Growing beyond firm boundaries through strategic alliances: Role of labor market frictions

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Using the staggered adoption of state-level employment regulations, we find that firms subject to labor market frictions significantly increase their strategic alliances, favoring collaborations with other firms to pursue growth over internal investments. These effects are larger for high-growth and innovative firms. Affected firms shift their risky, novel projects outside their boundaries by partnering with risky firms from a different industry. Following the law adoption, firm growth declines but this decline is attenuated among firms with alliances. Overall, we establish that firms adjust their boundaries to circumvent the negative growth impacts imposed by labor market frictions arising from employment regulations.

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"Alliances play a key role in a corporate growth strategy. They are an alternative to the organic option of building a new business from the ground up, or the inorganic option of making an acquisition."

—PwC "Joint ventures and strategic alliances—Examining the keys to success"

1. Introduction

Firms can grow in a multitude of ways – internal organic investments, external mergers and acquisitions (M&A), and partnering with other companies through strategic alliances. In the 22nd PwC annual survey of global CEOs, 40% of the respondents said that they were planning a new alliance in the next year to help drive growth and profitability while a lower 37% mentioned a new M&A within the next year, highlighting the importance of alliances as a viable strategy to drive firm growth.[1] However, in contrast to the immense literature on M&As and internal investment decisions, there is relatively much less empirical work in corporate finance on understanding what drives firms to form alliances. Since the seminal work of Coase (1937), transaction cost theory emphasizing contracting efficiency has often been invoked to explain why certain activities are integrated within the firm while others remained outside through third-party transactions such as alliances. In this paper, we propose that labor market frictions due to employment protection laws are an important determinant of a firm's choice to form strategic alliances, thereby highlighting the role of regulations in shaping firm boundaries and ultimately firm growth (Williamson, 1996; Belenzon et al., 2018).

Employment protection laws which protect employees from dismissal have been shown to lower firm investments and growth (Lazear, 1990; Besley and Burgess, 2004). These labor regulations increase the costs to firms of dismissing employees, thereby creating frictions in the

[1] We follow prior literature (e.g., Bodnaruk et al. 2013) and include joint ventures as a type of strategic alliance. The 22nd PwC survey was conducted on 1,378 CEOs from around the world in September and October of 2018 and can be downloaded from https://www.pwc.com/gx/en/ceo-survey/2019/report/pwc-22nd-annual-global-ceo-survey.pdf.

labor market and prevent firms from reallocating labor resources efficiently (Autor et al., 2006). Due to the difficulty in reallocating workforce, the employment protection laws deter firms from bringing new investments within the firm's boundaries, for fear of the need to incur high costs in discharging employees if the investment fails. Giving up these investments can be costly as it leads to lower firm growth (Bai et al., 2020). Management is likely to realize the constraints imposed on them by the regulations and seek to attenuate their negative impacts through active organizational design (Seru, 2014). One way to circumvent the problem is by shifting investment activities, especially those with high failure rates, outside of the firm's boundaries through formation of strategic alliances, a relatively more flexible way to grow.

Strategic alliances are long-term agreements between independent organizations that provide for sharing the costs and benefits of a mutually beneficial activity (Robinson, 2008). Although strategic alliances are not without their costs,[2] compared to internal investments and M&As, they require relatively smaller capital outlays and can be executed quickly, as partnering firms pool existing resources and capabilities together to develop new technologies and knowledge (Kogut and Singh, 1988; Chan et al., 1997). Therefore, alliances allow firms to learn new knowledge and expertise from their partners (Li et al., 2019) and explore novel ideas before considering a substantial investment (Reuer and Tong, 2005). Chan et al. (1997) show that alliances can create firm value through the organizational flexibility they provide because these

[2] Strategic alliances have limitations and potential downsides, which may explain why there are not more of them. Although strategic alliances allow for sharing risks among the entities involved, the benefits generated from the strategic alliance operation also have to be shared (PWC, 2016). In addition, there has to be careful coordination and execution among the multiple management teams involved, otherwise overall operations from the strategic alliance may slow down. Bonatti and Hörner (2011) point out that free-riding could become a problem in collaborating work between partners and thus strategic alliances can also lead to procrastination. Finally, there are potential hold-up problems that can arise from incomplete contracts between the strategic alliance parties. According to Coase (1937), firms choose their boundaries to minimize transaction costs, and previous works, such as Klein et al. (1978) and Williamson (1979) suggest that vertical integration rather than entering into contractual agreements can minimize hold-up issues. Therefore, due to these issues, bringing operations within the boundaries of the firm (e.g., internal investments and acquisitions) may sometimes be preferred.

partnerships can be easily formed and disbanded, depending on changing market conditions and with low costs. If it does not work out, the company can discontinue the alliance instead of being saddled with a non-performing acquisition or assets (Balakrishnan and Koza, 1993). Therefore, alliances can be an attractive and flexible alternative way for firms to pursue growth, especially in novel areas, compared to building in-house or integrating (Jensen, 1993).[3]

How does labor market frictions affect a firm's choice of growth strategy and strategic alliance formation decision? As a firm's resources are finite, it needs to trade off the various expansion strategies and decide how to make the best use of its limited assets to sustain growth and expand operations. Most often, the investment decision accompanies the hiring or reallocation of the labor force, which is unarguably one of the most critical components of firm operations and often forms the largest proportion of firm expenses. The ability to scale down and discharge workers increases the net present values (NPVs) of projects undertaken in-house due to higher recovery values (Bernanke, 1983; Dessaint et al., 2017). When the cost of dismissing employees increases, it becomes more costly for firms to scale down projects and discharge workers in case of project failures. As such, when faced with the increased costs of dismissing employees, prior literature has shown that firms decrease their internal investments because the projects undertaken through such means become more irreversible (Bai et al., 2020). In contrast, strategic alliances are more reversible because partner firms can easily disband in the case of project failure (Chan et al., 1997). Therefore, strategic alliances become more attractive than internal investments to grow in the presence of increased employee dismissal costs because of their relative reversibility. The relative attractiveness of strategic alliances as a way to undertake the project should also increase

[3] Another way for firms to pursue growth is to engage in corporate venture capital activities where firms usually inject equity into start-up firms (Chemmanur et al., 2014).

with project failure rates because the likelihood of having to reallocate labor would be highest for these risky projects if the project is undertaken internally.

However, there are reasons to believe that alliances may instead decrease in the presence of labor market frictions. Employment protection laws are a double-edged sword. On one hand, such laws increase labor adjustment costs for employers, on the other hand, the labor regulations insulate employees and increase their job security (Autor et al., 2006). Acharya et al. (2014) theoretically and empirically show that employee protections reduce holdup problems between employers and employees, making employees more willing to exert effort at innovative activities and resulting in better innovation outputs. To the extent that employment protection increases the productivity of in-house innovation activities, we should observe increased internal investments and firms are more willing to bring investment activities within the boundaries of the firm (Belot et al., 2007). This should reduce the incentives of firms to form alliances with other firms after the adoption of the law.

To examine how labor market frictions affect a firm's boundaries and strategic alliance activities, we follow Acharya et al. (2014) and Bai et al. (2020) and use the staggered adoption of wrongful discharge laws (WDLs) as a natural experiment to identify an exogenous increase in employee dismissal cost.[4] WDLs limited the discretion of employers to terminate workers by increasing the success rate of fired employees winning lawsuits against their former employers. Therefore, WDLs generated uncertainty with regards to whether firms can terminate their employees with impunity and increase the expected costs associated with discharging employees (Autor et al., 2006). Our focus is on the good faith exception, which allows workers discharged for "bad cause" to file lawsuits under both contract law and tort law. The good faith exception is

[4] We discuss the institutional details of the passage of the law in Appendix A.

deemed the most far-reaching among the various laws, and has been shown to significantly increase employee dismissal costs (e.g., Dertouzos and Karoly, 1992; Kugler and Saint-Paul, 2004).

We use the difference-in-differences (DiD) approach to test the causal impact of increased dismissal costs on firm's alliance formation. We find that the adoption of the good faith exception is followed by a close to 15% relative increase in strategic alliance activities for treatment firms compared to the control firms not exposed to this law change. The effects are especially strong among high-growth firms, where otherwise giving up growth projects will be very costly. We further check that the results are robust to various alternative specifications such as the stacked regression as recommended by Baker et al. (2022), Poisson and Negative Binomial models and the use of matching firm analysis. To infer the causal relationship from DiD specifications, it is crucial that both treatment firms (firms that are subject to the good faith exception) and control firms (firms that are not subject to the good faith exception) do not violate the parallel trend assumption prior to the adoption of the good faith exception. We find that the parallel trend assumption is satisfied, and strategic alliance activity increases only after (not before) the adoption of the good faith exception. We also check that our results are not contaminated by contemporaneous changes in antitrust laws nor due to limitations in financing caused by the good faith exception (Serfling, 2016). .

Bai et al. (2020) find that there is a significant decline in capital expenditure after the passage of the good faith exception. Complimenting their work, we find that after adoption of the law, firms are more likely to favor strategic alliances over irreversible internal investments, with the effects stronger among high-growth firms. These findings are consistent with firms trading off the benefits and costs of each growth strategy, and after the exogenous increase in employee dismissal costs, strategic alliances become a much more attractive option than expansion strategies

undertaken internally. We also examine the shift between alliances and external acquisitions. The impact of good faith exception on acquisition activities is less clear. On one hand, firms may choose to acquire targets located in non-good faith states to circumvent the impacts of good faith in their own states, but on the other hand, they may be deterred from acquiring in general for fear that more states will pass the good faith exception. Consistent with these contradictory predictions, we find weak evidence on the impact of good faith exception on acquisition activities. Therefore, the good faith exception is likely to affect the choice between alliance and internal investments rather than between alliance and acquisitions.

