Regulatory Burden and M&A Activity

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Abstract

Using a novel measure of exposure to federal regulations, we study the impact of firm-level regulatory burden on M&A activity. Firms respond to increased regulation by engaging in more M&A activity, on average, but the effect hinges crucially on firm size. Large firms increase acquisition investment and earn higher announcement returns. In contrast, small firms become more likely to sell out, particularly to strategic acquirers that have a high degree of regulatory overlap. Overall, our findings uncover an unintended consequence of federal regulation that advantages large firms and contributes to the consolidation of U.S. industries.

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1. Introduction

U.S. companies must comply with thousands of federal regulations. By some accounts, the median public firm spends 4.3% of its market capitalization on compliance with disclosure and governance regulations alone (Ewens, Xiao, and Xu, 2024). Consequently, regulation is believed to have an adverse effect on corporate investment, as some resources must be redirected toward regulatory compliance (Bargeron, Lehn, and Zutter, 2010; Kang, Liu, and Qi, 2010). In this paper, we study the impact of firm-level regulatory burden on acquisition investment, using a novel measure of exposure to federal regulations. We find that regulation creates synergy opportunities and therefore has a significant impact on the frequency of corporate acquisitions, the types of firms that merge, and the stock price reaction to M&A announcements.

Our analysis uses a comprehensive firm-specific measure of regulatory burden, developed by Kalmenovitz (2023). The measure is constructed from a novel dataset that tracks the annual burden of all federal paperwork regulations over several decades. This includes the number of active regulations and the costs of compliance borne by companies in terms of forms (how many forms are filed) and hours (how many hours are spent on compliance). Kalmenovitz (2023) identifies the regulations that apply to each firm using a supervised machine-learning algorithm which computes the textual similarity between the firm's 10-K filing and each federal regulation. The resultant measure represents the burden imposed on each firm by all relevant federal regulations.

To guide the analysis, we formulate two opposing hypotheses on the connection between regulatory burden and the scope for M&A activity. The regulatory risk hypothesis predicts that regulatory burden discourages mergers through various channels. First, regulation creates legal uncertainty around how rules will be enforced, and firms may choose to postpone M&A until the

uncertainty is resolved.[1] Second, regulation may force companies to redirect capital and effort toward compliance rather than investment. Finally, in some cases, the acquirer must absorb the target firm's legal liabilities. Thus, regulation increases risks, costs, and uncertainties associated with M&A and may reduce the appetite for deals.

On the other hand, neoclassical theories of M&A argue that technological and economic shocks alter the optimal investment opportunity set and encourage acquisition activity (Gort, 1969; Mitchell and Mulherin, 1996; Andrade, Mitchell, and Stafford, 2001). Thus, the regulatory synergies hypothesis posits that regulation creates new synergy opportunities: cost synergies arise if firms can merge compliance departments and share regulatory expertise and top-line synergies arise if firms can access new product markets or increase prices when regulation creates barriers to entry. Those regulatory synergies incentivize firms to initiate more M&A.

In a broad set of tests, we document evidence consistent with the regulatory synergies hypothesis. We start by studying whether regulatory burden affects two measures of acquisition activity: the likelihood a firm announces an acquisition during the year and the total expenditure on those deals. We control for known predictors of M&A activity such as firm size, prior stock returns, return on assets, market-to-book, and leverage in all specifications, and include industry×year fixed effects in our tightest specification to absorb the impact of macroeconomic and industry-specific shocks. Thus, our estimates capture variation in regulatory burden among firms operating in the same industry and in the same year.

We find a positive association between regulatory burden and M&A activity that is statistically

[1] A large literature theoretically motivates and empirically documents a negative relation between uncertainty and investment, particularly for projects that are difficulty to reverse (e.g., Bernanke, 1983; McDonald and Siegel, 1986; Julio and Yook, 2012, 2016; Gulen and Ion, 2016). To study the effect of uncertainty on M&A, Bhagwat, Dam, and Harford (2016) use option-implied volatility of stock prices (VIX), Bonaime, Gulen, and Ion (2018) use the Economic Policy Uncertainty index (EPU) from Baker, Blooms, and Davis (2016), and de Bodt, Cousin, Officer, and Roll (2024) use Department of Justice and Federal Trade Commission antitrust interventions.

significant and economically large. A one standard deviation increase in regulatory burden is associated with roughly an 8% increase in acquisition likelihood and a 10% increase in acquisition expenditure, relative to the sample mean. These results are robust to alternative measures of regulatory burden, which proxy for the cost of compliance in terms of hours and forms, and alternative measures of M&A activity, such as net cash outflow for acquisitions according to Compustat. We also find that a one standard deviation increase in regulatory burden is associated with a 6% - 11% increase in the likelihood that a public company delists due to merger, on average. Together, these estimates suggest that regulation creates synergy opportunities and shapes the market for corporate control.

To further examine whether firms consolidate to economize their regulatory burden, we study the regulatory overlap between acquirers and targets using the similarity measure developed by Chen and Kalmenovitz (2024). The authors identify all interactions between firms and regulators – for example when a firm submits a comment letter on a pending regulation – and construct a pairwise similarity score comparing these interactions. We find that the regulatory similarity between firm pairs is associated with a significant increase in merger likelihood; a one standard deviation increase in regulatory similarity increases the probability of a merger by up to 45%. The estimated effect is economically meaningful and statistically significant across three alternative matching strategies to construct the sample (following Bena and Li, 2014) and controlling for the product market similarity between the two firms (from Hoberg and Phillips, 2010).

We next study post-merger changes in compliance costs. If economies of scale enable firms to minimize regulatory compliance costs, we expect to see a relative decline in those costs after deal completion. Because we cannot observe compliance costs directly, we rely on prior research that shows regulatory burden is positively associated with costs of goods sold (COGS) and selling,

general, and administrative expense (SGA). Our regressions show that a one standard deviation increase in regulatory burden is associated with a 2% - 5% increase in overhead costs, on average, but this effect is attenuated by up to 10% for firms that completed an acquisition in the previous three years. These results suggest that acquisitions allow firms to develop scale and expertise to mitigate the cost of compliance with federal regulations.

To shed additional light on ex-post regulatory costs, we examine whether stock prices become less sensitive to regulatory changes after mergers and acquisitions. We create a firm-specific measure of regulatory beta, in the spirit of Alfaro, Bloom, and Lin (2024) and Akey and Lewellen (2017), using the residuals from a 2-year autoregression of the aggregate time-series of regulatory burden. These residuals are serially uncorrelated and capture sudden shifts in aggregate regulatory burden. We then regress each firm's excess stock return on this innovation series and Fama-French risk factor controls. The resultant beta coefficient represents the firm's average sensitivity to sudden changes in regulatory burden. We use that measure as our dependent variable, representing the firm's overall sensitivity to federal regulations. Our regressions show that firms experience a significant decline in their regulatory beta following an acquisition. The effect is statistically significant and economically large: following an acquisition, firms exhibit roughly a 5% decrease in their regulatory beta relative to the mean value. Our regressions also document a significant negative relation between firm size and regulatory beta, implying that large firms can better cope with increased regulatory burden.

Our final piece of analysis explores heterogeneous effects across firms. As noted by Engel, Hayes, and Wang (2007), small firms are particularly sensitive to burdensome regulation. Therefore, we conjecture that large firms respond to increased regulatory burden by engaging in more acquisitions while small firms become more likely to sell out. We find three pieces of

evidence consistent with this conjecture. First, the estimated impact of increased regulatory burden on acquisition likelihood is roughly twice (three times) as large for firms in the top decile of the size distribution compared to the median firm (firms in the bottom decile of the size distribution). Second, while a high regulatory burden increases the probability of becoming an M&A target on average, we find this effect is exclusively driven by small firms. Large firms become *less* likely to sell out after an increase in regulation. Finally, we find that value creation through M&A depends crucially on the acquirer's size. We estimate a regression where the dependent variable is the 3-day cumulative abnormal return (CAR) around M&A announcements, control for standard attributes that affect announcement returns, and include our measure of regulatory burden and its interaction with the acquirer's size. The estimated coefficients suggest that one standard deviation increase in the acquirer's regulatory burden is associated with 82 - 91 basis point higher CARs, which corresponds to roughly a $60 - $67 million increase in market capitalization, on average.

Together, our findings uncover an unintended consequence of federal regulation that advantages large firms and contributes to the consolidation of U.S. industries. In doing so, we advance the literature on the determinants of M&A activity. Past research finds that merger activity increases after antitrust/market structure deregulation (Mitchell and Mulherin, 1996; Harford, 2005) and decreases in the face of uncertainty related to stock prices, government policy, and antitrust enforcement (Bhagwat, Dam, and Harford, 2016; Bonaime, Gulen, and Ion, 2018; de Bodt, Cousin, Officer, and Roll, 2024). We study firm-specific exposure to a comprehensive set of active federal regulations and show that increases in regulation lead to higher M&A activity, particularly by large firms. This finding contributes to the literature that documents rising concentration among U.S. listed firms and seeks to understand its causes (e.g., Grullon, Larkin, and Michaely, 2019; Eckbo and Lithell, 2025).

Our paper is most closely related to Balogh, Creedy and Wright (2022) and Ince (2024), who study the relation between regulation and M&A. Balogh et al. (2022) show that acquisition activity is negatively related with regulatory costs, using the JOBS Act as a shock to the regulatory burden of newly public firms. In contrast, Ince (2024) shows that acquisition activity is positively related with regulatory costs, using a measure of "regulatory cost flexibility" based primarily on industry-level regulation data from Al-Ubaydli and McLaughlin (2017).[2] Against this background, we offer three primary contributions. First, our analysis builds on recent advancements in the regulatory economics literature by using a comprehensive text-based measure of firm-specific regulatory burden. Second, we identify regulatory synergies between acquirers and targets using granular text-based regulatory similarity scores. This contrasts with Ince (2024), who relies on standard industry classifications (NAICS) that have been shown to have little overlap with regulatory requirements. Finally, aided by more precise measures of regulation, we uncover a set of novel findings on M&A activity. We find that regulatory burden increases M&A activity overall and that deals are more likely to occur between firms with similar regulatory exposure. Consistent with regulatory synergies, these acquirers experience a relative decrease in future compliance costs and exhibit lower stock return sensitivity to future regulatory shocks. These novel results highlight that regulation can serve as a catalyst for broader consolidation and strategic realignment. As such, our results have important public policy implications related to the redistribution of capital in the economy, given the large sums that firms invest annually in M&A (e.g., over $3.6 trillion in 2020).[3]

[2] Specifically, Ince's "measure quantifies the sensitivity of firm-level SG&A expenses to changes in firm-level regulatory exposure by firm-specific regressions of logarithmic changes in the SG&A expenses on the logarithmic changes in regulatory restrictions and sales and the interaction terms between the decreasing sales dummy variable and the independent variables. This paper defines the firm-specific measure of regulatory cost flexibility as the sum of the coefficient on the regulatory restrictions and the coefficient on the interaction term between the changes in regulatory restrictions and the decreasing sales dummy variable. This measure can be considered the cost sensitivity to the changes in regulatory restrictions if the firm's sales decrease in a given period." Ince (2024, pg. 2).
[3] See: https://www.reuters.com/business/global-markets-ma-2021-08-12/

2. Data

This section describes our regulatory intensity measure and sample construction process.

