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Rival wealth effects in M&A: rethinking the competitive impact of horizontal transactions in the U.S. TMT sector

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ABSTRACT

Recent antitrust scrutiny in the United States has led to the termination of major mergers in the technology, media, and telecommunications (TMT) sector, reflecting concerns about potential anticompetitive effects. However, sector-agnostic research on announcement effects finds little evidence of such harm from M&A, and TMT-related studies report conflicting results, raising questions about the rationale for aggressive regulatory intervention. This study provides the most comprehensive analysis to date of horizontal M&A effects on rivals within the U.S. TMT sector, analyzing 714 rival announcement reactions across 120 transactions over a period of 20 years. Our findings reveal significant positive shareholder wealth effects for rivals following merger announcements by competitors, suggesting that horizontal consolidation in this sector does not reduce competition. These results resolve previous contradictions in TMT-specific literature and call for a critical reassessment of stringent antitrust enforcement to avoid impeding overall firm value creation. Furthermore, the study challenges the notion that M&A in the TMT sector primarily serves as a competitive strategy for acquiring technological capabilities, offering important implications for both policymakers and industry leaders.

1. Introduction

In recent years, the U.S. technology, media, and telecommunications (TMT) sector has experienced heightened antitrust scrutiny by the Federal Trade Commission (Fung & Thorbecke, 2023), leading to the failure of major deals like Amazon's acquisition of iRobot (Shepardson, 2024) or Adobe's acquisition of Figma (Sriram et al., 2023). Given that the TMT sector has accounted for the largest share of U.S. deal value over the past two decades (White & Case et al., 2024), understanding the role of M&A and its impact on competitive dynamics is crucial to maximizing total economic value creation.

Existing literature (e.g., Clougherty & Duso, 2009; Eckbo & Wier, 1985; Fee & Thomas, 2004) has examined stock price variations of rivals following M&A announcements to assess the consolidation effects on competitive dynamics. The underlying theoretical rationale is that capital markets, through stock price reactions, reflect investor expectations about how M&A transactions will affect rivals' future competitive positions and profitability in product markets. When investors anticipate that a merger will strengthen the combined entity's competitive position—potentially through increased market power, cost advantages, or enhanced capabilities—this should negatively impact rivals' expected future cash flows, resulting in negative abnormal returns. Conversely, positive rival returns

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suggest that investors expect the merger to benefit rivals, either through industry-wide efficiency gains, reduced competitive intensity, or positive spillover effects.

Contrary to the view that M&A necessarily creates a competitive advantage over rivals (e.g., Bernile & Lyandres, 2019), a significant body of empirical research (e.g., Eckbo & Wier, 1985; Gaur et al., 2013; Geiger & Schiereck, 2014; Shahrur, 2005) has identified positive stock returns for rivals, suggesting that these transactions may not have anticompetitive implications.

However, most of this work adopts a sector-agnostic perspective, which may overlook particularities of the TMT sector. The TMT sector is among the largest and most dynamic industries globally, contributing approximately 17% of the total global M&A deal value in 2023 (Koolmann et al., 2024). Given its high deal activity, the sector has been a focal point for M&A transactions, with major technology firms driving significant market performance, as reflected in the NASDAQ's strong returns in recent years. Furthermore, the sector has faced increased regulatory scrutiny, particularly under FTC Chair Lina Khan, whose antitrust policies have specifically targeted "Big Tech," making the competitive dynamics and strategic implications of M&A in this sector especially relevant for academic inquiry.

Despite the TMT sector's economic significance and policy relevance, research examining rival effects in this sector remains surprisingly sparse and presents contradictory findings. The few studies within U.S. telecommunications (Akdoğu, 2009) and technology (Kaufmann & Schiereck, 2023) have identified positive abnormal returns for rivals, while Jope et al. (2010) observed negative shareholder wealth effects across the broader TMT sector. Although the recent findings of Kaufmann and Schiereck (2023) do contribute to the understanding of rival wealth effects, their analysis primarily considers the role of innovation in shaping these effects, rather than examining the broader competitive implications. Critically, Kaufmann & Schiereck (2023) do not distinguish between transaction types, despite evidence that announcement effects differ between horizontal and non-horizontal rivals (Akdoğu, 2009) and despite the central role of horizontal transactions in antitrust policy (Manne, 1965). Given the growing importance of the TMT sector and recent developments in antitrust policy, this study aims to address the mixed findings in prior literature by exploring the impact of horizontal M&A on rivals in the U.S. TMT sector.

This study makes three primary contributions to the literature. First, we provide the most comprehensive analysis to date of horizontal M&A effects on rivals, specifically within the U.S. TMT sector, analyzing 120 transactions capturing 714 rival reactions over the period from January 1, 2004, to December 31, 2023. This focused sectoral approach allows us to address the inconsistent findings in prior TMT research while accounting for the sector's unique characteristics.

Second, by isolating horizontal transactions, we directly address the question most relevant to current antitrust policy debates: do mergers between direct competitors in the TMT sector harm or benefit rival firms? Our focus on horizontal deals provides clearer evidence for policymakers evaluating whether such transactions are likely to create anticompetitive market structures or generate efficiency gains that benefit the broader industry.

Third, our findings contribute to resolving the contradictory evidence in TMT-specific literature while also providing sector-specific context for the broader, predominantly positive rival effects documented in sector-agnostic studies. We find significant positive abnormal returns for rivals, suggesting that horizontal M&A in the TMT sector creates value for rival firms' shareholders. This finding points toward pro-competitive effects, implying that these transactions rather benefit than harm rivals' competitive positions and future profitability.

While acknowledging the limitations of this study, these findings have several implications for stakeholders of the TMT sector. For investors, the positive returns suggest that value is created beyond the merging firms. For managers, M&A should not be viewed as an arms race for technological capabilities, as we find no evidence of competitive advantage, and prior research indicates that innovation gains likely result in positive technological spillovers for industry rivals (Bloom et al., 2013). From a regulatory perspective, horizontal M&A does not, on average, harm rivals, highlighting the importance of designing antitrust policies that do not unnecessarily constrict value-creating transactions.

Future research should further explore these findings by adopting a holistic approach that considers additional stakeholders and broader indicators to understand better the determinants and causal mechanisms behind M&A and the competitive dynamics in the TMT sector.

The remainder of this paper is structured as follows. First, the research hypothesis is developed following an overview of the existing sector-agnostic and TMT-specific literature on M&A announcement effects and rivals. This is followed by an outline of the methodology, including the data collection and preparation. Subsequently, the data analysis is described and discussed in the context of the relevant literature. Lastly, this paper concludes by acknowledging the limitations of this study, providing implications and suggestions for future research, as well as a final summary.

2. Theoretical framework

Extensive research on M&A value creation has employed announcement effects as a key methodological approach. A substantial body of literature examines these effects, consistently finding positive abnormal returns for target firms (e.g., Alexandridis et al., 2012; Firth, 1980; Ishii & Xuan, 2014; Jensen & Ruback, 1983), while results for acquirers remain mixed (e.g., Alexandridis et al., 2012; Alexandridis et al., 2017; Asquith et al., 1983; Dodd, 1980; Firth, 1980).