We argue that firms switch to alliances to grow after the passage of the good faith exception to avoid high employee dismissal costs in case of project failure. Expected employee dismissal costs are a function of the actual costs incurred when dismissing employees and the probability of doing so, which increases with the project failure rate. Thus, the switch to alliances should be more apparent for innovative firms with risky projects that have high likelihood of failure. Consistent with our expectations, we find that after the law adoption, treatment firms in innovative industries are more likely to form alliances. Additionally, treatment firms are more likely to ally with partners in a different industry in order to pursue novel growth areas which are inherently riskier compared to investments in the focal firm's industry domain. Consistent with treatment firms engaging in risky projects via their alliance partners, we find that compared to control firms, treatment firms are more likely to ally with partners that are riskier and investing in risky, novel innovations. As a result, treatment firms produce proportionately more exploratory patents and patents that cite their partner's work after the alliance formation, consistent with treatment firms using alliances to invest in novel areas of growth and to learn from their partners.

Finally, we examine the effect of strategic alliances on firm growth. Prior literature has

argued that labor market frictions and employment protection laws stifle investments and growth, as firms operating in more rigid labor markets face higher costs of restructuring their workforce (e.g., Lazear, 1990; Botero et al., 2004). Bai et al. (2020) document that the passage of the good faith exception leads to decreased firm growth. We find that this negative growth impact is attenuated for firms undertaking strategic alliances.

Our study contributes to several strands of literature. Transaction cost theory which emphasizes minimizing the costs relating to holdup problems due to incomplete contracting has often been invoked to explain how firms draw their boundaries (Klein, et al., 1978; Williamson, 1979). Older studies have emphasized contracting across firms while more recent studies such as Robinson (2008) and Seru (2014) point out that contracting problems *within* firms may in fact give rise to the need to separate activities across firm boundaries, where legal distinctions between firms can be used to enforce contracts. Our study provides a new perspective to the importance of legal systems in the theory of the firm by suggesting that labor market frictions created by the contours of the legal systems can shape firm boundaries (Williamson, 1996; Belenzon et al., 2018). We provide empirical evidence to show that employment protection laws tilt firms towards strategic alliances as a more flexible organizational form to organize their economic activities.

Prior work has extensively studied why firms engage in capital expenditures and acquisitions, mostly in silos. Relatively much less has been done to examine how firms trade off among various strategic choices for growth. Bodnaruk et al. (2013) document that good governance spurs firms to favor alliances over acquisitions and internal investments as growth strategies, while Huang et al. (2022) emphasize how shareholder litigation risk affects a firm's choice of alliance versus acquisition. In contrast, we highlight the role of labor market frictions in affecting how firms organize their economic activities and especially their risky investments.

Through doing so, we also contribute to studies that show alliances as the optimal organizational structure with which firms pursue risky projects (Robinson, 2008; Li et al., 2019; Seru, 2014).

Finally, our study contributes to the literature on how employment protection laws affect firm outcomes and growth (Lazear, 1990). Prior literature has shown that the adoption of WDLs influences employment hiring and dismissal decisions (e.g., Dertouzos and Karoly, 1992; Autor et al., 2006; Autor et al., 2007), innovation activities (Acharya et al., 2014; Bena et al., 2021), capital structure decisions (Serfling, 2016), and internal investment levels (Bai et al., 2020). In contrast to these papers which focuses on firm activities within the boundaries of the firm, we show that firms respond to the employment protection laws by adjusting their growth strategies through increased formation of strategic alliances and pushing investment activities, especially risky ones, outside the firm's boundaries. Importantly, we document that the negative growth impacts of the laws can be attenuated through strategic alliances, highlighting how firms can adjust their boundaries to counteract the growth constraints imposed on them by labor market frictions.

The remainder of this paper is organized as follows. In Section 2, we describe the data and empirical methods. Section 3 presents our main empirical results and addresses econometric concerns. In Sections 4 and 5, we provide additional analyses to examine the channels through which WDLs affect growth strategies. In Section 6, we examine the impact on innovation and firm growth outcomes. Section 7 concludes.

2. Data and empirical methods

2.1. Sample selection

Our base sample includes firms covered in the Compustat-CRSP merged database. We then use strategic alliance deals from the Securities Data Corporation Platinum (SDC) database to

identify firms which form strategic alliances. Following Bodnaruk et al. (2013), we include all types of business agreements between two or more firms, such as R&D-related alliances, joint ventures (JV), and non-R&D-related alliances (e.g., marketing alliances), and both domestic and international alliances. The data on innovation outcomes are taken from Kogan et al. (2017).[5] Accounting data are from Compustat, and stock price information is from CRSP. Our sample period is from 1985, the year SDC started providing coverage on strategic alliances, to 2003, five years after the passage of the last good faith exception in Louisiana, following Bai et al. (2020). We exclude firms in the financial and utility industries. After requiring non-missing values for the main variables, our final sample consists of 70,080 firm-year observations from 9,847 distinct firms that formed 17,244 strategic alliances over the sample period.

2.2. Empirical methods

We adopt a DiD research design to investigate the causal effect of an increase in employee dismissal costs on strategic alliance activities. Similar to Serfling (2016), we focus on the adoption of good faith exceptions by the states. Henceforth, firms headquartered in states with good faith exceptions are referred to as treatment firms, while firms in states without the exception (or those that have not yet adopted the exception) are referred to as control firms. The staggered adoption of WDLs by different states at different times has added advantages. It allows firms to be in the control group at one point in time and in the treatment group at another point after the state the firm is in has adopted the law.[6] Therefore, staggered adoption and DiD specification reduce

[5] We thank Kogan et al. (2017) for making the data available online at https://iu.app.box.com/v/patents.

[6] Some states passed the good faith exception prior to the start of our sample period: Alaska in 1983, Arizona in 1985, California in 1980, Connecticut in 1980, Massachusetts in 1977, and Montana in 1982. However, we are able to capture the passage of the good faith exception within our sample period for many other states: Delaware in 1992, Idaho in 1989, Louisiana in 1998, Nevada in 1987, Utah in 1989, and Wyoming in 1994. We are also able to capture the reversal of the good faith exception in Oklahoma, which passed the exception in 1985 but reversed it in 1989.

concerns about differences between the treatment and control firms.

Our main regression specification predicting strategic alliance is as follows:

$$Log\ (1 + \#SA)_{i,s,t} = \alpha_0 + \alpha_1 GF_{s,t} + \alpha_2 IC_{s,t} + \alpha_3 PP_{s,t} + \alpha_4 Firm\ \ characteristics_{i,s,t-1} +$$

$$\alpha_5 State\ characteristics_{s,t-1} + Fixed\ effects + \varepsilon_{i,s,t},$$

where $Log\ (1+\#SA)_{i,s,t}$ is the natural logarithm of 1 plus the number of strategic alliance deals announced by firm *i* headquartered in state *s* in year *t*. To capture firms' growth choice between strategic alliances and organic growth, we follow Bodnaruk et al. (2013) and calculate the ratio of the number of strategic alliances to *Internal investment*, where *Internal investment* is the sum of capital expenditure and R&D expenditure in millions of dollars. Then we take the natural logarithm of one plus the ratio, that is, $Log\ (1+\#SA/internal\ investment)_{i,s,t}$.[7] We also separately examine the ratio of strategic alliance to capital expenditure, $Log\ (1+\#SA/capex)_{i,s,t}$, and strategic alliance to R&D expenditure, $Log\ (1+\#SA/R\&D)_{i,s,t}$. To capture firms' growth choice between strategic alliances and M&As, we use as dependent variable the difference between the number of alliance deals and M&A deals entered into by the firm, $(\#SA-\#M\&A)_{i,s,t}$. We also calculate the ratio of the number of alliances to the number of M&A deals, $Log\ (1+\#SA/\#M\&A)_{i,s,t}$ (Bodnaruk et al., 2013).

$GF_{s,t}$ ($IC_{s,t}$, $PP_{s,t}$) is an indicator variable equal to 1 if firm *i* is headquartered in state *s* that adopts the good faith exception (implied contract exception, public policy exception) by year *t*, and 0 if it is headquartered in a state that has not adopted the good faith exception (implied contract exception, public policy exception). Following previous studies, we match these indicator variables to the states where each firm's headquarters is located (Acharya et al., 2014; Serfling,

[7] Ideally, we would like to compare the value of the strategic alliance deal with the value of internal investments. Unfortunately, less than 5% of strategic alliance deals disclose the deal value.

2016).[8,9]

Following prior literature, we control for *Log (Assets)*, *Cash*, *ROA*, *Leverage*, and *Tobin's q*. We additionally include state-level characteristics to control for the state's economic and political conditions (Serfling, 2016): *State GDP per capita*, *State GDP growth*, *Democrats*, *State unemployment rate*, and *Circuit state's GF*. We show results with SIC 2-digit industry and year fixed effects, and firm and year fixed effects. To mitigate the concern that the error terms are correlated across a given state, we cluster the standard errors by the headquarter state level (Bertrand et al. 2004). Appendix B provides a detailed description of the variables used. All continuous variables (except state-level and count variables) are winsorized at the 1st and 99th percentiles, and all dollar values are adjusted for the CPI to 2004 dollars.

