Ratio	53.445	20	<.001
N of Valid Cases	30		

a. 33 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

Table 3: Chi-Square Test Results for DOJ Investigations

Table 3 shows the outcomes of Chi-square testing for DOJ investigations. The statistically significant p-values show a link between transaction size and the frequency of DOJ investigations. Larger transactions, as expected, have a larger likelihood of drawing the DOJ's scrutiny.

Chi-Square Tests (DOJ)

- **Pearson Chi-Square (47.657):** The significance value is less than .001 with 20 degrees of freedom, indicating a very significant relationship between transaction size and DOJ second request investigations.
- **Likelihood Ratio (53.445):** Also indicates a significant association with a value of less than .001.
- **N of Valid Cases:** Again, there were 30 valid cases used in this analysis.
- **Footnote (a):** Similar to the FTC test, notes that 100% of the cells have expected counts less than 5, which could potentially impact the robustness of the chi-square test results.

These preliminary findings add to our understanding of the regulatory landscape by stressing the importance of transaction size in affecting the likelihood of FTC and DOJ second request investigations.

3.3 Pearson Correlation: Clearances by FTC and DOJ

Beyond the initiation of investigations, we examine the relationship between FTC and DOJ clearances. The goal of this study is to identify patterns in regulatory decisions as well as potential areas of alignment or divergence between the two agencies.

Table 4: Pearson Correlation Analysis for Clearances by FTC and DOJ

		Number of FTC clearances	Number of DOJ clearances
Number of FTC clearances	Pearson Correlation	1	.565**
	Sig. (2-tailed)		0.001
	N	30	30
Number of DOJ clearances	Pearson Correlation	.565**	1
	Sig. (2-tailed)	0.001	
	N	30	30

****.** Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation analysis findings are shown in Table 4. The moderate positive correlation coefficient (.565) reveals a significant relationship between the number of FTC and DOJ certifications. This data shows that regulatory decisions are synchronized, emphasizing the interrelated nature of the clearance process.

- Pearson Correlation (Number of FTC clearances vs. Number of DOJ clearances): The correlation coefficient is .565, indicating that there is a positive link between the number of FTC clearances and the number of DOJ clearances. This shows that when the number of FTC clearances increases, so does the number of DOJ clearances, and vice versa.

- **Sig. (2-tailed):** This correlation's significance value (p-value) is .001, which is less than the accepted threshold of .01. This implies that the correlation is statistically significant at the 1% level, which means that there is only a 0.1% chance that this moderate positive correlation could have occurred if the two variables in the population from which the sample was drawn had no link.

- **N:** The study requires thirty sets of data for both FTC and DOJ certifications. This is the sample size that was utilized to compute the correlation. The double asterisks (**) next to the correlation coefficient (.565) show that the correlation is significant at the 0.01 level (2-tailed), which supports the p-value's statement. In conclusion, the study indicates a statistically significant moderate positive association between the number of clearances granted by the FTC and the DOJ. This could imply that the methods or criteria employed by these organizations to clear transactions are related in some way, or that they clear a similar number of transactions due to similar operating scopes or regulatory frameworks.

4. Link to Hypotheses

The preliminary findings provide useful insights into the connections we sought to investigate in our hypothesis. In this section, we establish the links between our hypothesis and the observed data patterns.

4.1 Hypothesis 1: Size of Transaction and Second Request Investigations

Our first hypothesis proposed that the size of a transaction will influence the requirement for additional regulatory investigations. The Chi-square tests performed for both the FTC and the DOJ investigations give sufficient evidence to support this hypothesis.

The analysis showed a significant association between transaction size and the frequency of second request investigations by both the FTC and the DOJ. Larger transactions in the "200M - 300M" and "Over 1000M" categories were more likely to be scrutinized by regulators. This

is consistent with our expectations and highlights the regulatory scrutiny drawn by large transactions.