However, M&A transactions also impact uninvolved firms, particularly industry peers, commonly referred to as rivals. As Schumann (1993) notes, economic models suggest contradicting effects of horizontal M&A on these firms. On the one hand, a merger can enhance productive efficiency for the involved firms, creating a predatory threat in the product market that reduces rival firm value. On the other hand, horizontal M&A increases market concentration, which may facilitate collusive behavior and increased prices, ultimately benefiting uninvolved rivals. To illustrate these relationships, the following five theories attempt to explain how product

market dynamics translate into shareholder wealth effects for rivals: market power, productive efficiency, signaling, buying power, and rational overpayment.

2.1. Market power theory

Market power theory suggests that horizontal M&A increases industry concentration, which facilitates collusion among the remaining firms (Stigler, 1950). With fewer competitors, firms find it easier to coordinate on higher prices or lower output, even without formal agreements. Rivals benefit from the "price umbrella" created by the merged entity, allowing them to raise their own prices and increase profitability without losing market share.

Empirical literature (e.g., Chatterjee, 1986; Geiger & Schiereck, 2014) identifies collusion motives grounded in market power theory to explain positive abnormal returns for rivals. Geiger and Schiereck (2014) discover that in fragmented industries collusive motives drive M&A activity. By reviewing previous literature, Weinberg (2007) finds some evidence suggesting that horizontal mergers lead to consumer price increases, which supports the collusion argument based on price responses. Moreover, comparing different types of transaction synergies, Chatterjee (1986) identifies collusive effects as the most significant value driver.

2.2. Productive efficiency gains

However, other empirical research observes rival effects to be independent from collusion effects and the ultimate success of the merger (Eckbo & Wier, 1985; Schumann, 1993). This independence suggests that market power theory alone does not fully explain rival announcement effects. More recent literature (e.g., Fathollahi et al., 2022; Geiger & Schiereck, 2014) seeks to investigate moderating factors such as market concentration and product similarity to reconcile these conflicting results.

Geiger and Schiereck (2014) find that, in concentrated markets, rivals' reactions to horizontal M&A are primarily driven by gains in *productive efficiency*. This argument posits that M&A is driven by the desire to achieve synergies, such as economies of scale or technological integration. The merging firms become more efficient, lowering their marginal costs and becoming more formidable competitors. Investors anticipate that the newly efficient merged firm will aggressively capture market share or force rivals to lower their prices, threatening their profitability, which implies negative capital market effects.

Correspondingly, several studies suggest that negative abnormal returns for rivals following horizontal M&A can be explained by efficiency synergies anticipated for the involved companies, placing rivals at a competitive disadvantage (Bernile & Lyandres, 2019; Clougherty & Duso, 2023; Geiger & Schiereck, 2014). Uhlenbruck et al. (2017) further demonstrate this perceived disadvantage through their analysis of the strategic reactions of rivals. Furthermore, Clougherty and Duso (2023) highlight that the relatedness between merging firms influences the extent of efficiency gains, thereby moderating the negative abnormal returns for rivals.

However, other studies (e.g., Eckbo, 1983; Shahrur, 2005) argue that merger-related efficiencies may extend beyond the involved firms and trigger industry-wide restructuring. These operational improvements can enhance firm value by imposing new cost pressures on uninvolved competitors, thereby incentivizing them to improve their own efficiency. Consequently, the direction of this theory remains ambiguous: while efficiency gains can justify a decline in rival firm value due to increased competition, they may also lead to positive shareholder wealth if the market anticipates industry-wide productivity growth.

2.3. Signaling theory

For investors anticipating such developments, an M&A announcement serves as a positive signal for the industry, leading to positive abnormal returns for rivals. These information effects form the basis for the *signaling theory*, which posits that M&A activity conveys information about industry growth prospects (Akhigbe et al., 2000; Gaur et al., 2013; Song & Walkling, 2000). Anticipation of industry expansion increases the likelihood of future acquisitions and thereby benefits all industry rivals (Song & Walkling, 2000). In accordance with this theory, Akhigbe et al. (2000) discover that merger terminations result in negative effects for targets but positive effects for rivals. Furthermore, closer rivals that become takeover targets themselves within one year experience the highest M&A announcement returns (Song & Walkling, 2000).

Additionally, previous research highlights the role of financial analysts and media coverage as moderating factors influencing rivals' wealth effects, supporting the notion that information flow impacts the probability of rivals becoming future targets (Gao et al., 2024; Li et al., 2017). This increased acquisition probability aligns with the concept of merger waves, wherein M&A activity is driven by external economic shocks (Andrade & Stafford, 2004; Gort, 1969; Mitchell & Mulherin, 1996). However, Clougherty and Duso (2009) are unable to establish a direct link between positive rival wealth effects and merger waves.

2.4. Buying power theory

Building on Snyder's (1996) framework, the *buying power theory* provides another explanation for rival wealth effects stemming from horizontal M&A. This theory posits that a merger increases the firm's leverage over its suppliers through either monopsonistic collusion or purchasing efficiency (Fee & Thomas, 2004; Shahrur, 2005). Empirical evidence from supplier returns particularly supports the purchasing efficiency hypothesis, which may result in either positive or negative rival returns, depending on whether the outcome is "lower input costs or a competitive disadvantage" (Fee & Thomas, 2004, p. 427). If the merger triggers industry-wide price concessions from suppliers, rivals experience positive abnormal returns due to anticipated shared lower input costs. Conversely, if the cost advantages are exclusive to the merged entity, rivals face a competitive disadvantage in the product market, resulting in negative

abnormal returns. While this theory provides a nuanced view of supply-chain dynamics, Shahrur (2005) finds that the buying power theory holds less explanatory power for rival returns than the productive efficiency theory.

2.5. Rational overpayment theory

To explain negative rival M&A announcement effects, previous research has proposed the overbidding or *rational overpayment theory*. This theory posits that rivals suffer losses because they failed to secure the target before their competitors (Akdoğu, 2011; Molnar, 2007). According to this rationale, even if acquirers experience negative abnormal returns themselves due to overpayment, the negative shareholder wealth effects should be more pronounced for uninvolved rivals. This is because these rivals are prevented from acquiring key resources, such as technological capabilities, which instead transfer to a competitor, creating a competitive disadvantage in the product market. Notably, this theory fails to account for the substantial empirical evidence documenting positive abnormal returns for rivals (e.g., Eckbo & Wier, 1985; Fee & Thomas, 2004; Song & Walkling; 2000).

In summary, prior research offers several theoretical rationales to explain the mixed empirical findings on rival shareholder wealth effects, particularly in the context of horizontal M&A (e.g., Stigler, 1950; Eckbo & Wier, 1985; Fee & Thomas, 2004; Akdoğu, 2011; Song & Walkling, 2000). These theories link changes in product market dynamics—such as increased market power (Stigler, 1950), enhanced productive efficiencies (Fee & Thomas, 2004), or signaled growth prospects (Song & Walkling, 2000)—to immediate revisions in capital market valuations. While some theories predict a competitive disadvantage (leading to negative returns), others suggest rivals benefit from industry-wide price increases or heightened takeover probabilities (positive returns). Schumann (1993) suggests that these theories may coexist, resulting in the ambiguous interpretation of abnormal returns, as described by McGuckin et al. (1992). Nevertheless, as summarized in Table 1, the majority of prior literature provides consistent evidence of positive M&A announcement effects on rivals, suggesting that the value-enhancing signals of consolidation often outweigh the predatory threats posed by increased competition.