2.3. Summary statistics

Table 1 presents the summary statistics of our key variables at the firm-year level. First, we show the alliance and investment characteristics of our sample firms. Treatment firms have a significantly higher average number of alliance deals (#*SA*) compared to control firms (0.352 vs. 0.208). This difference happens both at the extensive margin and intensive margin. Treatment firms are more likely to form strategic alliances (*SA dummy*), with 15% of the treatment firms having at

[8] Employment contracts are typically governed by labor laws in the state where the employee works but most papers have used the headquarters of the firm to measure the employment protection level since most employees are hired at the headquarter level. Furthermore, Serfling (2016) argues that since the majority of plaintiffs in the WDL lawsuits hold important positions within the firm (Dertouzos et al., 1988), using the headquarter state in the test will capture a large portion of the increase in dismissal costs. Moreover, Glaeser et al. (2022) find that inventors and R&D facilities are more productive and creative if they are located near the headquarter, suggesting that employees involved in risky innovation work in the same state as the firm's headquarter. Nevertheless, we divide the sample into two groups based on the firm's geographical dispersion (García and Norli, 2012). A firm is considered geographically concentrated (dispersed) if the number of states that the firm operates in is below (above) the sample median for the year. As expected, results are stronger among firms that are relatively geographically concentrated, suggesting that using the headquarter states captures the effect of WDL lawsuits on employee dismissal costs at the firm. We thank Diego Garcia for making the data available on his website https://sites.google.com/site/financieru/resources/software.

[9] We have also checked and obtained similar results if we use the historical headquarters information from Compact Disclosure.

least one alliance deal versus only 10% for the control firms. Conditional upon forming at least one alliance, treatment firms form 2.3 partnerships on average while control firms have about 2.0 collaborations on average with other firms. We also examine the choice between organic growth and alliances. We find that compared to control firms, treatment firms undertake more alliance deals relative to their total internal investment (*#SA/internal investment*) and also relative to their capital expenditure. Finally, treatment firms form more alliances relative to acquisitions (*#SA-#M&A* and *#SA/#M&A*). On average, we find that treatment firms undertake 0.144 more alliances than acquisitions while control firms undertake slightly less alliances than acquisitions.

Next, we present the firm and state characteristics. Consistent with prior studies, treatment firms are smaller and are less leveraged than control firms. While treatment firms have higher Tobin's *q* and hold more cash, their operating performance is lower than that of control firms. We find that states that adopt good faith exceptions are more likely to adopt implied contract and public policy exceptions than states that do not. In addition, these states have higher GDP per capita, GDP growth, and unemployment rates. States that adopt good faith exceptions are more likely to support the Democratic party, and their circuit court regions are more likely to adopt good faith exceptions compared to states that do not. In general, our statistics are similar to those of previous studies.

3. Main empirical results

3.1. Impact of good faith exceptions on strategic alliances

We first examine the impact of good faith exception on alliance formation. In Table 2 Panel A, we use the ordinary least squares (OLS) regression model, in which the dependent variable is the natural logarithm of 1 plus the number of strategic alliance deals (*Log (1+#SA)*). The main independent variable is *GF* which is equal to 1 if firms are headquartered in states that

have adopted the good faith exception and 0 otherwise. In column 1, we only include the WDL indicator variables (*GF*, *IC*, and *PP*) and industry and year fixed effects. We find significant positive impacts of good faith exception on alliance activities of treatment firms. Compared to the control firms, treatment firms faced with increased employee dismissal costs form about 0.051 more alliance deals.[10] This increase is economically significant, considering that the average number of alliance deals by the treatment firms is 0.352. Relative to the average alliance deals by the treatment firms, the good faith exception leads to a 14.5% increase in alliance formation. This result is consistent with increased employee dismissal costs causing firms to shift their investment activities outside the firm's boundaries as strategic alliances become a relatively more attractive way to organize investment activities due to its flexibility.

In columns 2 and 3, we include additional firm characteristics and state characteristics, respectively, as control variables and find consistent results. In columns 4 to 6, we control for firm and year fixed effects to examine within-firm changes and reach similar conclusions. The economic significance remains similar. Relative to the average alliance activities of the treatment firms, the passage of the good faith exception causes the treatment firms to significantly increase their alliance activities by about 14.5% more compared to the change in alliance activities of the control firms.

In Panel B, we test the robustness of the results using alternative specifications. In column 1, to further control for the unobservable propensity of the firm to engage in strategic alliances, we include the average number of strategic alliance deals made by the firm from 1985, the first year

[10] Consider the regression $log(1+Y)=\beta*X$. Taking the first difference gives us $\beta = \frac{d(log(1+Y))}{dX} = \frac{1}{1+Y}\frac{dY}{dX}$. Therefore, $dY=\beta(1+Y)dX$. If x increases by 1, then Y increases by β(1+mean(Y)) from the mean of control firms. In our case, after the passage of the law, strategic alliance deals increase by 0.0422*(1+0.208) = 0.0510 from the average number of strategic alliance of the control firms, which is 0.208. Relative to the average alliance deals of the treatment firm, the increase is 0.0510/0.352 = 14.5%.

of our strategic alliance data, to 1989, as an additional control variable. When including the historical average, the sample begins in 1990. We continue to find significant positive impacts of the good faith exception on alliance activities.

Some may argue that JVs are distinct from other types of alliances because the former requires more investment and are less flexible than the latter.[11] Therefore, in column 2, we replace our dependent variable with *Log (1+#SA excl. JV),* which is the natural logarithm of 1 plus the number of strategic alliance deals excluding joint ventures, and we find consistent results. In columns 3 and 4, to account for the count nature of strategic alliance deals, we use the Poisson and Negative Binomial models, respectively. In column 5, we use the logit model and test the likelihood of forming alliances. The dependent variable is an indicator variable equal to 1 if a firm has at least one strategic alliance deal, and 0 otherwise. We continue to find positive and significant coefficients on *GF* for these alternative regression specifications. Overall, the results indicate that firms respond to the good faith exception by increasing their strategic alliance formation.

3.2. Econometric concerns and alternative hypotheses

In this section, we undertake several analyses to assuage econometric concerns with regards to the use of a staggered DiD specification. We use a stacked regression specification and also test for the parallel trend assumption. We next address concerns about systematic differences between treatment and control firms by using a propensity score matching approach. Finally, we check whether the amendment of antitrust laws during our sample period is driving our observed

[11] Joint ventures typically require the formation of a separate legal entity and operate independently of the parents, and thus are considered less flexible. Also, the investment required to form joint ventures is higher than forming alliances, which typically utilizes the resources at hand to generate synergies. Therefore, it would be more difficult for firms to recover the investment from joint ventures than from alliances when things do not work out well. Consistent with these arguments, we find that the results become insignificant when we focus only on joint ventures.

results and also examine an alternative hypothesis to test whether the switch to strategic alliances can be driven by a financing channel.

3.2.1. Addressing econometric concerns on staggered DiD specification

Goodman-Bacon (2021) document that staggered DiD analysis can produce biased results. In a staggered DiD setting, earlier-treated groups (treated at T_1) become control groups for later-treated groups (treated at T_2). The earlier-treated groups may be ineffective controls and introduce a "bad comparisons" problem in the presence of dynamic treatment effects, leading to biases in the DiD estimation. However, as pointed out by Baker et al. (2022), the bias from staggered DiD due to dynamic treatment effects should attenuate as the proportion of never-treated control firms increases. In our sample, about 70% of the firms are never-treated firms, i.e., they are located in states which never passed the good faith exception. Therefore, the issue of "bad comparisons" should be less of a problem in our setting. Nevertheless, following the recommendations of Baker et al. (2022), in Table 3, we use a stacked regression specification whereby firms that are already treated are excluded from being the control groups for later-treated firms. We find consistent results with similar economic significance.

3.2.2. Addressing concerns about parallel trends assumption

Under the parallel trends assumption required for DiD to be valid (Roberts and Whited, 2013), strategic alliance activities should evolve similarly for both treatment and control firms if not for the adoption of the law. If the adoption of the law is systematically driven by state-level political and economic conditions or even strategic alliance activities, then the parallel trends assumption could be violated. However, since the adoption of WDLs is based on judicial decisions

rather than legislative ones, it is likely to be driven by the merits of the case rather than state political and economic factors (Walsh and Schwarz, 1996). Nonetheless, in untabulated tests, we examine whether the adoption of the good faith exception is related to the prior year's alliance activities of firms headquartered in that state, and state-level political and economic factors (Acharya et al., 2014). We find little evidence to suggest that the adoption of the good faith exception is related to pre-existing state-level alliance activities and economic and political factors, providing support for the parallel trend assumption.

Table 4 presents an alternative analysis to test the parallel trend assumption. We re-estimate our regressions by replacing the *GF* indicator variable with the following indicator variables for separate periods: *GF (-2), GF (-1), GF (0), GF (+1),* and GF *(+2). GF (-2) and GF (-1)* are indicator variables equal to 1 if the firm is headquartered in a state that will pass a good faith law in two years and one year, respectively, and 0 otherwise; *GF (0)* equals to 1 if the firm is headquartered in a state that adopts the good faith law during the current year and 0 otherwise; *GF (+1)* equals to 1 if the firm is headquartered in a state that has adopted a good faith law during the past year and is 0 otherwise; and *GF (+2)* equals to 1 if the firm is headquartered in a state that has adopted a good faith law for two years or more and 0 otherwise.