4.2 Hypothesis 2: Correlation Between Clearances by FTC and DOJ

Our second hypothesis was to investigate the relationship between FTC and DOJ clearances. The Pearson correlation analysis reported in Table 4 provides crucial insights into the two agencies' regulatory decision-making processes.

The moderate positive correlation coefficient (.565) indicates a significant relationship between the number of clearances issued by the FTC and the DOJ. This suggests that their regulatory judgments are consistent or aligned. Our hypothesis about the association between clearances is supported by empirical evidence, underlining the importance of collaboration among agencies in the clearance process.

4.3 Implications for M&A Transactions and Antitrust Regulation

The preliminary findings have important implications for the broader subject of M&A transactions and antitrust legislation. The statistically significant links shown between transaction size, interagency clearances and investigations, enable us to comprehend the regulatory dynamics of mergers and acquisitions.

These initial findings set the groundwork for a thorough examination of the regulatory obstacles in M&A transactions, serving as a foundation for further analysis and discussion in later parts.

The study's findings have significant implications for the overall field of M&A transactions and the landscape of antitrust regulation, notably within the context of the Hart-Scott-Rodino (HSR) Act.

The statistically significant relationship observed between transaction size and the likelihood of regulatory investigations, particularly the Federal Trade Commission (FTC) and the

Department of Justice (DOJ), emphasizes the necessity of understanding the impact of transaction size on the regulatory scrutiny procedure. The likelihood of a second request inquiry grows with transaction size, demanding a more complete and sophisticated approach to compliance for larger transactions. This insight is critical for organizations engaged in M&A activities because it helps them anticipate and navigate potential regulatory roadblocks based on deal size.

The observed moderately positive correlation between FTC and DOJ clearances provides useful insights into the cooperation and interaction between these regulatory authorities. Despite their diverse duties, the agencies tend to clear a similar number of transactions. This association shows that the FTC and DOJ utilize similar criteria or methods when analyzing deals. Understanding this relationship improves predictability for organizations under regulatory scrutiny, allowing them to anticipate likely outcomes and optimize compliance activities. For industry stakeholders, including corporations, legal advisors, and policymakers, these findings offer practical guidance. Companies involved in M&A transactions can leverage the insights into the regulatory landscape to tailor their compliance strategies based on transaction size. Legal practitioners can benefit from understanding the correlation between FTC and DOJ clearances, aiding in more informed client advice and strategic planning.

The consequences of different market power and economic efficiency hypotheses for the behavior of bidders', targets', and competitors' stock prices are presented in Table 5. The prophecies are predicated on the idea that stock prices represent fair and impartial evaluations of the current worth of investors' claims to future cash flows from companies. Following the announcement of merger-related events, adjustments to these cash flow forecasts will result in adjustments to shares prices. We make the assumption that mergers are investments that increase value for the merging firm data presented in

Table 7 for all of the forecasts listed in Table 5. Merger proposals and prodefendant choices, which increase the likelihood that a merger will occur or, once done, survive, are thereby linked to positive abnormal returns for merging firms. Complaints and pro-government choices are examples of events that decrease probability and will negatively impact merger partners' prices. It is possible to distinguish between competing hypotheses by using the pricing consequences of the merger on rival firms, which are contingent upon the merger's competitive impact.

B- MARKET POWER AND EFFICIENCY HYPOTHESES

1. Market Power Hypotheses

The theory of collusion suggests that mergers that were subject to challenges would have fostered implicit or explicit collaboration amongst industry participants. According to this theory, circumstances that raise the likelihood of the merger will result in a rise in the share prices of competitors, reflecting increases in anticipated future cash flows, while circumstances that decrease the likelihood of the merger will be linked to a decrease in competitors' share prices. Additionally, mergers may facilitate predatory behavior by the larger, newly formed company. Price wars against rival companies could benefit the merging companies. As the likelihood of a merger increasing, rivals' stock values will decrease, and when the likelihood of a merger reducing, their prices will increase.