3. Related literature

While the aforementioned theoretical frameworks provide a foundation for understanding wealth effects for rivals, the unique characteristics of specific industries warrant closer examination. The technology, media, and telecommunications (TMT) sector, in particular, stands out due to its rapid innovation cycles, high growth potential, and evolving competitive landscape. Although differences exist between these industries, the literature finds these lines to blur through digitization and consolidation (Chon et al., 2003; Jope et al., 2010; Warf, 2003). Given the aim of this study, which is to investigate the wealth effects of technology-related rivals, a collective analysis of these industries is a rational approach for the purpose of this paper.

Distinct from more stable sectors, TMT is characterized by intensive research and development (R&D) and a strong reliance on innovation, which drive future growth and contribute to heightened market uncertainty (Kohers & Kohers, 2000). As Kohers and Kohers (2000) emphasize, firm valuations in this sector often depend on “future outcomes or developments in unproven, uncharted fields” (p. 40) and are therefore associated with higher degrees of risk. Consequently, shareholder wealth is highly sensitive to new information regarding future growth prospects. Another notable feature of this industry is highlighted by Stillman (1983), who excludes the telecommunications businesses from his sector-agnostic research due to increased regulation in this subsector. Given these unique factors, M&A announcements in the TMT sector provide a critical laboratory to observe how the capital market reevaluates rival firm value in response to shifting technological and competitive landscapes.

3.1. TMT acquirers

Previous literature suggests that acquirers benefit from business combinations in TMT (Kohers & Kohers, 2000; Park et al., 2004; Rieck & Doan, 2009; Uhlenbruck et al., 2006). Lusyana and Sherif (2016) compare the abnormal returns of acquirers during the dotcom bubble with those a decade later and discover that shareholder wealth effects increased over time, suggesting growing market optimism regarding technology-related M&A. Reflecting the industry's characteristics, transactions in this sector are particularly motivated by the pursuit of innovation and R&D investments (Bena & Li, 2014; Wu & Chung, 2019). Fernández et al. (2019) link post-

Table 1
Prominent theories of rival M&A announcement effects.

Theories of rival returns	Acquirers' reaction	Rivals' reaction
Market power (e.g., Stigler, 1950)	Positive	Positive
Productive efficiency (e.g., Eckbo, 1983; Geiger & Schiereck, 2014)	Positive	Positive/negative
Signaling (e.g., Song & Walkling, 2000)	Positive	Positive
Buying power (e.g., Fee & Thomas, 2004; Snyder, 1996)	Positive	Positive/negative
Rational overpayment (e.g., Akdoğu, 2011)	Positive/negative	More negative than acquirers

transaction innovation efficiency to increased long-term profitability, providing a clear rationale for the observed positive shareholder wealth effects at the announcement.

Moreover, the magnitude of positive abnormal returns for the acquirer is positively correlated with the innovativeness of the target (Wu & Chung, 2019), an effect further strengthened by the business overlap of the involved firms (Kim et al., 2021; Wilcox et al., 2001). Hagedoorn and Duysters (2002) explain the latter by identifying technological and size relatedness as moderating factors of post-M&A innovation performance. Similarly, complementary knowledge (Makri et al., 2010) and internal innovation capabilities (Gantumur & Stephan, 2012) are identified as key success factors of post-merger innovation performance. Moreover, Kaufmann and Schiereck (2023) find that acquirers pay higher premiums for innovative targets, moderated by their own innovation levels. Collectively, these findings suggest that horizontal M&A acts as a primary driver of both innovation performance and positive acquirer wealth effects.

However, empirical research also reports significant evidence of negative abnormal returns for acquirers in TMT-related business areas (e.g., Jope et al., 2010; Owers & Alexander, 2011; Park et al., 2002). Owers and Alexander (2011) underscore the shareholder wealth destruction associated with these M&A activities by identifying positive effects following divestitures. Furthermore, literature suggests that geographical (Park et al., 2002) and business (Owers & Alexander, 2011) relatedness can mitigate these negative abnormal returns for acquirers. However, in contrast to studies favoring business overlap (Kim et al., 2021; Wilcox et al., 2001), Cassiman et al. (2005) argue against mergers between related businesses, asserting that such entities often "reap little technology gains from mergers" (p. 197). This divergence in findings suggests mixed evidence regarding the net wealth effects of horizontal M&A in the TMT sector.

Chang and Cho (2017) offer additional nuance by highlighting the varying risk levels associated with different merger motives. While synergies derived from production efficiencies tend to be more easily realized, M&A activity motivated by customer-side objectives, such as market penetration, is characterized by higher uncertainty, potentially raising concerns in the capital markets. Furthermore, regulatory factors play a crucial role in shaping M&A dynamics within the TMT sector. Stillman (1983) highlights the influence of regulation, a topic further explored by Chon et al. (2003), Jope et al. (2010), and Warf (2003), who examine the impact of the Telecommunications Act of 1996. This legislation marked a milestone in the deregulation and convergence of the TMT sector (Jope et al., 2010), triggering a significant wave of M&A activity (Chan-Olmsted and Jamison, 2001; Economides, 1999; Warf, 2003). Therefore, regulation, or its absence, appears to be a key driver in the TMT sector.

Considering the mixed evidence on acquirer wealth effects, ranging from positive (e.g., Kohers & Kohers, 2000) to negative (e.g., Owers & Alexander, 2011), it is not surprising that some research also reports neutral outcomes for acquirers in technology-related M&A (Akdoğu, 2009).

In conclusion, the TMT sector observes divergent shareholder wealth effects for acquirers following M&A announcements, and much like the sector itself, these acquisitions are characterized by a focus on innovation and the regulatory landscape. Horizontal M&A remains a subject of ongoing scholarly debate due to the conflicting findings regarding its impact on competitive advantage and firm value (e.g., Cassiman et al., 2005; Kim et al., 2021; Wilcox et al., 2001).

3.2. *Rival effects*

The limited research investigating the impact of merger announcements on competitors within the TMT yields mixed results. Most recently, Kaufmann and Schiereck (2023) examine the role of innovativeness in influencing acquisition behavior among U.S. technology companies. Despite their innovation-focused approach, they identify positive wealth effects for rivals, a finding that, while framed within the context of innovativeness, is also relevant to this study on the competitive implications of M&A. Specifically, they show that highly innovative rivals are more likely to pursue their own acquisitions following an M&A announcement – a dynamic that aligns with signaling theory. This is further supported by Bloom et al. (2013), who demonstrate that technological spillover effects often outweigh competitive threats, suggesting that rivals may benefit from the innovation gains of merging firms.