We present specifications with different fixed effects. Across all specifications, the results suggest that the increase in strategic alliance deals occurs mainly after the passage of the good faith exception, providing further assurance that the parallel trend assumption is not violated.

3.2.3. Addressing non-random selection concerns using matched sample analysis

As seen in Table 1, treatment and control firms differ in various dimensions, raising concerns about non-random selection. We control for these variables in the linear regressions, but

it is possible that firms that differ in observable characteristics likely also differ in unobservable dimensions. Therefore, we implement a propensity score matching analysis in which treatment firms and control firms would be similar in the observable dimensions, except their exposure to the good faith exception. Although it would not completely eliminate non-random selection concerns, such matching would help mitigate concerns about observable differences between the treatment and control firms. We match each treatment firm to a control firm that is located in a state which has never passed the good faith exception using one-to-one nearest neighbor matching without replacement. The results are tabulated in Appendix Table 1. Using matched samples, we find consistent results that treatment firms increase alliance deals relative to control firms following the adoption of the good faith exception. The use of the never-treated firms as control firms in the propensity score matching approach also helps to partially address issues raised by Baker et al. (2022) that the staggered DiD specification may be biased when treatment firms later become control firms for firms exposed to the law change later in the sample period.

3.2.4. Are the results driven by anti-trust law changes?

The impact of the good faith on alliance activities may be confounded by other contemporaneous law changes happening during our sample period. In particular, the National Cooperative and Research and Production Act (NCRPA) was amended in 1993 to reduce anti-trust risks for joint ventures and strategic alliances. One of the main thrusts of the amendment permits venture and alliance participants to limit their potential antitrust damage exposure to actual damages if being challenged, as opposed to treble damages typical under federal and state antitrust actions. Therefore, the amendment of the Act could potentially make alliances and joint ventures more attractive and drive an overall increase in such activities.

It is unlikely that our results are driven by the amendment of the Act since the NCRPA applies to all US firms, while the good faith exception applies to firms in selected states. However, to eliminate the possibility that our results may be confounded by the amendment of NCPRA, we check whether the effect of the good faith exception on strategic alliances is different for the post-1993 period compared to the pre-1993 period. In untabulated results, we do not find any significant differential effects between the two periods. Such results are consistent with Dougherty (1999) and Scott (2008) who find that NCRPA does not increase motivation for partnership activities.

3.2.5. Are the results driven by difficulty in accessing debt financing?

The good faith exception may increase the likelihood of financial distress by raising operating leverage (labor costs become relatively fixed) and crowding out financial leverage. As such, firms will have difficulty raising capital for big internal investments. Strategic alliances would thus become relatively more attractive since the capital outlays are much lower. Under this alternative hypothesis, we would expect the impact of the law change on alliance activities to be greater for financially constrained firms. In untabulated results, we examine how financial constraints affect the relationship between good faith exception and alliance activities. We use the financial constraint indices of Kaplan and Zingales (1997), Whited and Wu (2006), and Hadlock and Pierce (2010). Consistent with the idea that alliances require less capital, we find that firms with more financial constraints are more likely to form alliances. However, we do not find that this dependence on alliances for financially constrained firms increases after the passage of the good faith exception. Therefore, there is no evidence to support the alternative mechanism whereby the increase in strategic alliances post-law change is due to the difficulty in raising capital.

4. Additional analysis: Cross-sectional impact of growth and choice of growth strategies

We argue that firms faced with increased employee dismissal costs compensate for their reduction in irreversible internal investments by choosing to invest via alliances, which is relatively more reversible due to its flexible organizational form. In this section, we seek to provide further evidence of this reversibility channel by first showing that the shift to strategic alliance is most apparent among high-growth firms where the cost of otherwise giving up investment projects is higher. Then, we directly compare the various growth strategies, thereby providing one of the first pieces of evidence that labor market frictions affect the organizational form through which firms organize their investment activities.

4.1. Cross-sectional impact of growth opportunities on strategic alliances

The adoption of the good faith exception increases the cost of dismissing employees, which potentially leads firms to give up on valuable investment opportunities as they worry about costly exits if the investment project fails. The cost of giving up such investments are higher for high-growth firms. Therefore, we expect that the impact of good faith exception on strategic alliances will be stronger for high-growth firms, as they seek alternative flexible ways to grow.

In Table 5, we interact our *GF* indicator variable with indicator variables for high-growth opportunities. We show results with industry and year fixed effects, and firm and year fixed effects. In columns 1 and 2, we use *Tobin's q* as a proxy for growth opportunities. *High Tobin's q* is an indicator variable equal to 1 if the firm's *Tobin's q* is above the yearly median and 0 otherwise. Consistent with our conjecture, we find that the coefficients of the interaction terms between *High Tobin's q* and the good faith indicator are significantly positive at the 1% level. These results suggest that when faced with an increase in employee dismissal costs, high-growth firms are more

likely to react by partnering with other firms compared to low growth firms because the costs of otherwise giving up valuable investment opportunities is greater for the former group of firms. In columns 3 and 4, we use *Sales growth* as a proxy for firm growth. We continue to find that the impact of good faith exception is greater for firms with high-growth compared to lower growth, although the results are only significant for the firm and year fixed effects specification.

4.2. The choice between internal organic growth versus external strategic alliance

In Table 6, Panel A, we implement an analysis similar to the tests in Bodnaruk et al. (2013). In columns 1 and 2, the dependent variable, *Log (1+#SA/internal investment)*, is the natural logarithm of 1 plus the ratio of the number of strategic alliance deals to internal investment, where internal investment is sum of capital expenditure and R&D expenditure. We separate out internal investment and examine *Log (1+#SA/capex)* in columns 3 and 4 and *Log (1+#SA/R&D)* in columns 5 and 6. We find some weak evidence that after the passage of the good faith exception, firms tend to favor strategic alliance formation over internal investments. However, these results are only significant for the specifications with industry and year fixed effects.[12]

In Table 6 Panel B, we focus on a more powerful test by examining how firm growth affects the choice between internal investment and strategic alliance. Previously, we have argued that the cost of giving up projects due to the increased employee dismissal cost would be greater for high-growth firms. We should therefore see a more apparent shift from internal investment to alliances for these high-growth firms. For brevity, we only show results with firm and year fixed

[12] Strategic alliances generally require much less capital outlay compared to internal organic growth because the partners pool together existing resources. However, depending on the contractual agreement, the expenditures incurred in a strategic alliance may be shared between the partners and proportionately appear in the partnering firms' financial statements. It is impossible for the econometrician to separate out expenditures that are spent on internal growth and expenditures spent in a strategic alliance. As such, we are likely to be overestimating the amount of investment spent on internal organic growth and underestimating the shift to strategic alliance from internal investment.

effects. Consistent with this conjecture, we observe that after the passage of the good faith exception, compared to low-growth firms, high-growth firms are more likely to respond to the law change by favoring alliance activities over internal organic growth.

Implicit in the reversibility argument is that internal investments should decline post-good faith exception, absent of any other countervailing forces. The negative impact of the good faith exception on capital expenditures has been empirically well documented by Bai et al. (2020), but the net impact of good faith exception on R&D investments is less clear, both theoretically and empirically (Bai et al., 2020; Acharya et al., 2014). Acharya et al. (2014) document that innovation productivity increases due to protected employees being more willing to invest in firm-specific human capital, which suggests that the marginal benefits of R&D should increase post-law change, and thus firms should be more willing to invest in R&D internally. However, to the extent that investments undertaken internally are less reversible after the adoption of the good faith exception, there should be a decline in internal investment activities, particularly risky investments such as R&D, which has high failure rates. Therefore, in untabulated tests, we examine how R&D investments are affected by the good faith exception.[13] We find that although the net impact of good faith exception on R&D investments is insignificantly negative, high-growth firms are more likely to decrease their R&D investments compared to low-growth firms after the good faith exception, consistent with our results in Table 6 Panel B.

Overall, consistent with the reversibility channel, we find that increased employee dismissal costs push high-growth firms to favor alliances as a growth strategy compared to internal

[13] We use the natural logarithm of 1 plus R&D expenditure (in million dollars) as our dependent variable. We do not scale R&D by assets because given that firms invest less in capital expenditures after the good faith exception, asset size is likely to be correspondingly smaller. Any reduction in R&D investments may be hard to detect if the empirical specification uses R&D scaled by assets as dependent variable. This is also likely why prior literature find contradictory results when examining R&D intensity (Acharya et al. 2014; Bai et al., 2020).

investments.

4.3. The choice between external acquisitions versus strategic alliance

It is natural to ask whether the good faith exception affects the substitution between external acquisitions and formation of alliances. The impact of good faith on acquisitions as a growth strategy and the shift between M&A and alliances as alternative growth strategies are not entirely clear. Chatt et al. (2021) find that firms located in good faith states are less likely to be targeted, indicating that firms are wary of acquiring targets that are in such states which may cause them to face increased employee dismissal costs if the acquisition turns sour. Thus, after the passage of the good faith exception, treatment firms may choose to acquire other firms in states without the good faith exception to circumvent the impact of good faith in their own state. As such, acquisitions may increase relative to internal investments. However, given the passing of the good faith sequentially across different states within a few years, firms may be wary that the state of the target firm they acquire subsequently pass the good faith law, again subjecting the firm to increased employee dismissal costs. Therefore, this deterrent effect may cause firms to move away from acquisitions regardless of the state the target firm is located in. Instead, treatment firms may simply seek out strategic alliances as an alternative growth strategy. Overall, the net impact of the good faith exception on the level of acquisitions activities is unclear and may net off.