2. Efficiency Hypotheses

Efficiency hypotheses in mergers introduce complexity. Imagine two combined companies introducing technology that lowers costs, affecting the market value of competitors. In industries where rivals are in competition, the "productivity increases" hypothesis predicts a decline in their worth. If combined companies are unable to keep

out competitors, the merger indicates access to cheaper technologies, which could increase competitors' stock values. Productivity and information effects can both result from an efficient merger. The efficiency theory is supported by both positive and negative abnormal returns for rivals, with the exception of Section 7 complaints, which pose a threat to efficient mergers but generally do not injure competitors.

I- Data collection:

1- The Procedure for Selecting Cases by the Agencies

The FTC and DOJ are both responsible for gathering information from miscellaneous sources to investigate the competitive impact of a merger. Under the HSR Act, merging companies are required to disclose the volume of their sales by product lines and domains of horizontal and vertical overlap. Both the FTC and DOJ may request further information from mergers partners and other entities that may be affected by the transaction. Newspaper, trade journals, suppliers, customers, regulatory agencies AND the Department of Commerce are additional data sources(Kintner, 1973).

Market share and industry concentration are the main factors used by the government when selecting cases under the HSR act. Market shares that may entail an antitrust complaint are determined by the Justice Department's Merger Guidelines. The importance of the aggregate market shares varied according to the CR4(the four-firm concentration ratio). For instance, there would probably be opposition to a merger involving two companies that each had 7% of sales in a market where the CR4 was 60% or higher. The Merger guidelines are based on the HHI (Herfindahl-Hirschmann Index) and are more flexible than the previous standards, although they still give an important priority to market structure.

Table 6 shows the number of cases filed each year between 2003 and 2021.

Because regulatory norms are used to analyze merger applications, the authorities must gather market share and concentration statistics to back up their allegations. Firms frequently disagree with the definitions of relevant markets provided by the regulatory bodies. When filing complaints, the authorities typically do not release comprehensive market information, but they do describe the "relevant markets."

Furthermore, during a litigation or an FTC hearing, the names and market shares of competitors are occasionally revealed.

Sample Selection:

Ninety horizontal mergers that occurred between January 2003 and December 2020 that were contested under Section 7 of the Clayton Act constitute our sample. It comprises the fifty horizontal mergers that are contested. Every merger meets the requirements listed below:

1. The DOJ or the FTC claimed that the Act was violated by the merger.
2. The merger proposal was announced between 2009 and 2021.
3. The acquiring company or the target company was publicly traded companies.
4. The merger was willing to jeopardize competition in various industries.
5. This threatened product market is classified as in the North American Industrial Classification System (NAICS) and its upplements.
6. The relevant geographic market was identified as worldwide in the complaint or covered a significant portion of the US.

7. At the time of the merger proposal, at least one competing firm was publicly traded.

The distribution of cases across the sample period is shown in Table 6. The suits were ended in a variety of ways. Following the lawsuit, fifteen mergers were canceled. In thirty-eight cases, consent decrees were issued, with thirty one requiring divestment and seven imposing further scrutiny. As of December 2021, twelve complaints had been dismissed or dropped, with five instances still ongoing.

2- Determination of Competitors

Initially, we combined the six-digit NAICS (North American Industry Classification System) code with a seventh-digit code determined by the national industry information from the North American Industry Classification System and its supplement. We then created an exhaustive list of every company.

We eliminated companies from this list that could not be independently confirmed to be a part of the relevant seven-digit industry. After this revision, we removed companies from the list that did not have stock return data for the specified estimation period.

The resulting group of businesses—now referred to as "seven digit NAICS competitors"—was therefore produced by a methodical procedure that included code selection, list compilation, and iterative refinement depending on availability of stock returns and product line information.