Studying rivals in the U.S. telecommunications subsector, Akdoğu (2009) documents negative abnormal returns for non-horizontal mergers but positive abnormal returns for horizontal transactions. These findings suggest that relatedness acts as a key driver of positive effects, reinforcing the signaling theory. However, as noted in the previous section, Cassiman et al. (2005) argue that rivals fail to realize technology-related gains from such consolidations, thereby weakening the argument for increased acquisition probability. This suggests that the positive rival wealth effects are more likely explained by market power or buying power theories. In line with this perspective, Haucap et al. (2019) highlight that innovation output declines for both merging firms and their rivals following a transaction, suggesting reduced competition consistent with Stigler's (1950) market power argument. However, Jope et al. (2010), investigating abnormal returns for both related and unrelated rivals in the European and U.S. TMT sectors, identify negative wealth effects in both cases. This finding supports explanations based on the productive efficiency or rational overpayment theories.

In conclusion, the existing literature on the impact of M&A activity on rivals in the TMT sector remains contradictory. To date, it remains unclear which theoretical mechanisms drive M&A announcement returns for rivals and whether the net effect is predominantly positive or negative. This paper aims to clarify the announcement effects of horizontal M&A on rivals by analyzing a sample of U.S. transactions within the TMT sector. Focusing on the U.S. market, this study controls for institutional and regulatory factors that may confound the results, as the limited existing literature in this field is based on U.S. data (Akdoğu, 2009; Jope et al., 2010; Kaufmann & Schiereck, 2023). Moreover, the TMT sector, which is characterized by rapid innovation, substantial R&D investments, and a complex regulatory environment, presents a uniquely dynamic context for this analysis.

Horizontal transactions are of particular interest given that prior studies in this area report conflicting results (Akdoğu, 2009; Jope et al., 2010), and because such mergers present the "greatest difficulty in assessing the proper role for the market for corporate control"

(Manne, 1965, p. 119). Given that two out of the three U.S.-based studies (Akdoğu, 2009; Kaufmann & Schiereck, 2023) observe positive abnormal returns for rivals, and that sector-agnostic research (e.g., Eckbo & Wier, 1985; Fee & Thomas, 2004; Song & Walkling, 2000) generally supports this direction, this study tests the following hypothesis: *Rivals experience positive abnormal returns following horizontal M&A announcements in the U.S. TMT sector.*

Fig. 1[1] summarizes and illustrates the theoretical framework and literature synthesis for our analysis:

4. Methodology and data

4.1. Research design

To investigate the horizontal M&A announcement effects on rivals in the TMT sector, an event study was conducted and analyzed using Python and spreadsheet-based calculations. Event studies are standard practice for investigating market reactions to certain events (e.g., Brown & Warner, 1985; Fama et al., 1969) and in line with the relevant literature (e.g., Akdoğu, 2009; Jope et al., 2010).

In this study, we aim to capture the market reactions of horizontal rivals to their competitors' M&A announcements. For this purpose, we have identified a selection of horizontal rivals for each acquirer, as described in the following section. To investigate the market reactions of these rivals, we calculate the expected returns using the market model, as shown in Eq. (1) (Brown & Warner, 1985; Clougherty & Duso, 2011; McWilliams & Siegel, 1997):

$$R_{i,t} = \alpha_i + \beta_i \times R_{m,t} + \epsilon_{i,t} \tag{1}$$

where

$R_{i,t}$ = stock return of rival i on day t;
$R_{m,t}$ = benchmark return on day t;

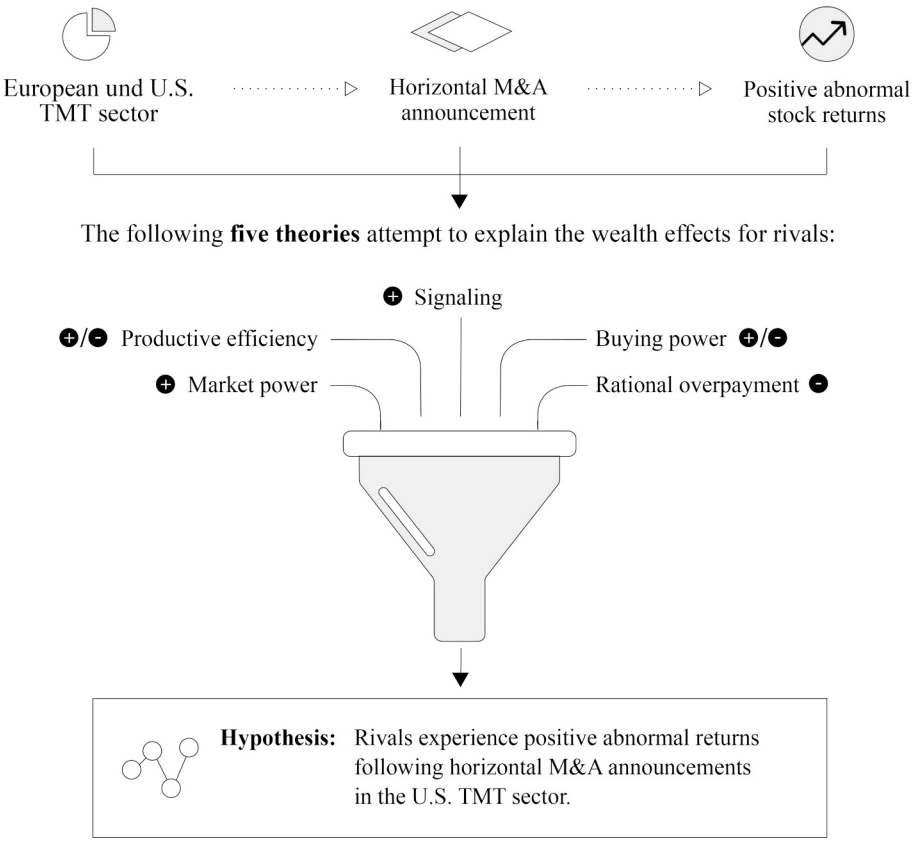

Fig. 1. Derivation of the research hypothesis.

[1] The authors thank Andreas Höhn (Andrássy University Budapest) for his valuable support with Figure 1.

α_i = intercept term of rival *i*;
β_i = systematic risk of rival *i*;
and $\epsilon_{i,t}$ = error term, with $E(\epsilon_{i,t}) = 0$.

Using a 250-day estimation window ending 50 days before the respective M&A announcement, the expected returns are subtracted from the actual returns, as shown in Eq. (2), to compute the abnormal returns (AR) (Brown & Warner, 1985):

$$AR_{i,t} = R_{i,t} - \left(\widehat{\alpha}_{i,t} + \widehat{\beta}_{i,t} \times R_{m,t}\right) \tag{2}$$

Due to the technology-related nature of this sample, the NASDAQ was chosen as the appropriate benchmark to compute the expected returns. In line with previous studies, ARs were calculated for both a smaller event window of 3 days (−1; +1) and a larger event window of 11 days (−5; +5) (Alexandridis et al., 2017; Clougherty & Duso, 2009; Jope et al., 2010; Walter et al., 2024). While smaller event windows are less prone to noise (McWilliams & Siegel, 1997), Clougherty and Duso (2009) argue in favor of including larger event windows as a robustness check. Prior research has found cumulated abnormal returns (CAR) to significantly increase with longer event windows, suggesting that extended windows may better capture the full rival reaction (e.g., Shahrur, 2005; Song & Walkling, 2000). Therefore, results from the larger event window may provide additional information, but they will be interpreted with caution.