2.1 Regulatory intensity

Jensen and Meckling (1976) describe the corporation as a legal fiction which serves as a nexus for contracting relationships. Government regulations influence nearly all these relationships. For example, corporations must abide by federal standards for product safety and labeling, labor relations, environmental impact, financial reporting, and tax, among many others. Business owners and the financial press often argue that the cost of compliance with these regulations imposes an onerous burden on U.S. corporations, particularly small businesses. Indeed, survey evidence shows that small business owners consistently rank the burden of federal paperwork regulations among the most severe problems their business face.[4]

Fearing that regulatory compliance costs impose a substantial drag on the U.S. economy, Congress passed the Paperwork Reduction Act (PRA) in 1980 (Pub. L. No. 96-511, 94 Stat. 2812) "to reduce paperwork and enhance the economy and efficiency of the Government and private sector by improving Federal information policymaking."[5] The PRA and the Code of Federal Regulations (5 CFR 1320) charge the Office of Management and Budget (OMB) and the Office of Information and Regulatory Affairs (OIRA) with the task of tracking and reviewing each active regulation imposed by a federal agency. We scrape communications from these internal reviews, filed on Form 83-I, from the OIRA's website between 1981 and 2020. Following the OMB's classification scheme, we define a "regulation" as a unique OMB control number across all Form 83-I's. The resulting raw dataset yields 181,539 forms filed by 206 federal agencies in connection

[4] See: https://www.nfib.com/Portals/0/PDF/AllUsers/research/studies/small-business-problems-priorities-2012-nfib.pdf and https://www.wsj.com/articles/a-new-small-business-burden-11563232900

[5] See: https://www.govinfo.gov/content/pkg/STATUTE-94/pdf/STATUTE-94-Pg2812.pdf#page=1

with 37,279 separate regulations.

Following Kalmenovitz (2023), we use these forms to construct an aggregate index that tracks the number of active federal regulations during each calendar year. This time-series measure quantifies the regulatory environment by counting *all* active rules. Thus, our measure expands on prior M&A research that quantifies the legal environment by simply counting investor and employee protections (Bris and Cabolis, 2008; Dessaint, Golubov, and Volpin, 2017). However, unlike investor protections, which uniformly affect all corporations operating within a certain country-year, federal regulations heterogeneously affect firms depending on their operations. For example, the Environmental Protection Agency's regulations on air pollutants (EPA; 2060-0443) are more pertinent for chemical manufactures, while the Federal Trade Commission's truth-in-lending regulations (FTC; 3084-0088, regulation z) are more relevant for bank holding companies. We exploit this heterogeneity using supervised machine-learning algorithms to produce a firm-specific measure of regulatory intensity.

We construct this firm-specific measure following the three-step procedure of Kalmenovitz (2023). First, we create training samples of relevant and irrelevant regulations for each firm that our machine-learning algorithm can study. Specifically, we use textual analysis to determine the vocabulary overlap between each firm's 10-K Item 1 business description and each regulation's Form 83-I rule description. We then select 100 relevant regulations (highest cosine similarity scores) and 100 irrelevant regulations (negative cosine similarity scores) for each company to train the machine-learning algorithm.[6]

Second, we use the supervised machine-learning algorithm to classify whether each of the

[6] We account for boilerplate language by using residual cosine similarity scores, which subtract the regulation's average score across companies from the raw score for a particular company.

37,279 regulations is relevant or irrelevant for a particular company.[7] To do so, we fit a "voting" classifier model to each company's training sample and apply it out of sample to predict which regulations are plausibly relevant for that company's operations. The voting machine-learning classifier identifies linguistic patterns of relevant versus irrelevant regulations in the training sample and then classifies remaining regulations according to the aggregate predictions of decision tree, gradient boost, and linear support vector models.

In the final step, we calculate each firm's regulatory intensity based on the number of active regulations classified as relevant by the machine-learning algorithm. The average company is subject to 1,814 paperwork regulations, though this distribution is right-skewed. The most heavily regulated Fama-French 48 industries include Healthcare, Defense, Aircraft, and Banking while the least regulated industries include Textiles, Apparel, and Candy and Soda. Following Baker et al. (2016), we standardize and winsorize our regulatory intensity measure so that magnitudes are comparable across firms and outliers have minimal impact. This process generates a firm-specific, time-varying measure with a mean of 100 that captures each firm-year's exposure to relevant active federal regulations.

Prior research typically studies the effect of regulation (or deregulation) using discrete indicators that flag policy changes in a specific industry or location (e.g., Mitchell and Mulherin, 1996; Andrade, Mitchell, and Stafford, 2001; Harford, 2005; Al-Ubaydli and McLaughlin, 2017), or by counting the number of regulation-related keywords used in earnings calls and annual reports (Calomiris, Mamaysky, and Yang, 2020). Our measure advances this literature because it captures a firm's regulatory burden based on relevant rules in a comprehensive database of federal regulations. As such, it overcomes limitations associated with location-based measures for firms

[7] For example, Boeing's training sample includes safety regulations of the Federal Aviation Administration (relevant), and foot-and-mouth disease disclosure requirements by the Department of Agriculture (irrelevant).

that operate across different jurisdictions, industry-based measures for firms that operate across different business lines, and disclosure-based measures for firms that do not explicitly mention certain keywords in their financial reports.

2.2 Sample construction

To study how regulation impacts the market for corporate control, we begin with the full set of firm-year observations in the Center for Research in Security Pricing (CRSP)-Compustat Merged Fundamental Annual Database between fiscal years 1993 and 2019. We begin in 1993 because our measure of regulatory intensity requires electronic 10-K's filed on EDGAR. We further require that each firm-year observation has data available to construct our outcome variables, lagged control variables, and industry-year fixed effects. Imposing these criteria yields a firm-year sample consisting of 85,737 observations from 8,241 public companies.

We draw our sample of mergers and acquisitions (M&A) from the Securities Data Company (SDC) Platinum Merger and Acquisition database. Following prior M&A research (e.g., Moeller, Schlingemann, and Stulz, 2004; Masulis, Wang, and Xie, 2007), we exclude spinoffs, recapitalizations, exchange offers, repurchases, privatizations, deals valued at less than $1 million, and transactions where the acquirer controls more than 50% of the target prior to the announcement or seeks less than 100% upon completion, and deals without resolution (i.e., neither completed nor withdrawn). Next, we merge these deals into our firm-year sample using cusip, ticker, and company name recorded in the CRSP historical stock names file and drop transactions with insufficient data to construct our outcome variables or lagged control variables. This process produces an M&A sample consisting of 22,443 deals announced by 5,226 public companies between calendar years 1993 and 2021.

Table 1 reports descriptive statistics for our firm-year and M&A samples.[8] About 19% of the firm-year observations include an M&A announcement and, on average, firms spend 6.40% of the value of their (lagged) assets on acquisitions during a given fiscal year. The average firm has $2.15 billion in total assets, 0.06 return on assets (ROA), 2.05 market-to-book ratio, and 0.20 book leverage ratio. We estimate market model cumulative abnormal returns (CARs) using the CRSP equal-weighted index and a one-year estimation window (252 trading days) ending one month (20 trading days) prior to the three-day [-1, +1] event window centered on the deal announcement day. The mean acquirer 3-day CAR in our sample is 1.02%, the average deal value is 21.87% of the acquirer's market value of equity 11 trading days prior to the announcement (i.e., relative deal size), and the fraction of deals involving private, subsidiary, and public targets is roughly 50%, 34%, and 16%, respectively. Overall, our descriptive statistics resemble those in prior studies of mergers and acquisitions.[9]

3. Empirical design

Our goal is to examine the relation between regulatory intensity and M&A activity. A potential concern with this analysis, however, is that regulation may be correlated with industry or macroeconomic factors that affect acquisitions. Our empirical design addresses this concern in two ways.

First, the firm-specific nature of our regulatory intensity measure reduces the scope for estimates to be biased by omitted macroeconomic or industry factors. A variance decomposition reveals that economy-wide factors (year fixed effects) account for 16.5% of the variation in

[8] We scale nominal values to 2019 dollars and winsorize unbounded variables at their 1% and 99% levels throughout the analysis. Appendix 1 lists variable definitions.

[9] For example, Moeller et al. (2004) report a mean acquirer CAR of 1.10% and a 22% fraction of public targets in their sample of deals from 1980 to 2001. John, Knyazeva, and Knyazeva (2015) report a relative deal size of 24% in their 1985–2009 M&A sample.

regulatory intensity while time-varying industry factors (industry-year fixed effects) account for 19.1% of the variation (Kalmenovitz, 2023). Thus, nearly two-thirds (64.4%) of the variation in regulatory intensity occurs at the firm level. The inclusion of firm fixed effects reveals that 29.0% of this firm-level variation is attributable to time invariant firm factors, with the remaining 35.4% variation occurring within-firm over time. Together, these decompositions imply that our measure of regulatory intensity exhibits significant variation beyond macroeconomic and industry forces.

Second, we estimate ordinary least squares (OLS) regressions to control for factors previously shown to influence acquisition decisions. Our baseline specification is as follows,

$$y_{i,j,t} = \alpha + B \cdot RegIn_{i,t-1} + \gamma \cdot \overrightarrow{X_{\iota,t-1}} + \theta \cdot \overrightarrow{I_{J,t-1}} + \delta \cdot \overrightarrow{M_{t-1}} + \epsilon_{i,t} \quad (1)$$

where $y_{i,j,t}$ is the outcome variable for firm *i* operating in industry *j* at time *t*, $RegIn_{i,t-1}$ is our measure of firm *i*'s regulatory burden based on the number of relevant active federal paperwork regulations, $\overrightarrow{X_{\iota,t-1}}$ is a vector of firm controls, $\overrightarrow{I_{J,t-1}}$ is a vector of industry controls, and $\overrightarrow{M_{t-1}}$ is a vector of macroeconomic controls. We follow standard practice in the M&A literature (e.g., Moeller et al., 2004; Masulis et al., 2007) by including acquirer size, prior stock return, return on assets, market-to-book ratio, and leverage in the vector of firm controls in all regressions. We choose our industry and macroeconomic control variables based on prior research which shows the following variables affect acquisition decisions: industry economic shocks (Mitchell and Mulherin, 1996), interest rate spreads (Harford, 2005), market valuation (Rhodes-Kropf, Robinson, Viswanathan, 2005), macroeconomic uncertainty (Bhagwat, Dam, Harford, 2016), and economic policy uncertainty (Bonaime et al., 2018). An additional benefit of including these controls is that they allow us to compare the economic significance of regulatory intensity relative to established determinants of M&A activity. However, to further reduce the possibility of bias from unobserved industry or macroeconomic factors, we replace these controls with Fama-French

48 industry-year fixed effects in our strictest specifications. Finally, we cluster standard errors by firm in all regressions to account for potential serial correlation in the error term (e.g., Masulis et al., 2007; Field and Mkrtchyan, 2017).