After that, we looked for a second group of businesses that both agencies had identified as competitors to the defendant corporations. A step in the selection process was reading the case summaries found in the agency's fiscal reports. Where no competitions were mentioned, we consulted the actual published reports of the events that were linked to in the summaries. All of the businesses mentioned in these

sources and that were listed on a stock market throughout the applicable time period comprise our second group of rivals. Thirty-one of the ninety cases produced agency-based competitor portfolios when combined with information from the agencies. The count of agency-based competitors per case varies between one and six, and the number of seven-digit NAICS competitors ranges from one to twenty-nine, with a mean of five. When both sets of competitors are included, twenty-five percent of agency-based competitors and sixteen percent of seven-digit NAICS competitors show up as agency-based competitors in the portfolio of competitors for a particular case.

3- Methodology

We quantify abnormal share price performance relative to a given event (the merger proposal, the antitrust complaint, or the case outcome) for the i th merger in our sample by estimating the coefficients of the following regression equation:

$$\tilde{r}_i = \alpha_i + \beta_i \tilde{r}_m + \gamma_i \mathbf{d} + \tilde{\epsilon}_i$$

where $\tilde{r}_i$ denotes the vector of the daily, continuously compounded returns to the acquiring firm, the target firm, or an equal-weighted portfolio of the competing firms.

$\mathbf{d}$ is the vector containing values of one for days in the event period (defined below) and zero otherwise.

$\tilde{r}_m$ represents the vector of daily, continuously compounded returns to the value-weighted CRSP market index.

$\tilde{\epsilon}_i$ is a vector of daily occasional disruptions that are thought to be

unrelated to r_m and D . The multivariate normal distribution with mean zero and constant variance is exhibited by these disturbances, which are serially uncorrelated.

T represents the time window, ranging from 180 days before the event day (day 0) to 10 days following the event day.

Before evaluating the coefficients of Equation (1), Returns from competing companies related to a particular merger are consolidated into an individual equally-weighted sector portfolio to consider any contemporaneous correlation of returns between companies operating in the same field. Throughout the event time, The coefficient β_i displays the average one day abnormal return to the i th acquiring company, target firm, or competitor's portfolio throughout the period, whereas the coefficient γ_i extracts the marketwide influence on securities returns. T is always from two hundred trading days (day 0) in advance of the event day to ten trading days afterward.

The accurate merger-related news is on Day 0. We emphasize the event period of thirty days (day -18 through 8) surrounding the event day to record any prepublication leakage involving pertinent information, which can be caused by a delay in publication of the announcement, as well as any instantaneous post-announcement changes.

Equation 1 is estimated for five different window lengths.: (-19 through 9, -19 through 3, -2 through 2, -1 through 1, and day 0) to provide an overview of the abnormal performance at different times during these thirty days. Our dummy variable d has a value of one for each day in the timeframe. The returns outside the window but inside (-18, 8) are eliminated when estimating γ_i for a window

between -19 and 9. Therefore, As such, the period 180 through -19 for window (-19, 9) is the same as the normal or comparative period for, instance, window (-1, 1). To provide an overview of samplewide abnormal performance, we determine the cumulative average abnormal return (CAAR) in relation to an event period of length D days, we gather data from the number of mergers in the sample.

$$CAARD_D = \frac{D}{N} \sum_{i=1}^N \hat{\gamma}_i$$

$CAARD_D$ combines the OLS estimate of $\hat{\gamma}_i$, derived from the D event days utilized for estimating $\hat{\gamma}_i$, and computes the average of this value throughout the sample of mergers.

The context will reveal if CAARD relates to acquiring companies, target companies, or portfolios of competing companies. Assuming that there are no abnormal returns ($CAARD = 0$) and that the N mergers are independent events, the Z-statistic for large N is as follows:

$$Z_D = \frac{1}{\sqrt{N}} \sum_{i=1}^N \left(\frac{\hat{\gamma}_i}{SE_i} \right)$$

Empirical Results:

Abnormal Performance exhibited by the merging companies

Before providing the outcomes of the hypotheses' tests in Table 5, We offer empirical evidence in favor of the two suppositions underpinning the predictions of the hypotheses. The first is that the mergers under consideration here are investments that increase the worth of the merging firms. This assumption is supported by positive

abnormal returns to target firms and acquiring companies and during the merger suggestion procedure. In addition, We assume that defendants incur costs when the government assists them in cases of disputed mergers. As a result, we anticipate that when complaints are made, defendant firms will receive negative abnormal returns, and defeated defendants can expect negative abnormal returns after the completion of their cases.