For each rival, calculating the daily ARs and subsequently summing them over the event window from t_1 to t_2 yielded the cumulated abnormal returns (CAR) (MacKinlay, 1997):

$$CAR_i(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_{i,t} \tag{3}$$

In most cases, multiple firms constituted a portfolio of rivals for a single acquirer. Therefore, in accordance with the literature, the equally weighted cumulated average abnormal returns (CAAR) were derived to measure the average market reaction of rivals for each transaction (Chatterjee, 1986; Eckbo, 1983; Jope et al., 2010). To assess the significance of the rival response, a one-sample *t*-test was conducted on the mean CAAR for the entire transaction sample (Eckbo, 1983). Finally, the sign of the mean CAAR indicated the overall direction of the average rival reaction.

4.2. Data

To measure the impact of horizontal M&A announcements on rivals' stock price performance, a sample of 120 transactions between January 1, 2004, and December 31, 2023, was constructed. These transactions were executed by 61 acquirers, for which 175 distinct rivals were identified, resulting in a total of 714 observable rival reactions. The dataset was obtained through the following process.

To ensure that the sample consists exclusively of M&A associated with the TMT sector, only transactions classified as M&A in the FactSet Sectors *Electronic Technology*, *Technology Services,* and *Communications* were considered. As the objective is to focus on horizontal transactions and their rivals, both the acquiring and target firms had to belong to the same FactSet Sector and FactSet Industry. Due to the geographical focus of this study, only U.S. transactions were included. Moreover, only domestic transactions were included to avoid any cross-border effects, as identified by Park et al. (2002). To ensure a sufficiently large sample, transactions of the past two decades were considered, which is in line with the timeframes used in previous literature (e.g., Eckbo & Wier, 1985; Fee & Thomas, 2004; Jope et al., 2010). Considering Akdoğu's (2009) mean transaction size of $2.176 billion U.S. dollars (USD) and Jope et al.'s (2010) minimum of $100 million USD, a size threshold of $500 million USD was chosen to ensure sufficient market impact and market liquidity. Lastly, to facilitate rival selection, only transactions with publicly listed acquirers were included, as these provide greater information availability on FactSet.

Applying these criteria resulted in a sample of 153 transactions, which was then manually reviewed to ensure they were truly horizontal, reducing the sample to 125. Based on the 64 acquirers associated with these transactions, horizontal rivals were identified using FactSet's *named competitors* feature. However, only competitors within the same FactSet Sector and Industry were considered horizontal rivals. To ensure that each acquirer had a sufficient number of rivals, FactSet's suggested competitors were included when fewer than three rivals met the aforementioned criteria. Before accounting for confounding events and stock price availability, the process yielded a sample of 302 distinct rivals with 1419 observable reactions. However, this sample was further refined to include only firms that were publicly traded during both the model and event windows, thereby excluding private and over-the-counter (OTC) traded firms. OTC rivals were omitted due to their low trading volume, which can impair price dynamics (Harris et al., 2008).

Furthermore, McWilliams and Siegel (1997) emphasize the importance of accounting for confounding events to ensure the integrity of event studies. As the existing literature does not establish a standard, a new approach was designed for the purpose of this study.

First, confounding events within each timeframe were identified by examining conflicting transactions or firm-specific announcements. Conflicting transactions were identified by considering the announcement dates of 1099 TMT sector transactions valued at $500 million USD or more. Firm-specific announcements were sourced from FactSet's *corporate action events*, which track seven types of announcements, such as spin-offs and cash distributions, that could potentially distort the results. Second, the materiality of any overlapping announcements within the model or event windows was assessed. Specifically, the one-day stock price performance of the rival with the confounding event was compared to its performance over the preceding 200 days. If the one-day performance fell within the top or bottom one percent of this range, the confounding event was deemed material. Third, in accordance with Foster (1980), when a material confounding event occurred during either the model or announcement windows, that rival was removed from consideration for the respective transaction. While a simplified approach, this method allowed the systematic identification and

assessment of confounding events. As a final adjustment, three acquirers and their transactions were removed because no rivals remained after these exclusions. This resulted in the final sample of 120 transactions, 61 acquirers, and 175 distinct rivals with 714 rival reactions.

4.3. Sample descriptives

Fig. 2 shows the annual number of deals over the sample period, which increased steadily. Deal activity was particularly high in 2018 and 2021.

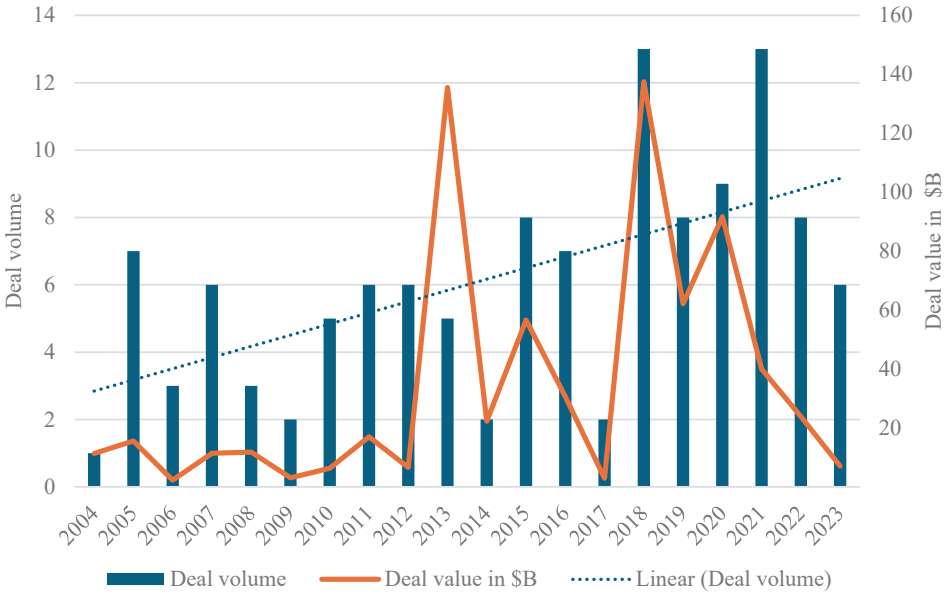

Fig. 2. Development of the sample deal volume and value over the sample period.

Table 2
Sample statistics.

Sector and industry	No. of deals	Mean deal size (USD M)	No. of rivals	Rival reactions			
				No.	Mean	Min.	Max.
Communications	**9**	**24,206.29**	**8**	**50**	**5.56**	**4**	**7**
Wireless Telecommunications	9	24,206.29	8	50	5.56	4	7
Electronic Technology	**32**	**5436.95**	**80**	**193**	**6.03**	**1**	**14**
Aerospace & Defense	8	2747.49	26	50	6.25	1	14
Computer Peripherals	4	5984.98	3	11	2.75	1	4
Computer Processing Hardware	1	1288.81	4	5	5.00	5	5
Electronic Equipment/Instruments	2	930.02	4	4	2.00	1	3
Electronic Production Equipment	1	540.00	3	3	3.00	3	3
Semiconductors	14	8004.70	34	114	8.14	5	14
Telecommunications Equipment	2	6154.02	6	6	3.00	1	5
Technology Services	**79**	**3846.02**	**87**	**471**	**5.96**	**1**	**24**
Data Processing Services	2	823.50	3	6	3.00	3	3
Information Technology Services	6	2023.05	12	21	3.50	1	7
Internet Software/Services	2	10,186.26	3	6	3.00	3	3
Packaged Software	69	3908.37	69	438	6.35	1	24
Total sample	**120**	**5797.29**	**175**	**714**	**5.95**	**1**	**24**

Table 3
Market capitalization at the time of the M&A announcement.