4. Empirical analyses

Based on a novel administrative dataset dating back to 1981, Kalmenovitz (2023) quantifies the cost of compliance with federal paperwork regulations for public corporations. He creates three indices which represent the number of active regulations, the number of forms filed by companies in response to these regulations ("how much paperwork"), and the time it takes to prepare and file these forms. In this section, we adopt the methodology of Kalmenovitz (2023) and use a firm-specific *Regulatory intensity* measure based on the number of relevant active regulations to study whether and how regulation affects the market for corporate control. We then probe the robustness of our conclusions using the response-based and time-based regulatory intensity measures.

4.1 Acquisition activity

We begin our empirical analyses by examining the relation between regulatory intensity and acquisition activity. As Kalmenovitz (2023) notes, an increase in regulation is likely accompanied by an increase in legal uncertainty. A large literature on real options theory, dating back to Bernanke (1983), argues that uncertainty increases the value of a firm's option to delay and leads to a drop in corporate investment, particularly for outlays with a high degree of irreversibility. Bonaime et al., (2018) provide empirical support for this theory by showing that acquisition activity is negatively related to news-based measures of economic uncertainty regarding taxes, government spending, and regulation. Further amplifying the uncertainty associated with M&A, successor liability laws require that acquirers absorb regulatory transgressions of target companies even if they occurred before the sale. Finally, increased regulation may result in resource diversion,

where capital and effort that could have been used for investment is redirected toward regulatory compliance. Together, these factors lead to the regulatory risk hypothesis which predicts that regulatory intensity should be negatively associated with M&A deal activity.

We note, however, that uncertainty over regulation and regulatory intensity are unique constructs. Although the federal government's complex and ever-changing regulatory framework can create uncertainty, enacted regulations have real effects on the competitive landscape and costs associated with their compliance. Neoclassical theory of M&A argues that shocks to the economic, technological, or regulatory environment alter firms' optimal investment opportunity set, leading to an increase in acquisition activity (Gort, 1969; Mitchell and Mulherin, 1996; Andrade, Mitchell, and Stafford, 2001). Thus, the regulatory synergies hypothesis posits that, if regulation alters the ideal scope of firms, regulatory intensity should be positively associated with M&A deal activity.

Figure 1 plots changes in regulatory intensity and acquisition activity for our sample of public companies between 1993 and 2019. By construction, the graph exhibits no secular trend since our focus is on *changes* in acquisition activity as a function of exposure to *changes* in regulatory intensity. The dashed grey line shows that average regulatory intensity peaks (a) during the early 2000s as federal agencies enacted homeland-security regulations in response to the September 11th terrorist attacks and strengthened financial regulations in the wake of widespread corporate accounting scandals, and (b) during the early 2010s shortly after the passing of The Dodd-Frank Wall Street Reform and Consumer Protection Act which targeted financial sectors viewed as responsible for the 2008 Financial Crisis. The solid blue line shows that periods of high regulatory exposure are generally followed by an increase in acquisition activity and vice versa. This positive relation occurs throughout the sample period except for periods of extreme market turmoil, such as the bursting of the Dot-com Bubble in 2000 and the Financial Crisis of 2008, where acquisition

activity drops precipitously. Although not a formal test, the positive relation depicted in Figure 1 provides suggestive evidence that regulatory shifts lead to a reorganization of capital in the U.S. economy.

We formally test the significance of this relation in Panel A of Table 2. Columns (1)-(3) report estimates from logit regressions of M&A deal activity in which the dependent variable equals one if the firm announces an acquisition during the year, and zero otherwise. Columns (4)-(6) report Poisson regressions of acquisition expenditure (i.e., total deal value scaled by assets) during the firm-year.[10] The key independent variable in all regressions is our firm-specific measure of regulatory intensity; control variables include firm, industry, and macroeconomic characteristics.

We begin by noting that our control variables exhibit coefficients that are directionally and statistically consistent with prior research, but do not drive out the association between *Regulatory intensity* and M&A deal activity or expenditure. For example, the negative and significant coefficients on *Macroeconomic uncertainty* and *Policy uncertainty* confirm that uncertainty discourages acquisitions (e.g., Bhagwat et al., 2016; Bonaime et al., 2018; de Bodt et al., 2024) while highlighting that our *Regulatory intensity* measure represents a distinct construct.

More importantly, estimates in Column (1) imply that a one standard deviation increase in *Regulatory intensity* is associated with a 10.6% increase in acquisition likelihood relative to the sample mean. Similarly, Column (4) shows that increasing *Regulatory intensity* one standard deviation above its mean is associated with a 7.2% increase in acquisition expenditure, holding all other independent variables at their mean. Notably, the magnitude of the coefficients in Column (1) implies that the expected change in log odds associated with a one standard deviation increase

[10] Because most firm-years have zero acquisition expenditure, M&A researchers that perform a test similar to ours typically use ln(1+acquisition expenditure) as a dependent variable. Cohn, Liu, and Wardlaw (2022) warn that ln(1+y) regressions produce estimates with no natural interpretation and can have the wrong sign. Therefore, we follow Cohn et al.'s (2022) advice and use Poisson regressions to examine "count-like" outcomes.

in *Regulatory intensity* is in line with the scale of other factors known to promote M&A activity, such as funding and economic conditions. When we re-estimate the logit model holding other variables at their mean, we find that a one standard deviation decrease in *Rate spread* and a one standard deviation increase in *Industry economic shock*, both constructed following Harford (2005), are associated with a 1.8% and 9.1% increase in acquisition likelihood, respectively. In Columns (2) and (5) we replace the macroeconomic controls with year fixed effects to ensure that our results are not driven by unobserved conditions that affect the overall economy. Finally, in Columns (3) and (5) we replace the industry controls with Fama-French 48 industry-year fixed effects to ensure that our results are not driven by unobserved time-varying industry conditions. The *Regulatory intensity* coefficients remain stable and statistically significant at the 1% level in these specifications, implying that differences in regulatory exposure affect M&A activity even among firms operating in the same industry and during the same fiscal year.

The regulatory synergies hypothesis conjectures that an increase in regulation may have heterogeneous effects depending on firm size (i.e., ability to absorb compliance costs). We examine this interaction effect graphically in Figure 2, following the advice of Ali and Norton (2003) and Greene (2010). They note that true interaction effects in nonlinear models vary across different values of the independent variable such that the reported coefficient on the interaction term does not provide meaningful information. Panel A of Figure 2 shows that, while the positive association between *Regulatory intensity* and acquisition likelihood manifests for firms of all sizes, the association is particularly strong for larger firms. This evidence suggests that firms react to an increase in regulatory compliance costs by increasing their scale via mergers and acquisitions.

4.2. Target firms

The empirical tests in Table 2 indicate that firms are more likely to announce an acquisition,

and spend more executing M&A, as regulatory intensity increases. But what types of firms do these acquirers target? Neoclassical theory and our regulatory synergies hypothesis predict that shareholder gains will be highest among firms where an increase in scope via acquisitions delivers the greatest benefits. Given that regulatory compliance represents a large, fixed cost, we conjecture that the deals with the highest gains will involve large acquirers buying out small or private targets.

We begin our analysis of M&A targets in Panel B of Table 2, where we report estimates from three logit regressions in which the dependent variable is an indicator that equals one if a publicly traded company becomes an M&A target during the firm-year, and zero otherwise. The estimates in Columns (1) and Column (2) reveal that a one standard deviation increase in *Regulatory intensity* is associated with 6.0% to 10.7% increase in the likelihood that a public firm becomes a target (relative to its mean). However, the coefficient drops in magnitude and loses statistical significance when we include industry-year fixed effects in Column (3). Together, these findings suggest that variation in regulatory intensity *across* industries is positively related to the likelihood that a public company becomes an M&A target, but we cannot reject the null hypothesis that regulatory intensity does not affect the average public company's target likelihood *within* a given industry-year.

Neoclassical theory posits that firms sell out when the net benefit of merging is greater than continuing as a standalone company. According to Masulis and Simsir (2018), the necessity to sell out arises because many firms (particularly smaller ones) are unlikely to cope with the costs that arise due to industry-specific or economy-wide shocks, such as technological innovations, changes in regulation, or changes in key input prices. Therefore, we expect that the relation between regulatory intensity and target likelihood will hinge crucially on firm size. We explore this interaction effect graphically in Panel B of Figure 2. In line with our predictions, regulatory

intensity is positively associated with target likelihood for small and medium firms, but *negatively* associated with target likelihood for large firms. Combined with our prior findings, this evidence suggests that an increase in regulatory intensity leads to a shift in the optimal firm size via the market for corporate control, with large firms growing bigger and small firms selling out.

Table 3 reports deal-level results consistent with our graphical evidence. The OLS estimates in Columns (1) and (2) suggest that acquirers subject to intense regulation pursue smaller targets, with a one standard deviation increase in regulatory intensity yielding an 11.6% to 13.7% decrease in relative deal size. The remaining columns in Table 3 report logit regressions of acquirer regulatory intensity on the probability that the target is a private company (Columns (3) and (4)), a subsidiary (Columns (5) and (6)), or a publicly listed firm (Columns (7) and (8)). The results imply that a one standard deviation increase in the acquirer's regulatory intensity is associated with a 5.0% higher likelihood that the target is private, a 5.0% lower likelihood that the target is a subsidiary, and no significant change in the likelihood that the target is public. Together, these results suggest that firms respond to an increase in regulatory intensity by growing larger via acquisitions of small, private firms that may be struggling to cope with their regulatory burden.

4.3. Regulatory similarity and the acquirer-target match

The regulatory synergies hypothesis posits that consolidation via M&A is an avenue through which firms can economize their regulatory burden. Therefore, we expect that regulatory similarity between two firms may be an important determinant of which firms merge. Put differently, the specific regulatory burden affecting one firm may enable another firm subject to a similar burden to identify synergies that they can exploit in a business combination. We evaluate this conjecture in Table 4 by estimating six logit regressions of the effect of regulatory similarity on the probability of a public firm-to-public firm merger. In all tests, the main dependent variable is an indicator set

to one if the firm pair announces a merger during the year, and set to zero otherwise.

The logit regressions in Table 4 analyze three distinct control groups of pseudo-merger firm pairs that were not involved in the actual deal.[11] Columns (1) and (2) analyze a "Randomly Matched Control Sample" which matches each actual acquirer (target) with up to five randomly drawn pseudo-targets (pseudo-acquirers) in the year prior to the deal. Columns (3) and (4) use the Industry- and Size-Matched Control Sample which repeats the process by matching controls in the same SIC industry by size. Lastly, in Columns (5) and (6) we use the Industry-, Size-, and Market-to-Book-Matched Control Sample which repeats the process matching controls in the same SIC industry by propensity score, estimated using size and market-to-book. The main explanatory variable in Table 4 is an acquirer-target regulatory similarity score, estimated from textual analysis of Federal Register documents on which the two firms appear during the year (Chen and Kalmenovitz, 2024). The control variables include various acquirer, target, and deal characteristics as well as an acquirer-target product market similarity indicator that equals one if the two firms are in the same text-based network industry during the year, and equals zero otherwise.[12]

Regardless of the control sample used, all logit regressions in Table 4 show that merger likelihood increases in the two firms' regulatory similarity. The estimates in Column (1) imply that increasing the regulatory similarity between two public firms by one standard deviation is related to a 24.2% increase in the probability that the firms merge. This finding supports the conjecture that regulatory synergies are more likely to emerge in deals where there is substantial regulatory overlap between the acquirer and target firm. Notably, while the *regulatory intensity* encumbering public acquirers does not affect whether they target another publicly traded firm on

[11] We construct our control groups using the methodology described by Bena and Li (2014).
[12] Text-based network industry classifications are based on firm pairwise similarity scores from textual analysis of 10-K product description by Hoberg and Phillips (2010, 2016).

average (according to Columns (7) and (8) in Table 3), the tests in Table 4 indicate that the *regulatory similarity* between two public firms is crucial in determining whether they merge.