In Panel A of Table 7, consistent with the opposing theoretical predictions laid out, we find mixed evidence for the net impact of the good faith exception on acquisition levels. Although the coefficients are all negative, not all specifications show significant impacts of good faith exception. In columns 1 and 2 where we examine the natural logarithm of 1 plus the number of completed acquisition deals (*Log (1+#M&A)*) as the dependent variable, we do not observe any

change in the number of M&A deals after the adoption of the law. In columns 3 and 4, we examine the total value of acquisition deals completed during the year scaled by assets, following Bai et al. (2020). Similar to Bai et al. (2020), we find some reduction in acquisition activities using this alternative measure and with the specification involving firm and year fixed effects. Finally, in columns 5 and 6, we examine the total acquisition value without scaling by assets, *Log(1+M&A)*. We find a reduction in M&A activities, but this reduction is only significant for the industry and year fixed effects specification.

In Table 7 Panel B, we examine the impact of good faith exception on the relative frequency with which firms form alliances versus acquisitions. The dependent variables are the difference between the number of alliance deals and acquisitions deals (*#SA-#M&A*) for columns 1 and 2, and the natural logarithm of 1 plus the ratio of number of alliance deals to acquisition deals (*Log(1+#SA/#M&A)* for columns 3 and 4. Across the specifications, we find that after the passing of the good faith exception, treatment firms do more alliance deals compared to acquisitions. However, given the weak findings in Panel A, this increase in alliance deals relative to acquisition deals is more likely to be driven by the substitution from internal investment to external alliance deals, and less likely due to firms cutting back on acquisitions to form alliances.

5. Undertaking risky innovations through strategic alliances

We next examine the characteristics of the projects undertaken via strategic alliances to show that the increase in expected dismissal costs is driving the treatment firms' shift towards partnerships with other firms. Expected employee dismissal costs are a function of the actual costs incurred when dismissing employees and the probability of dismissing such employees, which should increase with the project failure rate. If the shift towards alliances is motivated by the

increase in expected employee dismissal costs, then we should observe the alliances of treatment firms to involve riskier projects compared to control firms.

We examine the project riskiness in three ways - focal firm characteristics, the industry similarity between the partners, and the riskiness of the alliance partner. Innovation necessarily involves risk (Manso, 2011) and if firms undertake the innovation in-house, they will have to hire new workers and may end up having to dismiss these workers if the project does not work out. In other words, the good faith exception increases the costs of innovating in-house. Therefore, we expect the shift to strategic alliances after the good faith exception to be stronger for innovative firms because these firms tend to have riskier projects. Additionally, project failure rate would be higher if firms initiate projects in novel areas outside their expertise. Therefore, the alliances of treatment firms should be more exploratory and outside the main industry domain, compared to control firms. Finally, to the extent that the partner characteristics reflect the types of projects entered into via the alliance, we should also expect treatment firms to partner with firms which are engaging in more risky innovations, compared to control firms.

5.1. Cross-sectional variations in focal firm innovativeness

In Table 8, we examine whether firms in innovative industries are more likely to engage in strategic alliances. We use the following proxies for high-innovation firms: 1) *Innovative industry*, which equals 1 if the average number of patents per firm for the industry during the fiscal year is above the yearly median and 0 otherwise; and 2) *High firm-to-economy proximity,* which equals 1 if the firm's firm-to-economy technological proximity is higher than the yearly median and 0 otherwise (Li et al., 2019). Firms with higher firm-to-economy technological proximity are considered more innovative as they intensively explore different technology fields with heated

inventive activities.[14] Consistent with our conjecture, we find that the coefficients on the interaction of *GF* with the proxies for innovative firms are all significantly positive, indicating that innovative firms increase strategic alliances more than non-innovative firms after the adoption of the good faith exception.

5.2. Alliances to explore novel areas of growth

Faced with the prospect of increased expected dismissal costs if investing internally, firms may switch to alliances to explore novel areas of growth in order to avoid or reduce such costs. Alliances are a way for partnering firms to exchange technological knowhow and learn from each other (Li et al., 2020). We would thus expect treatment firms to be more likely to collaborate with partners that are in a different industry from them (Robinson, 2008). By doing so, they can reduce the costs of investing in novel projects outside their expertise through knowledge sharing with their partners.

Table 9 presents the results. We divide the alliances formed by the sample firms into two groups based on whether the focal firm share the same industry as their partner in the alliance. In columns 1 and 3, *#Diff ind. partner SA* is the number of strategic alliance deals announced in which the focal firm and partner firm are in different SIC 4-digit industries. In columns 2 and 4, *#Same ind. partner SA* is the number of alliance deals announced in which the focal firm and partner firm are in the same SIC 4-digit industry. Similar results are obtained if we focus on 2-digit SIC industry classification. We use the industry classifications provided by SDC. In columns 1 and 2, we include the same control variables that we use previously and industry and year fixed effects. Consistent

[14] Li et al. (2019) explain that the firm-to-economy technological proximity measure captures three dimensions: (1) producing innovations, (2) producing innovations in multiple technology fields, and (3) exploring technology fields with increased innovation.

with our expectations, we find that the impact of good faith exception is stronger for alliances involving different industry partners. While the coefficients on *GF* are positive and significant for both columns, the statistical and economic significance is much greater for inter-industry alliances compared to intra-industry alliances. The difference between the coefficients in columns 1 and 2 is also significant at the 1% level. In columns 3 and 4, we control for firm and year fixed effects instead. We find positive and significant impact of good faith on alliances involving different industries and insignificant impact of the law on same-industry alliances.

Overall, the results suggest that the good faith exception affects a firm's choice to form alliances to explore new areas of growth which are considerably riskier than if the firm is investing in their own domain of expertise. This distinction between project riskiness undertaken via alliances is also precisely where we would expect the increase in expected employee dismissal costs to have the most impact if project reversibility is the mechanism underlying the relationship between good faith exception and alliance activities.

5.3. Partner firm risk and innovativeness

The higher employee dismissal costs after the law change make it ex-ante more expensive to pursue risky innovative projects in-house. Although we cannot directly measure the riskiness of the project, we can observe the characteristics of the alliance partner. Strategic alliances allow firms to gain access to new knowledge and technology via their partners (Bodnaruk et al., 2013). Thus, partner characteristics should reflect the types of projects entered into through the strategic alliance. If treatment firms enter strategic alliances to pursue innovative projects, we would expect the strategic alliance partners of treatment firms to be riskier and more innovative compared to the partners of control firms. We test this in Table 10 by examining the characteristics of the partners

in the alliance deals formed by our sample of focal firms. We start with the sample of alliances announced by our focal firms. After requiring the partners to be publicly listed with information available on CRSP and Compustat, we are left with 7,522 alliance deals. In cases with multiple partners, we retain the partner with the largest asset size.

We compare the partners of the treatment firms with those of the control firms. Consistent with our conjecture that treatment firms pursue risky projects via strategic alliances, we find that the partners of the treatment firms are riskier in terms of cash flow volatility. We also find that treatment firms are more likely to form alliances with partners that have higher innovation input (R&D) and output (*#Patent* and *#Avg citation*) than control firms.

Overall, the results in Tables 8 to 10 show that treatment firms shift risky innovative projects outside the firm boundaries to avoid high employee dismissal costs in the event of project failure. The impact of good faith exception on alliance formation is greater for more innovative firms which have riskier projects and for inter-industry alliances that are meant to pursue new areas of growth for the firm. Finally, the alliance partners of treatment firms are also riskier in nature.

6. Additional analysis: Impact on innovation outcomes and firm growth

In this section, we examine how alliances can be used as a tool by firms to circumvent the growth limitations imposed on them by rigid employment laws. We have shown that innovative firms are more likely to use alliances as an organizational form to invest in risky, novel projects after the passage of the good faith exception. If treatment firms form alliances to gain knowledge and technological expertise from their alliance partners, they should produce patents that are more exploratory in nature after the alliance compared to control firms. Additionally, to the extent that the alliances are used as an alternative strategy to explore novel growth areas, we should see

positive impacts of the alliances on firm growth.

6.1. Effect of alliance on innovation outcomes

To examine the impact of alliance formation and good faith exception on innovation outcomes, we compare the changes in innovation outcomes pre- and post-alliance between the treatment and control firms. We focus on the sample of firms which have announced at least one strategic alliance during the sample period. We measure the pre-alliance patenting activities over the five-year period between $Year_{t-5}$ and $Year_{t-1}$ and the post-alliance patenting activities over $Year_t$ and $Year_{t+4}$, where $Year_t$ is the effective year of the alliance deal. We focus on the effective year in this table because we are examining outcome variables. Using announcement dates to define $Year_t$ does not make much difference, because 98% of the deals have the same effective and announcement dates.

We follow Balsmeier et al. (2017) and Li et al., (2019) to measure exploratory innovation. We classify patents as exploratory if at least 80% of their citations are outside the firm's existing patents. *#Explorative patents* count the number of patents that are exploratory during the measurement period. In contrast, we classify patents as exploitative if less than 80% of their citations are outside the firm's existing patents (*#Exploitative patents*). To measure the knowledge transfer that takes place during the alliance, we also count the number of focal firm's patents that cite the patents of their alliance partners (*#Patents citing partners*).