Sector and industry	Acquirers ($M)	Rivals ($M)	Δ Acquirers – Rivals ($M)	As % of acquirers
Communications	**168,569.99**	**40,107.49**	**−128,462.49**	**23.79%**
Wireless Telecommunications	168,569.99	40,107.49	−128,462.49	23.79%
Electronic Technology	**28,950.67**	**20,436.01**	**−8,514.66**	**70.59%**
Aerospace & Defense	19,826.45	24,684.52	4,858.06	124.50%
Computer Peripherals	9,239.15	7,000.94	−2,238.22	75.78%
Computer Processing Hardware	19,678.52	10,740.96	−8,937.56	54.58%
Electronic Equipment/Instruments	23,929.97	12,714.00	−11,215.97	53.13%
Electronic Production Equipment	5,736.17	1,776.57	−3,959.59	30.97%
Semiconductors	39,072.53	20,109.20	−18,963.33	51.47%
Telecommunications Equipment	55,281.58	38,428.96	−16,852.62	69.52%
Technology Services	**120,374.68**	**109,537.06**	**−10,837.62**	**90.10%**
Data Processing Services	46,824.64	15,884.93	−30,939.71	33.92%
Information Technology Services	10,779.04	9,109.62	−1,669.42	84.51%
Internet Software/Services	134,467.64	86,639.70	−47,827.94	64.43%
Packaged Software	131,832.38	115,948.64	−15,883.74	87.95%
Total sample	**99,435.10**	**80,590.31**	**−18,844.79**	**81.05%**

As shown in Table 2, while most of the transactions in the sample originate from the Technology Service and Electronic Technology sectors, the deal sizes are significantly larger in the Communications sector, with an average of 24.6 billion USD. Although the total number of horizontal rivals and the average number of rivals per transaction are similar for the Electronic Technology and Technology Services sectors, rival reactions in the Technology Services sector dominate the sample due to a higher number of deals. Therefore, the Technology Services sector (65.8%) and, particularly, the Packaged Software industry (57.5%) account for most rival reactions. While the average number of rivals per transaction is close to 6 for all three sectors, the size of rival portfolios varies greatly between transactions in the Electronic Technology and Technology Services sectors. These differences are especially pronounced in the Aerospace & Defense and Packaged Software industries, where the number of rival reactions per transaction ranges from as few as 1 to as many as 14 or 24, respectively.

Although Table 2 shows similar deal sizes for transactions in the Electronic Technology and Technology Services sectors, Table 3 displays that acquirers and their rivals in the Electronic Technology sector are significantly smaller. Furthermore, despite no specific size requirements, rivals were, on average, similar in size to acquirers at the time of the M&A announcement (Table 3). However, market capitalization differences between acquirers and rivals vary considerably across sectors and industries. For instance, in the Wireless Telecommunications industry, rivals are less than one-fourth the size of the acquirers, whereas in the Aerospace & Defense industry, rivals are approximately 25% larger than the acquirers.

4.4. Significance testing

Boxplots and Z-scores were used to identify outliers for both the short and long announcement windows. McWilliams and Siegel (1997) emphasize the need to address outliers before significance testing while highlighting that outright elimination is a "drastic approach" (p. 635). For this reason, winsorization was applied to manage outliers (Tukey, 1992). As transaction-level CAARs were likely skewed due to few but extreme underlying rival-level CARs, as opposed to the entire portfolios of rivals, winsorization was conducted at the CAR level. As shown in Table 4, winsorization at the 10% tails for both event windows successfully reduced outliers beyond three standard deviations to zero. Due to the remaining boxplot outliers, winsorization at the 15% level was conducted as a robustness check, yielding no substantive differences in results. Following winsorization, the Shapiro-Wilk test confirmed the data were normally distributed for both announcement windows (Shapiro & Wilk, 1965). While independence is generally less of a concern for short-term event studies (Kothari & Warner, 2007), potential dependence was further mitigated by ensuring minimal overlap in event windows (El Ghoul et al., 2023). Transactions with overlapping announcement windows were excluded as a robustness check, again yielding similar results. Finally, as Brown and Warner (1985) note that "autocorrelation plays a minor role" (p. 19) for shorter event windows as employed by this research, it was deemed negligible for this study. Subsequently, a one-sample *t*-test was performed to assess the significance of the rival effects.

5. Results

As shown in Table 4, the mean of transaction-level CAARs was positive for all event windows. The analysis reveals consistent patterns across different window specifications and sample compositions, with mean returns ranging from 0.29% to 0.49% depending on the event window length and winsorization approach employed.

The one-sample *t*-test, which evaluated whether returns during the announcement windows significantly deviated from expected returns, yielded statistically significant results ($\bar{x} = 0.0049$; $p < 0.1$) for the 11-day period (−5, +5) and highly significant results ($\bar{x} = 0.0029$; $p < 0.05$) for the 3-day event window (−1, +1).

The significant positive CAAR means for both event windows provide strong evidence of positive horizontal M&A announcement

Table 4
Total results of significance testing.

	Raw				Winsorized (10%)				Winsorized (15%)	
	(−1; +1)		(−5; +5)		(−1; +1)		(−5; +5)		(−1; +1)	(−5; +5)
Window overlap	Overlapping	No overlap	Overlapping	No overlap	Overlapping	No overlap	Overlapping	No overlap	Overlapping	Overlapping
Mean	*0.0038	**0.0046	*0.007	*0.0085	**0.0029	**0.0029	*0.0049	*0.0054	**0.0027	0.0034
St. dev.	0.0234	0.0232	0.0455	0.0471	0.0143	0.0118	0.0287	0.0292	0.0119	0.0231
n	120	103	120	103	120	103	120	103	120	120
St. error	0.0021	0.0023	0.0042	0.0046	0.0013	0.0012	0.0026	0.0029	0.0011	0.0021
H_0	0	0	0	0	0	0	0	0	0	0
t-statistic	1.7871	2.0119	1.6926	1.8417	2.2149	2.4749	1.8644	1.877	24,446	1.588
p-value	0.0765	0.0469	0.0932	0.0684	0.0287	0.015	0.0647	0.0634	0.016	0.1149
Proportion of positive values	0.6167	0.6117	0.6083	0.6311	0.6	0.5922	0.6083	0.6117	0.6	0.625
Z-Score outliers	3	3	1	1	0	0	0	0	0	0
Boxplot outliers	6	5	5	5	5	0	2	0	0	0
Normality	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE

* $p < 0.1$.
** $p < 0.05$.
*** $p < 0.01$.

effects for rivals in the TMT sector, thereby supporting the hypothesis of this study:

Hypothesis: Rivals experience positive abnormal returns following horizontal M&A announcements in the U.S. TMT sector.