4.4. Shareholder value implications

Neoclassical theory offers M&A as an optimal response to changes in a firm's investment opportunity set or cost structure that should enhance shareholder wealth (Manne, 1965). Since regulatory burden represents an important economic cost, neoclassical theory and our regulatory synergies hypothesis predicts that firms exposed to intense regulatory oversight will use M&A to develop economies of scale and compliance expertise, increasing shareholder value. We assess this prediction by examining how M&A stock price reactions vary with acquirers' regulatory intensity in our sample of 22,443 deals announced by 5,226 public companies between 1993 and 2021.

Table 5 reports the results from four OLS regressions of the 3-day shareholder cumulative abnormal return (CAR) around M&A announcements on our measure of regulatory intensity. Our baseline regressions control for standard acquirer attributes that prior research shows affect announcement returns, as well as for industry and macroeconomic characteristics that could be correlated with regulatory intensity. All continuous variables in these regressions are standardized and all independent variables are measured at the previous fiscal year end. These pooled regressions exploit both cross-sectional and time-series variation in *Regulatory Intensity* and allow us to compare the economic magnitudes relative to other known predictors of M&A announcement returns. Columns (3) and (4) focus on within industry-year variation in *Regulatory intensity* by including industry by year fixed effects. While the main explanatory variable in all tests is the acquirer's regulatory intensity, we augment the specification in Columns (2) and (4) by interacting the acquirer's regulatory intensity with the acquirer's size. Adding this interaction

term allows us to evaluate whether large acquirers subject to high regulatory intensity are indeed better poised to develop economies of scale from M&A transactions.

The regression coefficients reported in Columns (1) and (3) fail to reject the null hypothesis that *Acquirer regulatory intensity* affects acquirer CARs on average. However, estimates in Columns (2) and (4) suggest that shareholder value implications hinge crucially on acquirer size.[13] Adding the *Acquirer regulatory intensity*Acquirer size* interaction term coefficient with the constituent term coefficient implies that the total effect of a one standard deviation increase in acquirer regulatory intensity is an 82 to 91 basis point increase in the acquirer's CAR. These estimates approximately correspond to a $60.3 to $66.9 million increase in market capitalization for the average sized acquirer in our sample. Together with our results on increased deal activity, these findings support the neoclassical theory that predicts mergers and acquisitions are a value-maximizing response to shocks in a firm's operating environment. In our setting, that response triggers regulatory synergies that manifest in increased and more valuable M&A for large firms capable of developing economies of scale from these transactions.

4.5. Regulatory intensity and economies of scale

Kalmenovitz (2023) shows that increases in regulatory intensity are associated with significantly higher costs of goods sold (COGS) and also with higher selling, general, and administrative expense (SG&A). The eight OLS regressions reported in Table 6 show that those results are also present in our sample, as the estimated coefficients for *Regulatory intensity* are positive and significant in all specifications. According to Columns (1)-(4), a one standard deviation increase in regulatory intensity is related to an increase in COGS ranging from 3.8% to

[13] Note that the standalone coefficient on *Acquirer regulatory intensity* in Columns (2) and (4) does not have a natural economic interpretation because it represents the estimated effect of regulatory intensity for an acquirer with *Acquirer size* equal to zero.

5.3% relative to the mean. The results in Columns (5)-(8) imply that a similar increase in *Regulatory intensity* is associated with an increase in SG&A ranging from 1.9% to 2.8% relative to the mean.

In even columns, we augment the specification by including a term that interacts *Regulatory intensity* with an indicator that is set to one for firms that complete an acquisition in the previous three years and set to zero otherwise. In these tests, the interaction term is negative and significant, indicating that acquisitions attenuate the increased COGS and SG&A associated with regulatory intensity. Comparing the coefficients for the interaction and constituent term indicates that the relation between regulatory intensity and COGS is 3% lower for recent acquirers, while the relation between regulatory intensity and SG&A is about 10% lower for recent acquirers. Together, these estimates suggest that M&A enables firms to economize on regulatory costs.

4.6. Stock price sensitivity to regulatory changes

As a final test of whether M&A can create synergies that reduce the net cost of regulation, we examine stock price sensitivity to unexpected changes in the intensity of active federal regulations. We produce this measure, which we label *Regulatory Beta*, by first extracting the residuals from a 2-year autoregression of the aggregate time-series regulatory index. These residuals are serially uncorrelated and capture sudden shifts in the regulatory regime. We then regress each firm's excess stock return on this innovation series and Fama-French risk factor controls.[14]

Table 7 reports four OLS regressions that relate stock price sensitivity to regulatory changes (i.e., *Regulatory Beta*) to firm and industry characteristics. Notably, the estimates reveal a strong and statistically robust negative relation between firm size and stock price sensitivity to

[14] This process is similar to the method that Alfaro, Bloom, and Lin (2024) and Akey and Lewellen (2017) use to assess firm-level sensitivity to aggregate economic policy uncertainty.

regulatory changes. These negative coefficients support our conjecture that larger firms can better cope with increased regulatory burden. Columns (2) and (4) layer in an $Acquirer_{t-3,\,t-1}$ indicator that is set to one for firms that complete an acquisition during the previous three years, and set to zero otherwise. In both tests, the indicator exhibits negative and statistically significant coefficient estimates that suggest acquisitions reduce the sensitivity of stock prices to regulatory changes, even controlling for firm size.[15] The effect is economically important as the estimates in Column 2 imply that, on average, firms that complete at least one acquisition over the previous three years exhibit a 4.9% decrease in stock price sensitivity to changes in regulation. Together with our analysis of acquirer CARs, COGS, and SG&A, the evidence in Table 7 provides empirical support for the regulatory synergies hypothesis.

4.7. Robustness checks

Appendix 2 reports results from permutation tests that replace the firm's actual regulatory intensity with a placebo regulatory intensity value randomly selected from another firm. Chetty, Looney, and Kroft (2009) note that "[s]ince this test does not make parametric assumptions about the error structure, it does not suffer from the overrejection bias of the *t*-test" (pg. 1157). Appendix 3 reports results from regressions that are identical to our main specifications, except that we cluster standard errors by Fama-French 48 industry rather than by firm. Together, these robustness tests corroborate our baseline conclusions and lessen the scope that our statistically significant results are driven by our estimation choice for standard errors.

Appendix 4 and 5 probe the robustness of our conclusions to alternative measures of regulatory intensity and M&A activity, respectively. Appendix 4 reports results from regressions

[15] We cannot test whether target firms exhibit a similar decrease in *Regulatory Beta* after acquisitions because most targets are private and, even if the target is public prior to the deal, the target's stock stops trading after deal completion.

that are identical to our main specifications, except that we replace our regulatory intensity measure (based on the number of active regulations), with alternative measures based on the costs of compliance borne by companies in terms of the number of response forms filed (Panel A) and the number of hours spent on compliance (Panel B). Appendix 5 reports results from regressions that are identical to our main specifications, except that we replace our SDC-based measures of acquisition activity with Compustat-based measures in Columns (1)-(4) and our CRSP-based measure of becoming an M&A target with an SDC-based measure in Columns (5)-(6). Together, these robustness tests corroborate our baseline conclusions and lessen the scope that our findings are driven by our measurement choices for regulatory intensity and M&A activity.

5. Conclusion

The market for corporate control is an essential channel underlying the allocation of capital in the economy. In this paper, we examine the impact of firm-level regulatory burden on acquisition activity, using a novel measure of regulatory intensity that is constructed with supervised machine learning techniques. We find that firms respond to increased federal regulation by engaging in more M&A activity, on average, but the effect hinges crucially on firm size. Large firms increase acquisition investment and earn higher announcement returns, while small firms become more likely to sell out. These deals appear to allow firms to economize their regulatory burden. Firm pairs are significantly more likely to merge if they share a high degree of regulatory overlap ex ante, and acquirers become less sensitive to regulatory changes ex post. Overall, our findings suggest that the implementation of burdensome federal regulations creates opportunities for M&A synergies, particularly for large firms with economies of scale, and contributes to the consolidation of U.S. industries.

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Figure 1: Regulatory intensity and acquisition activity. This figure plots changes in regulatory intensity and acquisition activity over time. The dashed line (left axis) depicts the annual percent change in average regulatory intensity, which is an index that measures the number of active federal paperwork regulations relevant to each firm using supervised machine-learning algorithms. The solid line (right axis) depicts the annual percent change in the fraction of firms that announce an acquisition over the subsequent fiscal year. The sample consists of 85,737 firm-year observations from 8,241 public companies with data available in the CRSP-Compustat Merged Database between fiscal years 1993 and 2019.