In Table 11, we find while both treatment firms and control firms increase the number of patents produced after alliance formation, treatment firms significantly increase their patenting outputs more compared to control firms (column 7). We further find that treatment firms are more likely to increase the proportion of patents that are exploratory and decrease the proportion of

exploitative innovation after alliance formation. In contrast, we do not observe any changes in the proportion of explorative and exploitative innovation activities for the control firms. Additionally, we document more apparent knowledge transfers from partner firms to treatment firms because the treatment firms are more likely to cite the patents of their alliance partners after alliance formation, compared to the control firms. The results suggest that, when faced with labor market constraints, treatment firms can use strategic alliances as an alternative organizational form to successfully pursue risky innovative projects that are outside their domain of expertise.

6.2. Effect of alliance on firm growth

Next, we examine whether strategic alliances can mitigate the negative growth impact of labor market frictions. Prior literature has argued that firms operating in more rigid labor markets face higher costs of restructuring their workforce and thus they stifle investment and growth (e.g., Lazear, 1990; Botero et al., 2004; Bai et al., 2020). However, if treatment firms switch to strategic alliances as an alternative organizational form to circumvent the increased labor market frictions, we expect the negative effects of employment laws on firm growth to be attenuated.

We use Tobin's *q* to measure the firm's growth. As documented, the projects undertaken by the treatment firms through strategic alliances are often exploratory in nature; therefore, the project's impact on firm revenues may not manifest until several years later. Tobin's *q* is a market-based measure; therefore, to the extent that the market is relatively efficient, any impact of alliances on future sales growth should be impounded in the one-year future Tobin's *q*.[15]

The results are presented in Table 12. Our dependent variable is the natural logarithm of Tobin's *q* measured in $Year_{t+1}$. The key independent variable is the interaction between *SA dummy*

[15] Following Bai et al. (2020), we also examine the impact of strategic alliances on sales growth, but as expected, we do not find any attenuating impact of strategic alliance on near-term sales growth for the treatment firms.

and *GF*, which are measured in $Year_t$ and $Year_{t-1}$, respectively. For brevity, we only show results with firm and year fixed effects. Similar to Bai et al. (2020), we find that the effect of *GF* on Tobin's *q* is negative and significant in column 1 where we do not include the interaction term. In columns 2 to 4, we find that the negative impact of good faith on firm growth is attenuated when treatment firms form alliances in reaction to the law adoption: the coefficients on the interaction term between good faith exception and the indicator for whether a firm has undertaken a strategic alliance is positive and significant across the specifications. We also find that the sum of the coefficients on the standalone good faith indicator and the interaction term is significantly different from zero. This indicates that while the negative impact of the good faith exception is lessened by the formation of an alliance, alliance formation is a second-best option for organizing the projects which should have been undertaken internally.

7. Conclusion

How do firms construct their boundaries to support future growth? In this paper, we show that labor market frictions due to employment protection laws is an important determinant of a firm's choice to form strategic alliances, thereby highlighting the role of regulations in shaping firm boundaries and affecting future growth.

As firms face greater labor market frictions that prevent the efficient allocation of labor, flexible organizational structures such as strategic alliances become relatively more attractive compared to irrevocable growth strategies involving internal investments. Compared to internal investments, strategic alliances leverage on existing resources and can be easily disbanded if projects fail, with less need to restructure the workforce. We therefore hypothesize that when faced with labor market frictions, firms will favor alliances over internal investments to organize their

investment activities, especially risky ones.

Using the staggered adoption of the good faith exception as an exogenous shock that increases the costs of dismissing employees, we find results consistent with our hypothesis. After the passage of the good faith exception, firms form more strategic alliances relative to their control firms. This impact is especially strong among high-growth firms where otherwise giving up projects would be more costly. Consistent with prior literature which document a decline in internal investment activities, we find that firms, especially high-growth ones, favor alliances to internal investments after the increase in employee dismissal costs, suggesting that firms switch from investing internally to partnerships to pursue growth opportunities instead.

We further find that firms affected by the increase in employee dismissal costs shift innovative projects with high possibilities of failure outside the firm boundary. Risky innovative firms are especially likely to make the switch to partnerships after the law change. The projects undertaken via alliances are also riskier and more novel as the affected firms form exploratory alliances with partners that are in a different industry. The alliance partners of treatment firms also tend to be riskier. Finally, we find that the formation of alliances can help to attenuate the negative growth impact of the good faith exception documented in prior literature.

Overall, our findings provide insights into how labor market frictions affect firms' construction of their boundaries. Firms engage in active organizational design and move investment activities outside of their boundaries in order to circumvent the constraints imposed by labor market regulations.

References:

Acharya, Viral V., Ramin P. Baghai, and Krishnamurthy V. Subramanian, 2014, Wrongful discharge laws and innovation, *Review of Financial Studies* 27, 301-346.

Autor, David H., John J. Donohue III, and Stewart J. Schwab, 2006, The costs of wrongful-discharge laws, *Review of Economics and Statistics* 88, 211-231.

Autor, David H., William R. Kerr, and Adriana D. Kugler, 2007, Does employment protection reduce productivity? Evidence from US states, *Economic Journal* 117, F189-F217.

Bai, John (Jianqiu), Douglas Fairhurst, and Matthew Serfling, 2020, Employment protection, investment, and firm growth, *Review of Financial Studies* 33, 644-688.

Balakrishnan, Srinivasan, and Mitchell P. Koza, 1993, Information asymmetry, adverse selection and joint-ventures: Theory and evidence, *Journal of Economic Behavior and Organization* 20, 99-117.

Balsmeier, Benjamin, Lee Fleming, and Gustavo Manso, 2017, Independent boards and innovation, *Journal of Financial Economics* 123, 536-557.

Bena, Jan, Hernán Ortiz-Molina, and Elena Simintzi, 2021, Shielding firm value: Employment protection and process innovation, *Journal of Financial Economics,* Forthcoming.

Besley, Timothy, and Robin Burgess, 2004, Can labor regulation hinder economic performance? Evidence from India, *Quarterly Journal of Economics* 119, 91-134.

Belenzon, Sharon, Honggi Lee, and Andrea Patacconi, 2018, Towards a legal theory of the firm: The effects of enterprise liability on asset partitioning, decentralization and corporate group growth, Working Paper.

Belot, Michèle, Jan Boone, and Jan van Ours, 2007, Welfare-improving employment protection, *Economica* 74, 381-396.

Bernanke, Ben S., 1983, Irreversibility, uncertainty, and cyclical investment, *Quarterly Journal of Economics* 98, 85-106.

Bertrand, Marianne, Esther Duflo, and Sendhil Mullainathan, 2004, How much should we trust differences-in-differences estimates?, *Quarterly Journal of Economics* 119, 249-275.

Bodnaruk, Andriy, Massimo Massa, and Andrei Simonov, 2013, Alliances and corporate governance, *Journal of Financial Economics* 107, 671-693.

Bonatti, Alessandro, and Johannes Hörner, 2011, Collaborating, *American Economic Review* 101, 632-663.

Botero, Juan C., Simeon Djankov, Rafael La Porta, Florence Lopez-de-Silanes, and Andrei Shleifer, 2004, The regulation of labor, *Quarterly Journal of Economics* 119,1339-1382.

Boxold, David, 2008, Employment practice liability: Jury award trends and statistics, 2008 ed, LRP Publications, Horsham, PA.

Chan, Su Han, John W. Kensinger, Arthur J. Keown, and John D. Martin, 1997, Do strategic alliances create value?, *Journal of Financial Economics* 46, 199-221.

Chatt, Robert, Matthew Gustafson, and Adam Welker, 2021, Firing frictions and the U.S. mergers and acquisitions market, *Journal of Banking and Finance* 128, 106-139.

Chemmanur, Thomas J., Elena Loutskina, and Xuan Tian, 2014, Corporate venture capital, value creation, and innovation, *Review of Financial Studies* 27, 2434-2473.

Coase, R. H., 1937, The nature of the firm, *Economica* 4, 386-405.

Dertouzos, James N., Elaine Holland, and Patricia A. Ebener, 1988, The legal and economic consequences of wrongful termination, *Rand Corporation* R-3602-ICJ.

Dertouzos, James N., and Lynn A. Karoly, 1992, Labor market responses to employer liability, *Rand Corporation* R-3989-ICJ.

Dessaint, Olivier, Andrey Golubov, and Paolo Volpin, 2017, Employment protection and takeovers, *Journal of Financial Economics* 125, 369-388.

Dougherty, Veronica M., 1999, Antitrust advantages to joint ventures under the National Cooperative Research and Production Act, *Antitrust Bulletin* 44, 1007-1078.

García, Diego, and Øyvind Norli, 2012, Geographic dispersion and stock returns, *Journal of Financial Economics* 106, 547-565.

Glaeser, Chloe Kim, Stephen Glaeser, and Eva Labro, 2022, Proximity and the management of innovation, *Management Science*, forthcoming.

Hadlock, Charles J., and Joshua R. Pierce, 2010, New evidence on measuring financial constraints: Moving beyond the KZ index, *Review of Financial Studies* 23, 1909-1940.

Jensen, Michael C., 1993, The modern industrial revolution, exit, and the failure of internal control systems, *Journal of Finance* 48, 831-880.