Table 7 shows that the findings support both assumptions. Over the three-day period -1 through 1, acquiring firms enjoy considerably positive abnormal returns when compared to the merger proposal date, with CAAR of 0.6 percent (Z -value of 2.1) on average. Fifty five percent of individual bidder companies demonstrate positive abnormal performance during the event time. Target firms show considerable increases compared to the proposal date throughout all five event periods, with a CAAR of 8.5 percent (Z -value of 13.0) across the - 1 through 1 period and 3.4 percent (Z -value of 12.1) on the day of the proposal announcement. Over the thirty days period – 19 through 9 bidder companies obtain CAAR of 2 percent, whereas target companies gain 21.3 percent abnormal returns on average. The final CAAR is greater than 10 standard deviations from zero, and 75 percent of the target firms demonstrate positive abnormal performance. Overall, the results align with the benefits that bidders and target companies receive from proposals as reported in the literature on mergers. Furthermore, antitrust complaints are linked to negative abnormal returns to acquiring firms and target companies that remains listed at the time of the complaint. For example, for the two day period -1 through 1 pertained to the date of the complaint announcement, the CAAR for bidding firms is -1.2 percent (Z -value of -2.0) and -6.4 percent (Z -value of -6.7). The abnormal returns on the day of the complaint are -1.0 percent and -3.4 percent, respectively; both are highly

significant. These negative abnormal returns are assumed to represent a variety of costs that investors expect the defendant firms to bear, such as expenses related to a legal process, delays in the activity of the companies, penalties and charges that are often imposed on settling companies as part of regulatory requirements, and direct loss of merger benefits if the lawsuit ultimately results in the merger being cancelled or some of the acquired assets being divested.

According to the findings in Table 3, the nature of the results determine how much the acquiring firms have lost abnormally in comparison to the final announcement. Cases in which the merger is terminated or divestment is mandated result in considerable abnormal losses for the defendant corporations. Dismissals or final decisions that do not involve divestment, on the other hand, do not appear to create any abnormal changes in the defendants' stock values. Clearly, the government is capable of imposing considerable financial restraints on unsuccessful defendants. As a result, we may reasonably anticipate that the filing of a Section 7 complaint or the issuance of a crucial decision from the government against an anticompetitive M&A transaction will have a considerable impact on the competitors too.

The Congress took steps to strengthen the agencies tasked with executing Section 7 of the Clayton Act. The Hart-Scott-Rodino Antitrust Improvements Act provides new enforcement authorities to the agencies in order to improve their ability to choose truly anticompetitive mergers for prosecution. The HSR Act automatically delays planned mergers so that authorities can assess the competitive effects of the M&A transactions before they are consummated. It also gives agencies the legal authority to acquire merger-related information during precomplaint investigations.

Conclusion

A thorough examination of the effects of antitrust complaints on the financial performance of businesses involved in merger and acquisition (M&A) activity is the result of the investigation into "Regulatory Hurdles in M&A Transactions: Focus on the HSR Act." The identified patterns are as follows: bidder firms typically have positive anomalous returns in around the merger proposal date, whereas target firms show significant returns increases over a range of event periods. Nonetheless, the filing of antitrust cases is associated with abnormally low returns for both targets and bidders. This emphasizes the high costs that these companies would face, such as the potential forfeiture of merger benefits, legal fees, delays, and regulatory constraints.