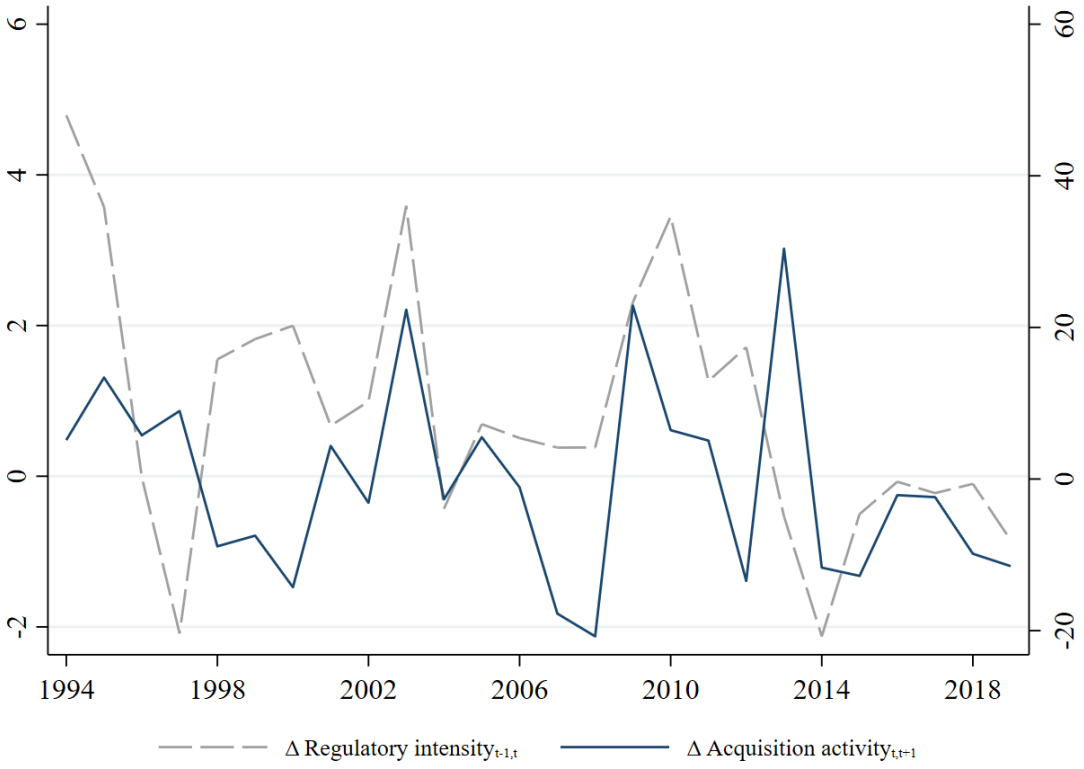
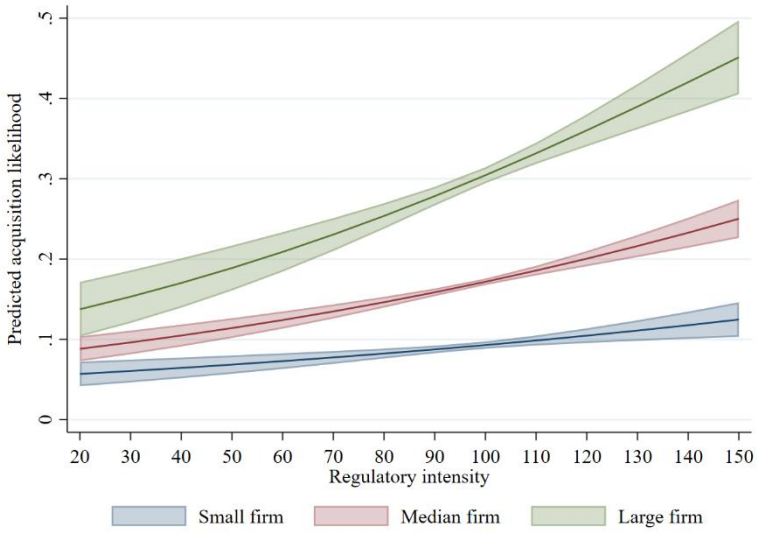


Figure 2: The role of firm size. This figure displays predicted values from logit regressions of M&A likelihood on regulatory intensity conditional on firm size. The dependent variable in Panel A is an indicator that equals one if the firm announces an acquisition during the year and zero otherwise. The dependent variable in Panel B is an indicator that equals one if the firm delists due to a merger during the year and zero otherwise. The specifications are the same as those reported in Column (1) of Table 2 Panel A and B, respectively, except that we hold all independent variables at their mean other than regulatory intensity and size. Lines plot predicted M&A likelihood across a range of regulatory intensity values, conditional on firm size in the 90th percentile (green), 50th percentile (red), and 10th percentile (blue) of the distribution. The sample consists of 85,737 firm-year observations from 8,241 public companies with data available in the CRSP-Compustat Merged Database between 1993 and 2019. Shaded regions plot 95% confidence intervals.

Panel A: Likelihood of making an acquisition



Panel B: Likelihood of becoming a target

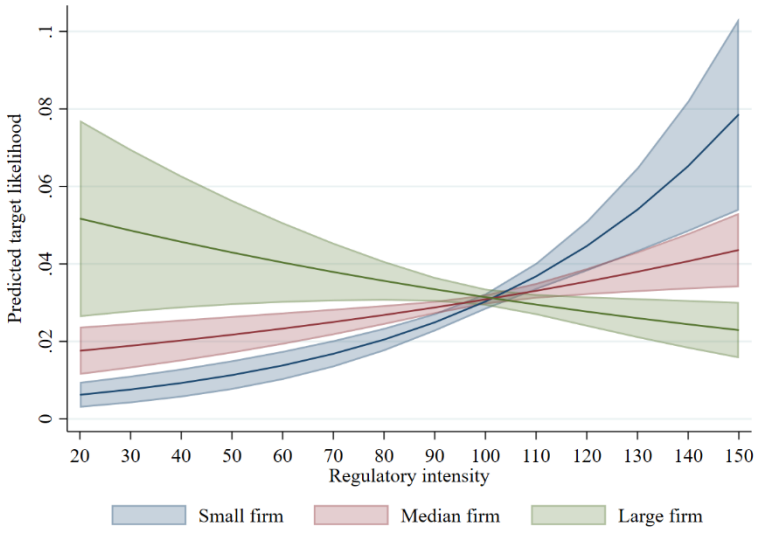


Table 1: Sample description. The firm-year sample consists of 85,737 observations from 8,241 public companies with data available in the CRSP-Compustat Merged Database between fiscal years 1993 and 2019. The mergers and acquisitions (M&A) sample consists of 22,443 deals announced by 5,226 of these firms between calendar years 1993 and 2021. We obtain the initial M&A sample from SDC Platinum and filter out spinoffs, recapitalizations, exchange offers, repurchases, privatizations, deals valued at less than $1 million, and deals where the acquirer controlled more than 50% of the target prior to the deal or sought less than 100% upon completion. Firm characteristics are measured at the fiscal year end before a deal announcement. We winsorize unbounded variables at the 1/99% level throughout the analysis. Appendix 1 lists variable definitions.

	Mean	S.D.	P25	Median	P75	Obs
Firm-year sample						
Acquisition announcement (0/1)	0.191	0.393	0.000	0.000	0.000	85,737
Acquisition expenditure	0.064	0.235	0.000	0.000	0.000	85,737
M&A target (0/1)	0.032	0.177	0.000	0.000	0.000	85,737
Regulatory intensity	98.499	14.068	93.133	99.816	105.260	85,737
Size	2,146.774	6,366.418	60.365	250.711	1,138.517	85,737
Prior stock return	0.015	0.615	-0.351	-0.072	0.221	85,737
ROA	0.062	0.198	0.031	0.104	0.162	85,737
Market-to-book	2.054	1.658	1.093	1.499	2.315	85,737
Leverage	0.202	0.193	0.013	0.164	0.331	85,737
Industry antitrust deregulation (0/1)	0.005	0.068	0.000	0.000	0.000	85,737
Industry economic shock	0.872	1.835	-0.491	0.593	1.784	85,737
Rate spread	3.813	1.735	2.410	3.650	5.220	85,737
Shiller CAPE ratio	27.507	6.520	22.718	26.483	30.500	85,737
Market return	0.115	0.174	-0.007	0.143	0.243	85,737
Macroeconomic uncertainty	0.894	0.048	0.863	0.887	0.906	85,737
Policy uncertainty	116.118	44.606	80.127	103.700	149.709	85,737
COGS	0.731	0.679	0.246	0.549	0.993	81,738
SG&A	0.314	0.267	0.121	0.245	0.425	77,429
Regulatory beta	61.381	67.312	18.971	42.834	81.661	61,161
M&A sample						
Relative deal size	0.219	0.420	0.019	0.064	0.203	22,443
Private target (0/1)	0.501	0.500	0.000	1.000	1.000	22,443
Subsidiary target (0/1)	0.336	0.472	0.000	0.000	1.000	22,443
Public target (0/1)	0.164	0.370	0.000	0.000	0.000	22,443
Acquirer CAR (%)	1.020	7.258	-2.350	0.478	3.846	22,443
Regulatory similarity	0.236	0.278	0.065	0.122	0.257	5,026
Product market similarity (0/1)	0.066	0.248	0.000	0.000	0.000	5,026

Table 2: M&A activity. The sample consists of 85,737 firm-year observations from 8,241 public companies with data available in the CRSP-Compustat Merged Database between 1993 and 2019. Columns (1)-(3) of Panel A present estimates from logit regressions in which the dependent variable is an indicator that equals one if the firm announces an acquisition during the year. Columns (4)-(6) present estimates from Poisson regressions in which the dependent variable is the total deal value announced during the firm-year scaled by lagged assets. Panel B presents estimates from logit regressions in which the dependent variable is an indicator that equals one if the firm delists due to a merger during the year. The bottom row displays the estimated percent change in predicted outcomes associated with increasing regulatory intensity one standard deviation above its mean, holding all other independent variables at their mean. Independent variables are measured at the prior fiscal year end and continuous variables are scaled to unit variance. Heteroskedasticity-consistent standard errors clustered by firm are in parentheses. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. Appendix 1 lists variable definitions.

Panel A: Acquisitiveness

	Acquisition Announcement			**Acquisition Expenditure**		
	(1)	(2)	(3)	(4)	(5)	(6)
Regulatory intensity	0.135***	0.129***	0.105***	0.079***	0.085***	0.084***
	(0.018)	(0.018)	(0.023)	(0.022)	(0.022)	(0.027)
Size	0.559***	0.559***	0.604***	0.092***	0.094***	0.097***
	(0.016)	(0.016)	(0.016)	(0.017)	(0.017)	(0.017)
Prior stock return	0.126***	0.127***	0.138***	0.154***	0.158***	0.159***
	(0.009)	(0.009)	(0.010)	(0.011)	(0.011)	(0.011)
ROA	0.102***	0.102***	0.127***	0.050***	0.047***	0.061***
	(0.015)	(0.015)	(0.016)	(0.017)	(0.017)	(0.018)
Market-to-book	-0.035***	-0.032**	-0.074***	0.195***	0.193***	0.171***
	(0.013)	(0.013)	(0.014)	(0.012)	(0.012)	(0.013)
Leverage	-0.025*	-0.023*	0.025*	0.007	0.002	0.012
	(0.013)	(0.013)	(0.014)	(0.015)	(0.015)	(0.015)
Industry antitrust deregulation	-0.137	-0.055		0.346**	0.372**	
	(0.142)	(0.142)		(0.162)	(0.162)	
Industry economic shock	0.117***	0.122***		0.110***	0.128***	
	(0.013)	(0.014)		(0.016)	(0.017)	
Rate spread	-0.024**			-0.093***		
	(0.012)			(0.017)		
Shiller CAPE ratio	-0.016			0.016		
	(0.012)			(0.016)		
Market return	0.008			0.034**		
	(0.012)			(0.017)		
Macroeconomic uncertainty	-0.063***			-0.177***		
	(0.012)			(0.021)		
Policy uncertainty	-0.074***			-0.078***		
	(0.012)			(0.018)		
Time trend	-0.244***			-0.144***		
	(0.018)			(0.022)		
Year fixed effects	No	Yes	No	No	Yes	No
Industry-year fixed effects	No	No	Yes	No	No	Yes
Observations	85,737	85,737	84,522	85,737	85,737	84,522
R-squared	0.059	0.060	0.088	0.040	0.043	0.075
Unconditional mean	0.191	0.191	0.191	0.064	0.064	0.064
Δ relative to mean	10.6%	10.1%	7.8%	7.2%	9.3%	10.5%

Table 2: M&A activity (cont.)