Jung, David J., 1997, Jury verdicts in wrongful termination cases, Public Law Research Institute Report, University of California Hastings College of Law.

Kaplan, Steven N., and Luigi Zingales, 1997, Do investment-cash flow sensitivities provide useful measures of financing constraints?, *Quarterly Journal of Economics* 112, 169-215.

Klein, Benjamin, Robert G. Crawford, and Armen A. Alchian, 1978, Vertical integration, appropriable rents, and the competitive contracting process, *Journal of Law and Economics* 21, 297-326.

Kogan, Leonid, Dimitris Papanikolaou, Amit Seru, and Noah Stoffman, 2017, Technological innovation, resource allocation, and growth, *Quarterly Journal of Economics* 132, 665-712.

Kogut, Bruce, and Harbir Singh, 1988, The effect of national culture on the choice of entry mode, *Journal of International Business Studies* 19, 411-432.

Kugler, Adriana D., and Gilles Saint-Paul, 2004, How do firing costs affect worker flows in a world with adverse selection?, *Journal of Labor Economics* 22, 553-584.

Lazear, Edward P., 1990, Job security provisions and employment, *Quarterly Journal of Economics* 105, 699-726.

Li, Kai, Jiaping Qiu, and Jin Wang, 2019, Technology conglomeration, strategic alliances, and corporate innovation, *Management Science* 65, 5065-5090.

Manso, Gustavo, 2011, Motivating innovation, *Journal of Finance* 66, 1823-1860.

Miles, Thomas J., 2000, Common law exceptions to employment at will and U.S. labor markets, *Journal of Law, Economics, and Organization* 16, 74-101.

Muhl, Charles J., 2001, The employment-at-will doctrine: Three major exceptions, *Monthly Labor Review* 124, 3-11.

PwC, 2016, Joint ventures and strategic alliances: Examining the keys to success, PwC, Available at: https://www.pwc.com/us/en/deals/publications/assets/pwc-deals-joint-ventures-strategic-alliances.pdf (last access June 7, 2018).

Reuer, Jeffrey J., and Tony W. Tong, 2005, Real options in international joint ventures, Journal of Management 31, 403-423.

Roberts, Michael R., and Toni M. Whited, 2013, Endogeneity in empirical corporate finance, in George M. Constantinides, Milton Harris, and Rene M. Stulz, eds., *Handbook of the Economics of Finance*, Volume 2, Elsevier Science, Amsterdam, 496-572.

Robinson, David T., 2008, Strategic alliances and the boundaries of the firm, *Review of Financial Studies* 21, 649-681.

Scott, John T., 2008, The National Cooperative Research and Production Act, *Competition Law and Policy* 2, 1297-1317.

Serfling, Matthew, 2016, Firing costs and capital structure decisions, *Journal of Finance* 71, 2239-2286.

Seru, Amit, 2014, Firm boundaries matter: Evidence from conglomerates and R&D activity, *Journal of Financial Economics* 111, 381-405.

Walsh, David J., and Joshua L. Schwarz, 1996, State common law wrongful discharge doctrines: Up-date, refinement, and rationales, *American Business Law Journal* 33, 645-690.

Whited, Toni M., and Guojun Wu, 2006, Financial constraints risk, *Review of Financial Studies* 19, 531-559.

Williamson, Oliver E., 1979, Transaction-cost economics: The governance of contractual relations, *Journal of Law and Economics* 22, 233-261.

Appendix A. Wrongful discharge laws

Traditionally, U.S. states defined the relationship between employer and employee by the "employment-at-will" doctrine. Under this doctrine, employers can freely discharge employees for any reason at any time, without the burden of legal liability. However, courts and legislative bodies started viewing the relationship between employers and employees as unequal, and they started to realize that employers often have structural and economic high ground in employment negotiations (Muhl, 2001). This led many states to develop exceptions to the employment-at-will rule, starting in the late 1950s and with massive adoptions from the 1970s. These are typically known as "wrongful discharge laws." They are adopted by court rulings at the state level and allow employees to sue their employers for wrongful dismissal. These exceptions mainly protect workers without written contractual agreements or those not covered by federal laws that aim to safeguard particular types of workers, such as union members, racial minorities, women, the aged, and the disabled (Miles, 2000). These laws developed into three exceptions to the employment-at-will doctrine: good faith, implied contract, and public policy exceptions.

The good faith exception is applicable when an employer discharges an employee without "just cause" and prohibits termination of employees in bad faith or motivated by malice. There is no clear definition of "just cause" stipulated by law; however, the case of *Enterprise Wire Co. and Enterprise Independent Union* (46 LA 359, 1966) established seven tests to evaluate whether the employer had "just cause."[16]

The implied contract exception applies in situations where the employer has implicitly

[16] The employer is deemed to have "just cause" for termination of employment if the following criteria are all satisfied: 1) the employer informed and forewarned the employee of advanced notice of disciplinary consequences; 2) the enforced rule or managerial order is reasonable; 3) the employer made effort to ascertain if the employee actually violated the rule prior to disciplinary action; 4) the employer's investigation was fair and objective; 5) the employer has evidence of employee's guilt; 6) the employer has enforced its rules and orders on all employees without discrimination; and 7) the degree of discipline is reasonable given the seriousness of the proven offense.

guaranteed employment, unless there is a good cause for termination. Firms can avoid lawsuits under the implied contract exception by inserting disclaimers into their handbooks, stating that the employment-at-will doctrine applies (Miles, 2000). Finally, the public policy exception prohibits employers from terminating employees for refusing to violate public policy or commit legal wrongdoing. Courts typically limit the application of public policy exceptions to termination of employment where the employer violated a clearly identifiable legal stipulation (Autor et al., 2007).

We make an important assumption that the presence of WDLs increases the probability of employees winning lawsuits against employers, leading to increases in potential legal liability (i.e., employee dismissal cost) for firms, and that firms pay attention to such increases in employee dismissal costs. Prior research has documented various pieces of evidence consistent with this assumption (e.g., Autor et al., 2007; Serfling, 2016; Bai et al., 2020)—firms adjust financial and investment policies in response to the law change. The direct financial impact of potential lawsuits is also large enough to place a burden on the targeted firm. Jung (1997) examines the verdicts of WDL cases and shows that plaintiffs won nearly half the cases between 1992 and 1996 and were awarded $1.29 million on average in 1996. The amount recovered for punitive damage accounted for more than half the amount, indicating that punitive damage can be costly. Boxold (2008) documents that the average amount awarded to the plaintiffs is $0.59 million, with a maximum amount of $5.4 million. Furthermore, in the case of *Robert Ward et al. v. Cadbury Schweppes Bottling Group et al.*,[17] the management had a discriminatory policy to force older workers out of their jobs; they harassed the old employees for many years. The court ruled against Cadbury Schweppes Bottling Group and awarded $18.3 million to six plaintiffs. Furthermore, there is the possibility of multiple litigations that can significantly increase a firm's legal liabilities. The risk

[17] See *Robert Ward et al. v. Cadbury Schweppes Bottling Group et al*., Case No. 2:09-cv-03279.

of large legal fees and high settlements is likely to influence risk-averse managers' behavior (Dertouzos et al., 1988).

The adoption of WDLs is based on precedent-setting cases by the state courts, since this law is made not by the legislature but by judicial decisions. Therefore, we follow Autor et al. (2006) to identify precedent-setting cases for the recognition of WDLs. The good faith exception represents the largest departure from the employment-at-will doctrine; therefore, it is deemed to be the most far-reaching among the three exceptions (e.g., Dertouzos and Karoly, 1992; Miles, 2000; Kugler and Saint-Paul, 2004). In addition, the tort law's applicability allows employees to recover punitive damages, which can significantly increase the employer's litigation liability. In addition, as prior studies suggest, implied contract and public policy exceptions may have limited effects on firms.