The reduced significance in the 11-day period, despite numerically larger mean returns, is likely due to increased noise captured by the prolonged event window (McWilliams & Siegel, 1997). Dann et al. (1977) demonstrate that material information is incorporated in stock prices within minutes rather than days, highlighting the greater meaningfulness of the shorter event period. The lower standard error and stronger statistical significance of the three-day window make it the preferred specification for interpreting the study's main findings, though the eleven-day window provides valuable corroborating evidence of positive effects.

6. Discussion

6.1. Comparison with related literature

Our findings suggest that rivals in the TMT sector benefit from the horizontal mergers of their competitors, indicating a lack of anticompetitive effects. These results carry important implications for understanding competitive dynamics in technology-intensive industries and align with both sector-agnostic research on rival effects (e.g., Eckbo & Wier, 1985; Fee & Thomas, 2004) and TMT-specific studies (e.g., Akdoğu, 2009; Kaufmann & Schiereck, 2023).

Akdoğu (2009) finds positive abnormal returns for horizontal rivals in the U.S. telecommunications sector from 1996 to 2005, a finding reinforced by this study, which analyzes a broader market over a longer and more recent period. Similarly, while examining the role of innovativeness in acquisition behavior, Kaufmann and Schiereck (2023) identify positive rival wealth effects for U.S. technology firms from 2000 to 2019. However, Kaufmann & Schiereck (2023) do not distinguish between transaction types – a significant gap given that horizontal transactions have fundamentally different competitive implications than vertical or conglomerate transactions. This study builds upon their conclusions by narrowing the scope to horizontal transactions and their rivals, while broadening the sectoral scope to the entire TMT landscape.

The most comparable study in terms of sector focus was conducted over a decade ago by Jope et al. (2010). However, apart from the much older data set, it contradicts the positive shareholder wealth effects for rivals observed in this study. Analyzing M&A transactions and acquirers' rivals in the TMT sector, they examine a European and U.S. sample from 1980 to 2006 and find that rivals experience significant negative effects following both related and unrelated transactions. This directly suggests negative wealth effects for horizontal rivals, contrary to the findings of this study.

However, Jope et al.'s (2010) results are only significant for extended event windows of 21 and 41 days. McWilliams and Siegel (1997) caution against drawing strong conclusions from longer event windows due to several limitations. First, statistical power decreases with increasing window length. The error term in short-term studies is smaller, leading to more precise computation of abnormal stock returns compared to long-term studies (Kothari & Warner, 2007; Walter et al., 2024). Second, identifying and controlling for confounding events becomes increasingly difficult for longer event periods, introducing noise that distorts results. Third, longer event windows assume that the parameters of the expected return remain constant throughout the period, placing too much reliance on their predictive power. Furthermore, as previously mentioned, Dann et al. (1977) find that markets incorporate new information within minutes, further questioning the validity of extended event windows. Therefore, while Jope et al. (2010) identify significant negative abnormal returns for long event windows, these results should be interpreted with caution in light of the aforementioned methodological concerns.

However, Jope et al. (2010) also report significant results for shorter windows, similar to those employed in this study. They identified positive rival effects before and negative rival effects after the deregulation through the Telecommunication Act of 1996. Although this research focuses on the post-1996 period, it is crucial to consider the horizontal nature of the transactions analyzed. While nearly three quarters of Jope et al.'s pre-1996 sample consists of domestic and related transactions, nearly half of their post-1996 sample includes unrelated cross-border deals. Therefore, despite its limited size ($n = 31$) and pre-1996 emphasis, the earlier sample is more aligned with this study's focus and captures similar rival reactions. In summary, while Jope et al. (2010) generally report findings that contrast with this study, some of their results should be interpreted with caution in light of best practices for event studies, while others align with the positive wealth effects for horizontal rivals identified in this research.

6.2. Theoretical interpretation

While the research design does not allow for a definite identification of the underlying causality, the results should be interpreted in the context of the prominent theories outlined in previous sections. Positive returns for rivals following M&A announcements contradict the rational overpayment theory (Akdoğu, 2011) and are consistent with the theories of market power (e.g., Stigler, 1950) and signaling (e.g., Song & Walkling, 2000). They may also align with the buying power theory (e.g., Snyder, 1996) and productive efficiency theory (e.g., Eckbo, 1983).

Specifically, our findings suggest that rivals in the U.S. TMT sector may benefit from related mergers due to increased market concentration and collusion opportunities *(market power theory)*. This interpretation aligns with the anti-innovation effects of M&A on markets, as identified by Haucap et al. (2019). Alternatively, the positive effects may stem from expectations of reduced input costs, consistent with *buying power theory* (Fee & Thomas, 2004), or increased *productive efficiency*, as M&A may stimulate industry wide restructurings (Eckbo, 1983; Shahrur, 2005). As horizontal mergers create larger entities with enhanced bargaining power over

suppliers, rivals may benefit from industry-wide improvements in supplier terms or from the merged entity's demonstration that better terms are achievable. This mechanism would be particularly relevant in the TMT sector, where firms often rely on common suppliers for components, cloud infrastructure, or licensing agreements.

Furthermore, the observed positive value effects for rivals support *signaling theory*, as horizontal M&A could signal industry growth and increased probability of future acquisitions (Song & Walkling, 2000). In the TMT sector specifically, M&A activity may signal investor confidence in the sector's future prospects, technological maturation of certain market segments, or validation of particular business models. This perspective is consistent with the hypothesis that M&A enhances technological capabilities (Fernández et al., 2019). While this would imply a competitive advantage for acquiring firms, the spillover effects identified by Bloom et al. (2013) could distribute these benefits across the industry. Combined with Kaufmann and Schiereck's (2023) findings that technologically adept firms are likely acquisition targets, this M&A activity could lead to a reinforcing cycle of technological synergies and spillovers, ultimately stimulating industry growth and further transactions.

It should be noted that our findings provide no evidence in favor of the *rational overpayment theory* (Akdoğu, 2011), which postulates that M&A creates competitive advantages for acquiring firms by securing valuable resources, thereby disadvantaging excluded rivals. The positive abnormal returns observed for rival firms directly contradict this prediction. This may be particularly true in the TMT sector, where open-source contributions, patent cross-licensing, employee mobility, and visible product innovations facilitate rapid knowledge diffusion. In such an environment, competitive advantages gained through M&A are less likely to remain exclusive, as innovations and capabilities quickly propagate to rivals through technological spillovers.

In summary, each of the theories of market power, buying power, productive efficiency, and signaling offers a plausible explanation for the positive rival returns documented in this study, yet they are not mutually exclusive and may operate simultaneously or vary across different transaction contexts. Therefore, given the strong evidence presented in this study of positive rival wealth effects in the U.S. TMT sector, further research is needed to determine which of these theories best explains the observed market reactions to M&A announcements.

6.3. Policy implications

Applying Freeman's (1984) holistic stakeholder perspective, our findings affect multiple stakeholder groups within the U.S. TMT sector. However, a critical distinction must be made between the ex-ante shareholder wealth effects captured at the announcement and the ex-post realization of firm value over time. While event studies reflect immediate market expectations, post-merger outcomes may deviate from these projections due to integration challenges or shifting market dynamics.