Panel B: Target likelihood

	M&A Target		
	(1)	(2)	(3)
Regulatory intensity	0.113***	0.070**	0.056
	(0.031)	(0.029)	(0.036)
Size	0.006	-0.001	-0.005
	(0.023)	(0.023)	(0.024)
Prior stock return	0.057***	0.056***	0.055***
	(0.020)	(0.020)	(0.021)
ROA	0.143***	0.137***	0.169***
	(0.029)	(0.028)	(0.030)
Market-to-book	-0.292***	-0.271***	-0.313***
	(0.032)	(0.032)	(0.035)
Leverage	-0.060***	-0.039*	-0.014
	(0.022)	(0.022)	(0.022)
Industry antitrust deregulation	-0.292	0.080	
	(0.382)	(0.386)	
Industry economic shock	0.018	-0.008	
	(0.022)	(0.024)	
Rate spread	-0.036		
	(0.026)		
Shiller CAPE ratio	0.174***		
	(0.024)		
Market return	0.049*		
	(0.027)		
Macroeconomic uncertainty	0.036		
	(0.025)		
Policy uncertainty	-0.128***		
	(0.026)		
Time trend	0.212***		
	(0.029)		
Year fixed effects	No	Yes	No
Industry-year fixed effects	No	No	Yes
Observations	85,737	85,737	71,018
R-squared	0.016	0.025	0.046
Unconditional mean	0.032	0.032	0.032
Δ relative to mean	10.7%	6.0%	5.4%

Table 3: Target characteristics. The sample consists of 22,443 deals announced by 5,226 public companies between 1993 and 2021. Columns (1)-(2) report estimates from OLS regressions that relate regulatory intensity to relative deal size. Columns (3)-(8) report estimates from logit regressions that relate regulatory intensity to target listing status. The bottom row displays the estimated impact of a one standard deviation increase in acquirer regulatory intensity. Independent variables are measured at the prior fiscal year end and continuous variables are scaled to unit variance. Heteroskedasticity-consistent standard errors clustered by acquirer firm are in parentheses. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. Appendix 1 lists variable definitions.

	Relative Deal Size		**Private Target**		**Subsidiary Target**		**Public Target**	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Acquirer regulatory intensity	-0.025***	-0.030***	0.100***	0.071**	-0.077***	-0.078***	-0.055	0.002
	(0.007)	(0.009)	(0.023)	(0.029)	(0.023)	(0.028)	(0.033)	(0.046)
Acquirer size	-0.116***	-0.124***	-0.518***	-0.530***	0.128***	0.108***	0.680***	0.716***
	(0.005)	(0.005)	(0.036)	(0.030)	(0.027)	(0.024)	(0.035)	(0.034)
Acquirer prior stock return	-0.014***	-0.012***	0.052***	0.037*	-0.039**	-0.033	-0.036	-0.017
	(0.003)	(0.003)	(0.019)	(0.020)	(0.019)	(0.021)	(0.026)	(0.027)
Acquirer ROA	-0.024***	-0.022***	0.035*	0.047**	0.051**	0.035*	-0.121***	-0.129***
	(0.004)	(0.004)	(0.020)	(0.019)	(0.020)	(0.021)	(0.027)	(0.027)
Acquirer market-to-book	-0.017***	-0.007*	0.309***	0.259***	-0.270***	-0.198***	-0.173***	-0.173***
	(0.004)	(0.004)	(0.026)	(0.028)	(0.028)	(0.027)	(0.035)	(0.035)
Acquirer leverage	0.044***	0.035***	-0.171***	-0.125***	0.195***	0.134***	-0.022	0.011
	(0.004)	(0.004)	(0.020)	(0.020)	(0.020)	(0.021)	(0.026)	(0.027)
Acquirer industry antitrust deregulation	0.094*		-0.413**		0.300*		0.101	
	(0.057)		(0.180)		(0.165)		(0.241)	
Acquirer industry economic shock	-0.019***		0.060***		-0.082***		0.037	
	(0.004)		(0.022)		(0.024)		(0.028)	
Year fixed effects	Yes	No	Yes	No	Yes	No	Yes	No
Acquirer industry-year fixed effects	No	Yes	No	Yes	No	Yes	No	Yes
Observations	22,443	22,443	22,443	22,102	22,443	22,082	22,443	20,817
R-squared	0.119	0.183	0.056	0.104	0.029	0.082	0.059	0.101
Unconditional mean	0.219	0.219	0.501	0.501	0.336	0.336	0.164	0.164
Δ relative to mean	-11.6%	-13.7%	5.0%	3.6%	-5.0%	-5.0%	-4.1%	0.1%

Table 4: Regulatory similarity and merger likelihood. This table reports logit regression estimates of the effect of regulatory similarity on the likelihood of a public-to-public merger. The dependent variable is an indicator that equals one if the firm pair announced a merger during the year, and zero otherwise. Following Bena and Li (2014), we construct three control groups of pseudo-merger firm pairs that were not involved in the actual deal. The Randomly Matched Control Sample matches each actual acquirer (target) with up to five randomly drawn pseudo-targets (pseudo-acquirers) in the year prior to the deal. The Industry- and Size-Matched Control Sample repeats the process matching controls in the same SIC industry by size. The Industry-, Size-, and M/B-Matched Control Sample repeats the process matching controls in the same SIC industry by propensity score, estimated using size and market-to-book (M/B). The bottom row displays the estimated percent change in predicted outcomes associated with increasing regulatory similarity one standard deviation above its mean, holding all other independent variables at their mean. Independent variables are measured at the prior fiscal year end and continuous variables are scaled to unit variance. Heteroskedasticity-consistent standard errors clustered by deal are in parentheses. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. Appendix 1 lists variable definitions.

	Randomly Matched Control Sample		**Industry and Size Matched Controls**		**Industry, Size, M/B Matched Controls**	
	(1)	(2)	(3)	(4)	(5)	(6)
Acquirer-target regulatory similarity	0.465***	0.882***	0.251***	0.607***	0.255***	0.618***
	(0.056)	(0.127)	(0.042)	(0.098)	(0.042)	(0.100)
Acquirer-target product market similarity	4.767***	7.800***	1.216***	2.488***	1.210***	2.496***
	(0.176)	(0.514)	(0.098)	(0.213)	(0.096)	(0.210)
Acquirer size	0.777***	1.401***	0.406***	0.938***	0.372***	0.981***
	(0.061)	(0.148)	(0.039)	(0.105)	(0.040)	(0.111)
Acquirer prior stock return	0.011	0.023	0.068*	0.090	0.051	0.059
	(0.068)	(0.091)	(0.040)	(0.077)	(0.035)	(0.067)
Acquirer ROA	0.052	0.052	-0.045	-0.061	-0.044	-0.047
	(0.069)	(0.113)	(0.040)	(0.077)	(0.040)	(0.071)
Acquirer market-to-book	-0.154**	-0.313**	-0.152***	-0.593***	-0.095***	-0.259**
	(0.063)	(0.141)	(0.045)	(0.118)	(0.036)	(0.107)
Acquirer leverage	0.046	0.090	0.034	0.202***	0.034	0.237***
	(0.054)	(0.092)	(0.036)	(0.075)	(0.035)	(0.071)
Target size	0.061	0.407***	-0.217***	-0.179*	-0.154***	-0.087
	(0.054)	(0.083)	(0.039)	(0.096)	(0.038)	(0.098)
Target prior stock return	-0.176**	-0.308***	-0.068*	-0.143	-0.049	-0.116
	(0.076)	(0.107)	(0.041)	(0.090)	(0.038)	(0.080)
Target ROA	0.109	0.121	0.013	0.055	0.067	0.137
	(0.087)	(0.179)	(0.056)	(0.119)	(0.047)	(0.092)
Target market-to-book	-0.069	-0.153	-0.209***	-0.475***	0.067	0.193*
	(0.085)	(0.152)	(0.064)	(0.147)	(0.043)	(0.104)
Target leverage	0.198***	0.225***	0.039	0.295***	0.102***	0.359***
	(0.059)	(0.087)	(0.035)	(0.080)	(0.033)	(0.074)
Deal fixed effects	No	Yes	No	Yes	No	Yes
Observations	4,924	4,842	3,938	3,690	3,936	3,689
R-squared	0.428	0.556	0.0868	0.178	0.0760	0.164
Unconditional mean	0.092	0.092	0.099	0.099	0.099	0.099
Δ relative to mean	24.2%	17.0%	20.1%	42.0	21.1%	45.8%

Table 5: Acquirer value implications. This table reports OLS estimates of the effect of regulatory intensity on acquirer percentage cumulative abnormal returns (CAR) in the three days around deal announcements. The sample consists of 22,443 deals announced by 5,226 public companies between 1993 and 2021. The bottom row displays the estimated total impact of a one standard deviation increase in acquirer regulatory intensity. Independent variables are measured at the prior fiscal year end and continuous variables are scaled to unit variance. Heteroskedasticity-consistent standard errors clustered by acquirer firm are in parentheses. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. Appendix 1 lists variable definitions.

	Acquirer CAR			
	(1)	(2)	(3)	(4)
Acquirer regulatory intensity*Acquirer size		1.194**		1.417**
		(0.596)		(0.641)
Acquirer regulatory intensity	-0.057	-0.371*	-0.169	-0.512**
	(0.084)	(0.202)	(0.115)	(0.215)
Acquirer size	-0.981***	-2.043***	-1.066***	-2.327***
	(0.063)	(0.540)	(0.067)	(0.581)
Acquirer prior stock return	-0.141**	-0.139**	-0.146**	-0.143**
	(0.068)	(0.068)	(0.072)	(0.072)
Acquirer ROA	0.100	0.107	0.104	0.109
	(0.069)	(0.070)	(0.074)	(0.074)
Acquirer market-to-book	-0.121	-0.112	-0.083	-0.072
	(0.077)	(0.078)	(0.081)	(0.083)
Acquirer leverage	0.078	0.078	0.081	0.076
	(0.056)	(0.056)	(0.063)	(0.063)
Acquirer industry antitrust deregulation	0.088	0.082		
	(0.585)	(0.587)		
Acquirer industry economic shock	-0.168**	-0.165**		
	(0.066)	(0.066)		
Year fixed effects	Yes	Yes	No	No
Acquirer industry-year fixed effects	No	No	Yes	Yes
Observations	22,443	22,443	22,443	22,443
R-squared	0.023	0.023	0.069	0.069
Unconditional mean	1.020	1.020	1.020	1.020
Δ relative to mean	-5.6%	80.7%	-16.6%	88.7%

Table 6: Regulatory costs and economies of scale. This table reports estimates from OLS regressions that relate a firm's operating costs with its regulatory intensity, depending on whether it completed an acquisition in the previous three years. The sample consists of 85,737 firm-year observations from 8,241 public companies with data available in the CRSP-Compustat Merged Database between 1993 and 2019. The bottom row displays the estimated total impact of a one standard deviation increase in regulatory intensity. Independent variables are measured at the prior fiscal year end and continuous variables are scaled to unit variance. Heteroskedasticity-consistent standard errors clustered by firm are in parentheses. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. Appendix 1 lists variable definitions.