The report also clarifies the critical function performed by the Hart-Scott-Rodino (HSR) Antitrust Improvements Act, which strengthens the agencies' capacity to apply Section 7 of the Clayton Act. This law gives regulatory authorities the right to proactively gather information relevant to a merger and imposes a purposeful delay in proposed mergers for the purpose of competitive assessment. Clarifying these processes highlights the complex interactions that exist between antitrust laws, regulatory bodies, and the financial results of mergers and acquisitions.

Appendix:

Table 5: Abnormal returns to the Merging Companies and their competitors.

1- Events with increasing probability: Proposal for a merger or defendant's decision		
Hypothesis on the Source of Merger Gains	Abnormal returns to merging companies	Abnormal returns to competitoes
Market power		
Predatory pricing model	Positive	Positive
	Positive	Negative
Economic Efficiency		
Increase of Productivity	Positive	Negative
Information	Positive	Positive
2- Events with decreasing probability: Progovernment ruling or antitrust complaint		
Market power		
Predatory pricing model	Negative	Negative
	Negative	Positive
Economic efficiency		
Increase of Productivity	Negative	Positive
Information	0	0

Table 6: Number of merger cases filed each year between 2003 and 2021(Under the HSR act):

Year	Population			Sample Size		
	D O J	F T C	Total	D O J	F T C	Total
2003	5	3	8	1	0	1
2004	13	2	15	4	0	4
2005	14	4	18	4	0	4
2006	9	6	15	2	2	4
2007	10	4	14	4	3	7
2008	20	7	27	4	4	8
2009	15	6	21	4	5	9
2010	3	2	5	2	1	3
2011	1	0	1	1	0	3
2012	5	21	26	3	3	6
2013	10	17	27	4	3	7
2014	10	13	23	1	1	2
2015	7	11	18	2	0	2
2016	4	8	12	0	2	2
2017	4	7	11	3	2	5
2018	5	7	12	4	3	7
2019	2	3	5	2	5	7
2020	5	4	9	3	2	5
2021	5	14	19	2	2	4
2003-2021	147	139	285	50	38	90

Table 7: The cumulative average abnormal returns as a percentage for acquiring companies and target firms.

		Days Relative to Day 0 of the Merger announcement				
		-19 through 9	-9 through 3	-2 through 2	-1 through 1	0
Merger A nouncement						
A. Acquiring companies						
Merger case announcement	68	2..0*	1.3	1.0*	.6**	0.2
		(1.2, 56)	(.8, 48)	(1.8, 70)	(2.1, 58)	(.2, 5)
Antitrust complaint	55	-1.8	-2.4***	-1.2	-1.2***	-1.0***
		(-1.5, 45)	(-2.4, 43)	(-1.5, 40)	(-2.0, 38)	(-4.4, 35)
Result of the Case						
1. Cancellation or divestment	50	-1.1	-1.5**	-0.9	-.6.1**	-.42***
		(-1.0, 40)	(-2.0, 48)	(-1.0, 38)	(-2.2, 44)	(-2.6, 48)
2. Dismissal or no divestitment	13	-0.5	-0.9	-0.2	-0.5	-0.3
		(-.2, 40)	(-1.0, 46)	(-.7, 38)	(-.4, 40)	(-.5, 54)
B. Target companies:						
Merger case announcement	38	21..3***	20.8***	13.5***	8..5***	3.4***
		(10.7, 75)	(12.4, 84)	(12.8, 76)	(13.0, 76)	(12.1, 61)
Antitrust complaint	22	-6.3***	-7.2	-8.0***	-6.4***	-3.4***
		(-2.2, 23)	(-3.0, 30)	(-5.6, 7)	(-6.7, 9)	(-8.7,14)
Result of the Case						
1. Cancellation or divestment	15	-1.1	-4.2**	-4.7***	-6.0***	-1
		(-.3, 38)	(-1.8, 31)	(-2.4, 38)	(-4.5, 31)	(-1.3, 38)

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