For shareholders of merging firms, the results suggest that horizontal transactions do not translate into a competitive advantage over rivals. In contrast, shareholders of rivals may experience positive wealth effects based on industry-wide benefits, such as the technological spillover effects identified by Bloom et al. (2013). Accordingly, managers planning horizontal M&A should be cautious. Even if an announcement generates immediate shareholder wealth, the actual ex-post firm value may not reflect these gains if the projected competitive advantages do not materialize in post-merger financials.

Although not explicitly examined in this study, the findings may also have implications for employees, suppliers, and customers. The positive wealth effects observed for both merging firms and their rivals may signal increased market power (e.g., Stigler, 1950) or buying power (e.g., Snyder, 1996). If these ex-ante expectations are realized, the resulting shift in bargaining power could benefit industry participants at the expense of labor, input, and product markets.

From a regulatory perspective, the results indicate that horizontal M&A does not, on average, impose negative competitive effects on horizontal rivals in the U.S. TMT sector, and therefore, authorities must be careful not to hinder value creation by imposing overly strict antitrust policy. However, regulators must account for the gap between market anticipation and actual outcomes. While not directly examined in this study, regulators should monitor whether the observed industry-wide wealth gains eventually lead to imbalances in vertical bargaining power associated with horizontal consolidation, an area warranting future regulatory attention in the TMT sector.

Finally, for researchers, the findings help reconcile previously mixed evidence on rivals' wealth effects in the TMT sector (Akdoğu, 2009; Jope et al., 2010; Kaufmann & Schiereck, 2023). The results provide a foundation for future research to identify the causal mechanisms underlying these effects and to further assess their implications for antitrust policy and stakeholder welfare in U.S. TMT markets.

7. Conclusion

Given the mixed evidence regarding rival effects in the critical TMT sector and recent shifts in antitrust regulation, this study provides the most comprehensive analysis to date of horizontal M&A impact within the U.S. TMT sector. Using an event study approach, we analyzed 120 transactions and 714 rival reactions from 2004 through 2023. We find significant positive mean CAARs of 0.29% for a 3-day event window and 0.49% for an 11-day event window. These results indicate substantial positive shareholder wealth effects for rivals, resolving contradictions in earlier TMT-focused studies (Jope et al., 2010) and providing sector-specific context for the broader, positive effects seen in sector-agnostic research.

The novelty of this research lies in its longitudinal, sector-specific focus, which demonstrates that horizontal consolidation in the U.S. TMT market signals industry-wide value creation rather than predatory competitive harm. While these findings are particularly relevant to the high-innovation and R&D-intensive nature of TMT, the underlying mechanisms – such as technological spillovers – likely generalize to other dynamic, technology-driven sectors.

This study yields several implications for key stakeholders in the U.S. TMT sector. For investors, the results indicate that horizontal M&A does not lead to anticompetitive effects for rival firms. Instead, positive announcement returns for both merging firms and their competitors suggest that consolidation in technology-intensive industries can create value beyond the transaction parties themselves, in line with sector-agnostic research (e.g., Eckbo & Wier, 1985; Shahrur, 2005). Hence, managers should critically assess their M&A strategy if the primary motivation is to gain a competitive advantage. The evidence instead points to industry-wide value creation, consistent with the technological spillovers investigated by Bloom et al. (2013). From a regulatory standpoint, the absence of negative rival reactions suggests that horizontal M&A in the TMT sector has not, on average, resulted in anticompetitive outcomes at the horizontal level. This implies that policy centered on protecting rivals may prevent value-creating transactions. Notably, the presence of positive wealth effects across industry participants is consistent with the possibility that consolidation affects bargaining positions in vertical relationships, potentially impacting suppliers and customers. While this mechanism is not directly examined, it points to a relevant direction for future policy assessment. Lastly, the study contributes to the literature by helping to resolve mixed findings on rival announcement effects in the thriving TMT sector (Akdoğu, 2009; Jope et al., 2010; Kaufmann & Schiereck, 2023). Furthermore, the results allow researchers to narrow the focus of future studies on theories of rival effects, thereby identifying the driving forces behind the positive announcement effects and providing valuable insights for corporate strategy and antitrust policy in the TMT sector.

However, several limitations should be acknowledged. First, it is important to note that this study examines shareholder wealth effects—measured by abnormal stock returns—that reflect investor expectations of future firm profitability and value creation. While these changes in wealth provide insight into expected competitive dynamics, they represent only one dimension of economic impact and should not be conflated with broader concepts of consumer welfare or total social welfare, which would require analysis of effects on pricing, output, quality, and consumer surplus in product markets. Second, the rival sample selection process is simplified and may not accurately reflect horizontal rivalry. For example, sector and industry classifications, while commonly used, are broad and may not accurately reflect competitive relationships (Pittman & Werden, 1990). Additionally, identifying rivals for companies with diversified businesses presents challenges. For instance, while certain specialized firms (e.g., Zoom) may serve as horizontal rivals in some acquisitions (e.g., Microsoft), they may not be appropriate comparisons in others. Moreover, the calculation of transaction CAARs is based on varying numbers of rival reactions, ranging from a single observation to 24, which increases the dependency on individual firm reactions. Third, this study assumes that industry classifications and thus rival relationships remain constant over time, which may not fully capture the dynamic competitive landscape of the TMT sector. The sample is also limited to publicly listed companies, excluding private firms whose responses to M&A may differ. Additionally, the study's ability to analyze the media segment of the TMT sector is constrained by its limited representation in the sample. Lastly, inherent limitations of event studies must be considered, such as challenges in controlling for confounding events and reliance on market models (McWilliams & Siegel, 1997), or the uncertainty regarding whether short term announcement effects accurately reflect long-term value creation (Oler et al., 2008).

Future studies in this field could build on our work by adopting alternative research designs and expanding the scope of analysis. For example, considering other relevant stakeholders, such as suppliers and customers, could help identify which of the prominent rival theories drive shareholder wealth and firm value within the TMT sector. Additionally, for a more detailed analysis of antitrust effects, expanding the analysis beyond stock prices to include indicators such as consumer price effects, corporate profit margins, and technology investment (e.g., R&D expenditures) and output (e.g., patents) could offer a more comprehensive understanding of the sector's competitive dynamics. In combination with the stock price effects of terminated mergers, these factors could provide a clearer picture of the unique rival interactions in the TMT sector by capturing both market relationships and long-term business performance. Furthermore, research could investigate the impact of regulation on different types of M&A activity in the TMT sector to evaluate whether this factor requires greater control in future empirical studies. Finally, to better comprehend the horizontal relationships between rivals, researchers could adopt sampling approaches that analyze mergers specifically challenged by authorities (e.g., Clougherty & Duso, 2009; Eckbo, 1983) or follow Jope et al.'s (2010) suggestion to develop a new, sector and industry classification system.

CRediT authorship contribution statement

Joshua Neel: Writing – original draft, Visualization, Methodology, Data curation. **Michel Charifzadeh:** Writing – review & editing, Writing – original draft, Validation, Supervision, Project administration. **Tim A. Herberger:** Writing – review & editing, Validation, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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