	COGS				**SG&A**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Regulatory intensity	0.028***	0.031***	0.038***	0.039***	0.006***	0.008***	0.008***	0.010***
	(0.004)	(0.004)	(0.005)	(0.005)	(0.002)	(0.002)	(0.003)	(0.003)
Regulatory intensity*Acquirer$_{t-3, t-1}$		-0.001***		-0.001**		-0.001***		-0.001***
		(0.000)		(0.000)		(0.000)		(0.000)
Acquirer$_{t-3, t-1}$		0.095***		0.074**		0.089***		0.076***
		(0.035)		(0.035)		(0.019)		(0.019)
Size	-0.162***	-0.160***	-0.170***	-0.168***	-0.086***	-0.085***	-0.091***	-0.090***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.003)	(0.003)	(0.004)	(0.004)
Prior stock return	0.005***	0.005***	0.005***	0.005***	-0.002***	-0.002***	-0.001**	-0.002**
	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
ROA	0.004	0.003	0.001	0.001	-0.052***	-0.052***	-0.052***	-0.052***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.002)	(0.002)	(0.002)	(0.002)
Market-to-book	0.022***	0.022***	0.024***	0.023***	0.020***	0.020***	0.021***	0.021***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Leverage	-0.007*	-0.006	-0.007*	-0.007*	-0.013***	-0.013***	-0.012***	-0.012***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.001)	(0.001)	(0.001)	(0.001)
Industry antitrust deregulation	-0.018	-0.018			-0.014	-0.014		
	(0.026)	(0.027)			(0.010)	(0.010)		
Industry economic shock	0.002	0.002			0.001	0.001		
	(0.003)	(0.003)			(0.001)	(0.001)		
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	No	Yes	No	Yes	No	Yes	No
Industry-year fixed effects	No	Yes	No	Yes	No	Yes	No	Yes
Observations	81,466	81,466	81,466	81,466	77,123	77,123	77,123	77,123
R-squared	0.841	0.841	0.848	0.848	0.804	0.804	0.811	0.811
Unconditional mean	0.731	0.731	0.731	0.731	0.314	0.314	0.314	0.314
Δ relative to mean	3.8%	4.1%	5.2%	5.3%	1.9%	2.4%	2.6%	2.8%

Table 7: Stock price sensitivity to regulatory changes. This table reports estimates from OLS regressions that relate a firm's stock price sensitivity to regulatory changes (i.e., Regulatory Beta) with its acquisition history. $Acquirer_{t-3,\ t-1}$ is an indicator that equals one if the firm completed an acquisition in the previous three years. The sample consists of 85,737 firm-year observations from 8,241 public companies with data available in the CRSP-Compustat Merged Database between 1993 and 2019. The bottom row displays the estimated impact of an acquisition. Independent variables are measured at the prior fiscal year end and continuous variables are scaled to unit variance. Heteroskedasticity-consistent standard errors clustered by firm are in parentheses. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. Appendix 1 lists variable definitions.

	Regulatory Beta			
	(1)	(2)	(3)	(4)
$Acquirer_{t-3,\ t-1}$		-3.014***		-2.757***
		(0.708)		(0.712)
Size	-12.185***	-11.435***	-12.427***	-11.733***
	(1.339)	(1.351)	(1.374)	(1.388)
Prior stock return	4.347***	4.295***	4.523***	4.472***
	(0.437)	(0.437)	(0.462)	(0.462)
ROA	-1.239	-1.283	-1.341	-1.388
	(0.898)	(0.898)	(0.909)	(0.909)
Market-to-book	4.379***	4.193***	3.978***	3.812***
	(0.692)	(0.696)	(0.699)	(0.702)
Leverage	1.165*	1.401**	1.661**	1.878***
	(0.652)	(0.655)	(0.649)	(0.652)
Industry antitrust deregulation	4.877	4.948		
	(4.091)	(4.093)		
Industry economic shock	5.102***	5.125***		
	(0.549)	(0.550)		
Firm fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	No	Yes	No
Industry-year fixed effects	No	Yes	No	Yes
Observations	60,504	60,504	60,492	60,492
R-squared	0.323	0.323	0.342	0.342
Unconditional mean	61.381	61.381	61.381	61.381
Δ relative to mean		-4.9%		-4.5%

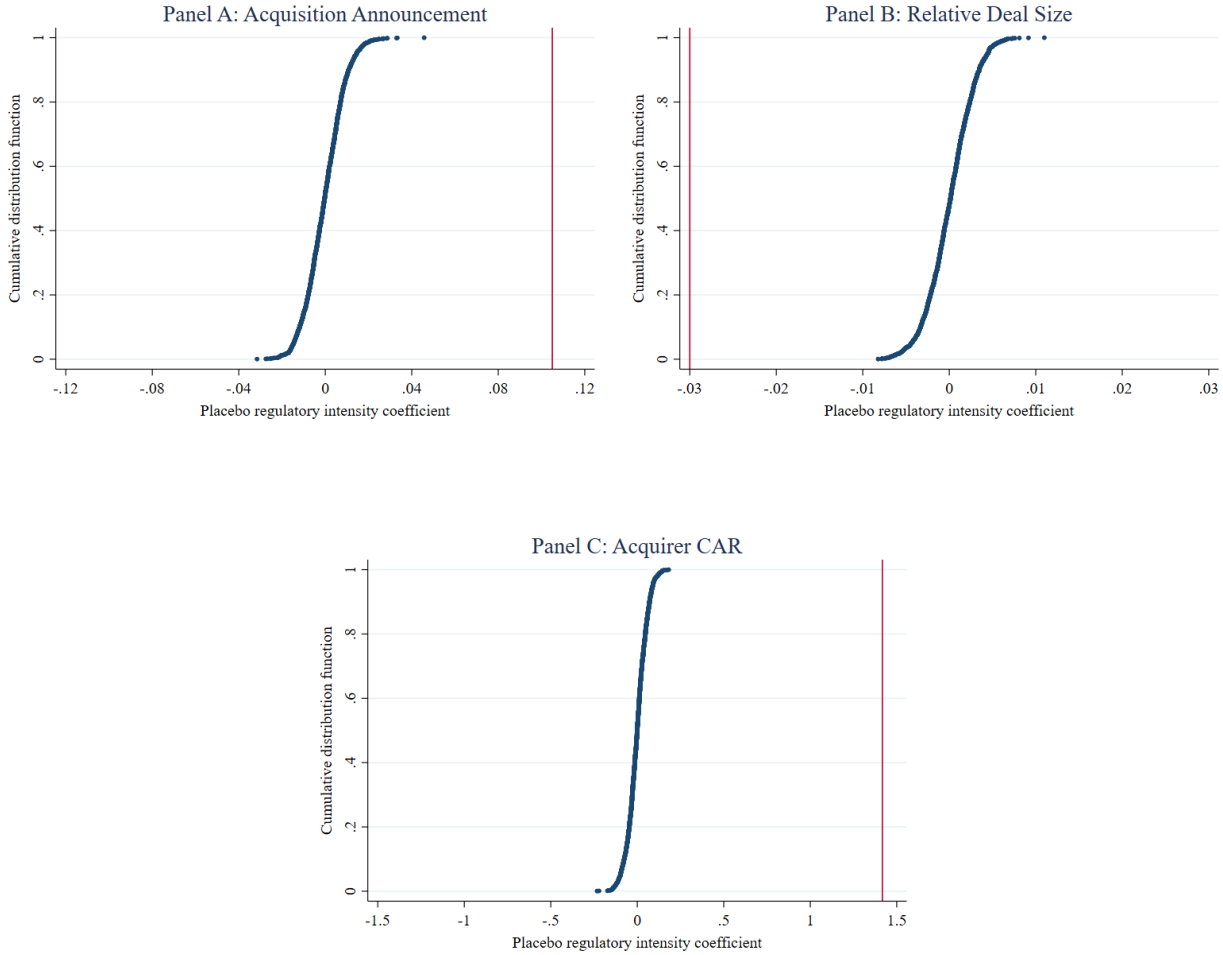
Appendix 1: Variable definitions. CCM denotes the CRSP-Compustat Merged Database, SDC denotes the SDC Platinum M&A Database, and Fed denotes the Federal Reserve Bank of St. Louis.

Variable	Source	Description
$Acquirer_{t-3,\ t-1}$ (0/1)	SDC	Indicator that equals one if the firm completed an acquisition in the previous three years, and zero otherwise
Acquisition announcement (0/1)	SDC	Indicator that equals one if the firm announces an acquisition during the year, and zero otherwise
Acquisition expenditure	SDC & CCM	Total deal value of acquisitions announced by the firm during the year, scaled by lagged assets
Acquirer CAR (%)	SDC & CCM	Cumulative abnormal stock return (CAR) of the acquirer in the three trading days around deal announcement. We estimate market model CARs using CRSP equal-weighted index returns and a one-year estimation window (252 trading days) ending one month (20 trading days) before the [-1, +1] event window
COGS	CCM	Cost of goods sold scaled by total assets
Industry antitrust deregulation (0/1)		Indicator that equals one for industry-years with a deregulation event listed in Harford (2005), and zero otherwise
Industry economic shock	CCM	First principal component of Harford's (2005) economic shock variables (industry median annual change in: net income to sale, sales to assets, R&D to assets, capital expenditures to assets, employment growth, return on assets, and sales growth), constructed following Bonaime, Gulen, Ion (2018)
Leverage	CCM	Long-term debt plus debt in current liabilities, divided by total assets
M&A target (0/1)	CCM	Indicator that equals one if the firm delists due to a merger during the year, and zero otherwise
Macroeconomic uncertainty		Index developed by Jurado, Ludvigson, Ng (2015) using a system of 279 macroeconomic variables (Source: Ludvigson's website)
Market return	CCM	Return on the CRSP value-weighted market index
Market-to-book	CCM	Ratio of market value to book value of total assets. The market value of assets is market value of equity minus book value of equity plus total assets, where the book value of equity is total assets minus total liabilities plus deferred taxes and investment tax credits if available
Policy uncertainty		Index developed by Baker, Bloom, and Davis (2016) using economic policy news coverage (Source: Bloom's website)
Prior stock return	CCM	Buy-and-hold abnormal return (BHAR) over the previous fiscal year using the CRSP equal-weighted index as market proxy

Appendix 1: Variable definitions (cont.)

Variable	Source	Description
Private target (0/1)	SDC	Indicator that equals one if the target is private, and zero otherwise
Product market similarity (0/1)		Indicator that equals one if the two firms are in the same text-based network industry during the year, and zero otherwise. Text-based network industry classifications are based on firm pairwise similarity scores from textual analysis of 10-K product description by Hoberg and Phillips (2010, 2016) (Source: Hoberg and Phillip's website)
Public target (0/1)	SDC	Indicator that equals one if the target is public, and zero otherwise
Rate spread	Fed	Difference between the Baa bond rate and the Federal Funds rate
Regulatory beta		Sensitivity of a stock to innovations in an index that captures the number of active federal paperwork regulations. Innovations are extracted from a 2-year autoregression and beta is estimated by regressing stock returns on these innovations plus the market, SMB, and HML factors in 24-months rolling windows
Regulatory intensity		Index that measures the number of active federal paperwork regulations relevant to the firm using supervised machine-learning algorithms, constructed following Kalmenovitz (2023)
Regulatory similarity		Firm pairwise cosine similarity score from textual analysis of Federal Register regulatory documents on which two firms appear during the year, by Chen and Kalmenovitz (2024) (Source: Kalmenovitz' site)
Relative deal size	SDC & CCM	Deal value scaled by the acquirer's market value of equity 11 trading days prior to the announcement
ROA	CCM	Operating income before depreciation scaled by total assets
SG&A	CCM	selling, general and administrative expense scaled by total assets
Shiller CAPE ratio		Cyclically adjusted price earnings ratio (Source: Shiller's website)
Size	CCM	Total assets. Regressions use the natural log of total assets
Subsidiary target (0/1)	SDC	Indicator that equals one if the target is a subsidiary of a public or private firm, and zero otherwise
Target (0/1)	SDC	Indicator that equals one if the firm delists due to a merger during the year, and zero otherwise
Time trend		Linear count of fiscal years in sample (1993=1 … 2019=27)

Appendix 2: Permutation tests. This figure plots cumulative distribution functions of coefficient estimates measuring the effect of placebo regulatory intensity on the likelihood that the firm announces an acquisition during the year (Panel A), relative deal size (Panel B), and acquirer percentage cumulative abnormal returns (Panel C). The specifications are the same as Table 2 Column (3), Table 3 Column (2), and Table 5 Column (4), respectively, except that we replace the firm's actual regulatory intensity with a placebo regulatory intensity value randomly selected from another firm. We construct each cumulative distribution function by regressing the outcome variable on 2,000 randomly assigned placebo treatments, and do not apply parametric smoothing. Panels A and B plot placebo regulatory intensity coefficient estimates from each regression; Panel C plots coefficient estimates for the placebo regulatory intensity*acquirer size interaction term. Vertical lines display the corresponding coefficient estimates for actual regulatory intensity reported in the main tables.



Appendix 3: Alternative clustering. This table reports specifications identical to Tables 2, 4, and 6, except that we cluster standard errors by Fama-French 48 industry rather than by firm. Columns (1)-(2) report logit regression estimates of the effect of regulatory intensity on the likelihood that the firm announces an acquisition during the year. Columns (3)-(4) report OLS regression estimates of the effect of regulatory intensity on relative deal size. Columns (5)-(6) report OLS estimates of the effect of regulatory intensity on acquirer percentage cumulative abnormal returns in the three days around deal announcements. Independent variables are measured at the prior fiscal year end and continuous variables are scaled to unit variance. Heteroskedasticity-consistent standard errors clustered by industry are in parentheses. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. Appendix 1 lists variable definitions.

	Acquisition Announcement		**Relative Deal Size**		**Acquirer CAR**	
	(1)	(2)	(3)	(4)	(5)	(6)
Acquirer regulatory intensity*Acquirer size					1.194**	1.417**
					(0.584)	(0.560)
Acquirer regulatory intensity	0.129***	0.105***	-0.025**	-0.030**	-0.371*	-0.512***
	(0.037)	(0.022)	(0.010)	(0.013)	(0.200)	(0.179)
Acquirer size	0.559***	0.604***	-0.116***	-0.124***	-2.043***	-2.327***
	(0.030)	(0.015)	(0.008)	(0.008)	(0.528)	(0.510)
Acquirer prior stock return	0.127***	0.138***	-0.014***	-0.012**	-0.139**	-0.143**
	(0.013)	(0.011)	(0.004)	(0.005)	(0.058)	(0.062)
Acquirer ROA	0.102**	0.127***	-0.024***	-0.022***	0.107	0.109
	(0.044)	(0.016)	(0.006)	(0.006)	(0.071)	(0.079)
Acquirer market-to-book	-0.032	-0.074***	-0.017***	-0.007	-0.112	-0.072
	(0.037)	(0.016)	(0.006)	(0.005)	(0.067)	(0.058)
Acquirer leverage	-0.023	0.025**	0.044***	0.035***	0.078	0.076
	(0.032)	(0.011)	(0.005)	(0.004)	(0.087)	(0.083)
Acquirer industry antitrust deregulation	-0.055		0.094**		0.082	
	(0.325)		(0.039)		(0.311)	
Acquirer industry economic shock	0.122***		-0.019**		-0.165*	
	(0.026)		(0.008)		(0.084)	
Year fixed effects	Yes	No	Yes	No	Yes	No
Acquirer industry-year fixed effects	No	Yes	No	Yes	No	Yes
Observations	85,737	84,522	22,443	22,443	22,443	22,443
R-squared	0.060	0.088	0.119	0.183	0.023	0.069

Appendix 4: Alternative measures of regulatory intensity. This table reports regressions identical to Tables 2, 4, and 6, except we replace our regulatory intensity measure (based on the # of active regulations), with alternatives based on the # of firm responses (Panel A) and hours spent on compliance (Panel B).

Panel A: Response-based measure	**Acq. Announcement**		**Relative Deal Size**		**Acquirer CAR**	
	(1)	(2)	(3)	(4)	(5)	(6)
Acq. reg. intensity (alternative #1)*Acq. size					0.517	0.555
					(0.318)	(0.341)
Acquirer regulatory intensity (alternative #1)	0.089***	0.118***	-0.011**	-0.018**	-0.235	-0.371*
	(0.015)	(0.024)	(0.005)	(0.008)	(0.186)	(0.198)
Acquirer size	0.558***	0.604***	-0.116***	-0.124***	-1.367***	-1.479***
	(0.016)	(0.016)	(0.005)	(0.005)	(0.251)	(0.267)
Acquirer prior stock return	0.127***	0.138***	-0.014***	-0.012***	-0.141**	-0.146**
	(0.009)	(0.010)	(0.003)	(0.003)	(0.068)	(0.072)
Acquirer ROA	0.111***	0.130***	-0.025***	-0.023***	0.102	0.101
	(0.015)	(0.016)	(0.004)	(0.004)	(0.069)	(0.074)
Acquirer market-to-book	-0.034***	-0.075***	-0.016***	-0.007*	-0.112	-0.073
	(0.013)	(0.014)	(0.004)	(0.004)	(0.078)	(0.082)
Acquirer leverage	-0.022*	0.026*	0.044***	0.034***	0.075	0.075
	(0.013)	(0.014)	(0.004)	(0.004)	(0.056)	(0.063)
Acquirer industry antitrust deregulation	-0.020		0.079		0.065	
	(0.142)		(0.057)		(0.586)	
Acquirer industry economic shock	0.106***		-0.015***		-0.170***	
	(0.014)		(0.004)		(0.065)	
Year fixed effects	Yes	No	Yes	No	Yes	No
Acquirer industry-year fixed effects	No	Yes	No	Yes	No	Yes
Observations	85,737	84,522	22,443	22,443	22,443	22,443
R-squared	0.059	0.088	0.118	0.182	0.023	0.069

Panel B: Time-based measure	**Acq. Announcement**		**Relative Deal Size**		**Acquirer CAR**	
	(1)	(2)	(3)	(4)	(5)	(6)
Acq. reg. intensity (alternative #2)*Acq. size					0.705*	0.670*
					(0.367)	(0.394)
Acquirer regulatory intensity (alternative #2)	0.094***	0.108***	-0.009*	-0.020***	-0.299	-0.401*
	(0.014)	(0.023)	(0.005)	(0.007)	(0.197)	(0.210)
Acquirer size	0.558***	0.604***	-0.116***	-0.124***	-1.541***	-1.596***
	(0.016)	(0.016)	(0.005)	(0.005)	(0.302)	(0.323)
Acquirer prior stock return	0.126***	0.138***	-0.014***	-0.012***	-0.142**	-0.147**
	(0.009)	(0.010)	(0.003)	(0.003)	(0.068)	(0.072)
Acquirer ROA	0.110***	0.129***	-0.025***	-0.023***	0.103	0.102
	(0.015)	(0.016)	(0.004)	(0.004)	(0.069)	(0.074)
Acquirer market-to-book	-0.034**	-0.075***	-0.016***	-0.007*	-0.109	-0.072
	(0.013)	(0.014)	(0.004)	(0.004)	(0.078)	(0.082)
Acquirer leverage	-0.023*	0.026*	0.044***	0.034***	0.076	0.077
	(0.013)	(0.014)	(0.004)	(0.004)	(0.056)	(0.063)
Acquirer industry antitrust deregulation	-0.142		0.097*		0.015	
	(0.142)		(0.057)		(0.598)	
Acquirer industry economic shock	0.108***		-0.016***		-0.172***	
	(0.014)		(0.004)		(0.065)	
Year fixed effects	Yes	No	Yes	No	Yes	No
Acquirer industry-year fixed effects	No	Yes	No	Yes	No	Yes
Observations	85,737	84,522	22,443	22,443	22,443	22,443
R-squared	0.059	0.088	0.118	0.182	0.023	0.069

Appendix 5: Alternative measures of M&A activity. This table reports specifications identical to Tables 2 and 3, except that we replace the dependent variable with three alternative measures of M&A activity. Columns (1)-(2) report logit regression estimates of the effect of regulatory intensity on the likelihood that the firm reports positive cash outflow for acquisitions during the year (Compustat data item *aqc*). Columns (3)-(4) report Poisson regression estimates of the effect of regulatory intensity on cash outflow for acquisitions during the year scaled by assets. Columns (5)-(6) report logit regression estimates of the effect of regulatory intensity on the likelihood that the firm is the target of a deal announced by an acquirer in our M&A sample during the year. Independent variables are measured at the prior fiscal year end and continuous variables are scaled to unit variance. Heteroskedasticity-consistent standard errors clustered by firm are in parentheses. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. Appendix 1 lists variable definitions.

	Cash Acquisition (0/1)		**Cash Acquisition Expenditure**		**Targeted in M&A Sample (0/1)**	
	(1)	(2)	(3)	(4)	(5)	(6)
Regulatory intensity	0.197***	0.134***	0.097***	0.070**	0.171***	0.237***
	(0.018)	(0.024)	(0.020)	(0.027)	(0.032)	(0.056)
Size	0.661***	0.751***	0.179***	0.195***	0.132***	0.125***
	(0.022)	(0.022)	(0.014)	(0.014)	(0.028)	(0.029)
Prior stock return	0.075***	0.085***	0.110***	0.117***	-0.005	-0.008
	(0.009)	(0.009)	(0.009)	(0.009)	(0.029)	(0.030)
ROA	0.258***	0.270***	0.331***	0.357***	0.040	0.074**
	(0.018)	(0.020)	(0.019)	(0.021)	(0.032)	(0.035)
Market-to-book	-0.194***	-0.244***	-0.035***	-0.067***	-0.155***	-0.179***
	(0.016)	(0.017)	(0.013)	(0.014)	(0.034)	(0.037)
Leverage	0.027*	0.078***	-0.017	-0.001	-0.028	0.025
	(0.015)	(0.016)	(0.013)	(0.013)	(0.028)	(0.029)
Industry antitrust deregulation	-0.387**		0.133		0.093	
	(0.151)		(0.151)		(0.442)	
Industry economic shock	0.050***		0.035**		0.124***	
	(0.015)		(0.014)		(0.030)	
Year fixed effects	Yes	No	Yes	No	Yes	No
Industry-year fixed effects	No	Yes	No	Yes	No	Yes
Observations	85,737	85,433	78,652	78,378	85,737	64,760
R-squared	0.090	0.139	0.023	0.048	0.017	0.043