Appendix B. Variable definitions

Variable	Description	Data source
Assets	Total assets in 2004 millions of dollars	Compustat
Cash	Cash and short-term investments over total assets	Compustat
CF volatility	Standard deviation of cash flow within the last three years, where cash flow is the ratio of income before extraordinary items plus depreciation and amortization to total assets	Compustat
Circuit state's GF	Ratio of other states in the same federal circuit region as the firm that have passed the good faith exception	Serfling (2016)
Democrats	Ratio of a state's Congress members in the U.S. House of Representatives that belong to the Democratic party	U.S. House of Representatives
5 year avg. #SA	Average number of strategic alliances from 1985 to 1989	SDC Platinum
GF	An indicator variable that equals 1 if the state the firm is in has adopted the good faith exception and 0 otherwise	Serfling (2016)
GF (+1)	An indicator variable that equals 1 if the state the firm is in has adopted the good faith exception during the previous year and 0 otherwise	Serfling (2016)
GF (+2)	An indicator variable that equals 1 if the state the firm is in has adopted the good faith exception two or more years ago and 0 otherwise	Serfling (2016)
GF (0)	An indicator variable that equals 1 if the state the firm is in adopts the good faith exception during the current year and 0 otherwise	Serfling (2016)
GF (-1)	An indicator variable that equals 1 if the state the firm is in will adopt the good faith exception within a year and 0 otherwise	Serfling (2016)
GF (-2)	An indicator variable that equals 1 if the state the firm is in will adopt the good faith exception within two years and 0 otherwise	Serfling (2016)
High firm-to-economy proximity	An indicator variable that equals 1 if the firm-to-economy technological proximity is above the median in a given year, and 0 otherwise (Li et al., 2019)	Kogan et al. (2017)
High sales growth	An indicator variable that equals 1 if the firm's sales growth is above the median value for the year and 0 otherwise, where sales growth is sales over lagged sales	Compustat
High Tobin's *q*	An indicator variable that equals 1 if the firm's Tobin's *q* is above the median value for the year and 0 otherwise	Compustat
IC	An indicator variable that equals 1 if the state the firm is in has adopted the implied contract exception and 0 otherwise	Serfling (2016)
Innovative industry	An indicator variable that equals 1 if the average number of patents per firm for the industry during the year is above the median in a given year and 0 otherwise	Kogan et al. (2017)
Leverage	Short-term debt plus long-term debt over total assets	Compustat
Log (1+M&A/assets)	Natural logarithm of one plus the ratio of deal values of all completed M&A announced during the year to total assets	SDC Platinum/ Compustat
Log (1+ M&A)	Natural logarithm of one plus the deal values of all completed M&A announced during the year	SDC Platinum
#Avg. citation	Average number of forward citations to the patents applied during the measurement period	Kogan et al. (2017)
#Diff ind. partner SA	Number of strategic alliance deals announced in the year in which the focal firm and the partner firm are in different SIC 4-digit industries	SDC Platinum
#Explorative patents	Number of patents applied for during the measurement period that have at least 80% of citations outside the firm's existing patenting expertise	Kogan et al. (2017)
#Exploitative patents	Number of patents applied for during the measurement period that have less than 80% of citations outside the firm's existing patenting expertise	Kogan et al. (2017)
#M&A	Number of completed M&A deals announced	SDC Platinum

#SA	Number of strategic alliance deals announced	SDC Platinum
#SA excl. JV	Number of strategic alliance deals announced, excluding joint ventures	SDC Platinum
#SA/capex	Number of strategic alliance deals announced over capital expenditure (million dollars)	SDC Platinum/ Compustat
#SA/internal investment	Number of strategic alliance deals announced over sum of R&D and capital expenditure (million dollars)	SDC Platinum/ Compustat
#SA/R&D	Number of strategic alliance deals announced over R&D expenditure (million dollars)	SDC Platinum/ Compustat
#SA/#M&A	Ratio of the number of strategic alliance deals to the number of completed M&A	SDC Platinum
#SA-#M&A	Number of strategic alliance deals minus the number of completed M&A	SDC Platinum
#Same ind. partner SA	Number of strategic alliance deals announced in the year in which the focal firm and the partner firm are in the same SIC 4-digit industry	SDC Platinum
#Patents	Number of patents applied for during the measurement period	Kogan et al. (2017)
#Patents citing partners	Total number of patents applied for during the measurement period that cites patents of alliance partners	SDC Platinum/ Kogan et al. (2017)
PP	An indicator variable that equals 1 if the state the firm is in has adopted the public policy exception and 0 otherwise	Serfling (2016)
R&D/assets	R&D expenditure over total assets	Compustat
Return volatility	Standard deviation of daily stock returns over the fiscal year	CRSP
ROA	Income before extraordinary items over total assets	Compustat
SA dummy	An indicator variable that equals 1 if the firm has announced at least one strategic alliance deal during the year and 0 otherwise	SDC Platinum
State unemployment rate	Ratio of state unemployment as of March each year	Bureau of Labor Statistics
State GDP growth	GDP growth rate of a state over the year	Bureau of Economic Analysis
State GDP per capita	GDP of state divided by total population of state in 2004 dollars	Bureau of Economic Analysis
Tobin's q	Ratio of sum of total book assets and market value of common equity minus common book equity to total book assets	Compustat

Table 1. Summary statistics

This table reports the averages of the dependent and independent variables for a sample of 70,080 firms in the Compustat-CRSP universe from 1985 to 2003. Column 1 includes firms headquartered in states that have adopted the good faith exception (treatment firms). Column 2 includes firms headquartered in states that have not adopted the good faith exception (control firms). Column 3 reports the difference in the means between the treatment and control firms. Statistical significance from two-sample *t*-tests that test whether the mean values between the two subsamples are significantly different from each other is also reported. *, **, and *** denote significance at 10%, 5%, and 1%, respectively. All continuous variables, except state-level and count variables, are winsorized at the 1st and 99th percentiles and dollar values are adjusted to 2004 dollars. Variable definitions are provided in Appendix B.

	Treatment firms (Obs. = 18,578)	Control firms (Obs. = 51,502)	Difference of mean
	(1)	(2)	(1)-(2)
Key dependent variables			
#SA	0.352	0.208	0.144***
SA dummy	0.154	0.102	0.052***
#SA conditional upon SA dummy = 1	2.281	2.038	0.243***
#SA/internal investment	0.033	0.021	0.012***
#SA/capex	0.067	0.032	0.034***
#SA/R&D	0.053	0.050	0.003
#SA-M&A	0.144	-0.001	0.145***
#SA/#M&A	0.588	0.360	0.228***
Control variables			
IC	0.904	0.779	0.125***
PP	0.986	0.737	0.248***
Assets ($million)	741.284	1235.582	-494.298***
Cash	0.228	0.132	0.096***
ROA	-0.081	-0.024	-0.057***
Leverage	0.198	0.254	-0.056***
Tobin's *q*	2.283	1.838	0.445***
State GDP per capita	38.771	34.816	3.955***
State GDP growth	0.033	0.029	0.004***
Democrats	0.592	0.552	0.040***
State unemployment rate	0.059	0.056	0.003***
Circuit state's GF	0.401	0.154	0.246***

Table 2. Effect of good faith exception on strategic alliances

This table provides the results relating the passage of the good faith exception to strategic alliance activities for 70,080 firms in the Compustat-CRSP universe from 1985 to 2003. Panel A reports the results using OLS regressions. The dependent variable is *Log (1+#SA)*, the natural logarithm of 1 plus the number of strategic alliance deals announced during the year. The main independent variable is *GF*, which is an indicator variable that equals 1 if the state in which the firm is headquartered has adopted the good faith exception and 0 otherwise. Panel B reports the regression results for alternative regression specifications. Columns 1 and 2 show the results from OLS regressions, and columns 3 to 5 show the results from the Poisson, Negative Binomial, and logit models, respectively. In column 1, *Log (1+5 year avg. #SA*) is the natural logarithm of 1 plus the average number of strategic alliances from 1985 to 1989. In column 2, the dependent variable is *Log (1+#SA excl. JV)*, the natural logarithm of 1 plus the number of strategic alliances, excluding joint ventures. In columns 3 and 4, the dependent variable is *#SA*, the number of strategic alliance deals announced. In column 5, the dependent variable is *SA dummy*, an indicator variable that equals 1 if the firm has announced at least one strategic alliance deal in the year and 0 otherwise. Appendix B provides variable definitions. Industries are defined at the 2-digit SIC level. *T*-statistics, with standard errors clustered by state, are reported in parentheses. *, **, and *** denote significance at 10%, 5%, and 1%, respectively.

Panel A. OLS regressions

	Dependent variable = Log (1+#SA)					
	(1)	(2)	(3)	(4)	(5)	(6)
GF	0.0422***	0.0389***	0.0268***	0.0347**	0.0326*	0.0423**
	(4.32)	(3.86)	(2.80)	(2.08)	(2.00)	(2.02)
IC	0.0279***	0.0280***	0.0176**	0.0229	0.0241	0.0219
	(3.57)	(4.97)	(2.03)	(0.97)	(1.03)	(1.38)
PP	-0.0168**	-0.0304***	-0.0231***	-0.0384***	-0.0390***	-0.0211**
	(-2.40)	(-5.19)	(-3.55)	(-3.08)	(-3.17)	(-2.53)
Log (Assets)		0.0565***	0.0563***		0.0279***	0.0287***
		(11.96)	(12.00)		(9.86)	(10.05)
Cash		0.0923***	0.0887***		-0.0022	-0.0026
		(6.25)	(6.09)		(-0.22)	(-0.26)
ROA		-0.0651***	-0.0625***		0.0082	0.0085*
		(-5.12)	(-4.82)		(1.60)	(1.71)
Leverage		-0.0718***	-0.0716***		-0.0076	-0.0061
		(-6.57)	(-6.46)		(-0.95)	(-0.73)
Tobin's *q*		0.0216***	0.0216***		0.0097***	0.0099***
		(9.61)	(9.64)		(8.00)	(8.36)
State GDP per capita			0.0401			-0.2226**
			(1.01)			(-2.27)
State GDP growth			-0.0317			-0.2121*
			(-0.23)			(-1.71)
Democrats			-0.0064			-0.0244
			(-0.35)			(-1.02)
State unemployment rate			0.8331**			1.0993***
			(2.40)			(2.70)
Circuit state's GF			0.0238			0.0172
			(1.40)			(0.79)
Industry and Year FE	Yes	Yes	Yes	No	No	No
Firm and Year FE	No	No	No	Yes	Yes	Yes
Model	OLS	OLS	OLS	OLS	OLS	OLS
Observations	70,080	70,080	70,080	70,080	70,080	70,080
Adj. R^2	0.0780	0.1641	0.1653	0.3797	0.3821	0.3835

Panel B. Regressions with alternative specifications

	Dependent variable =				
	Log (1+#SA)	Log (1+#SA excl. JV)	#SA	#SA	SA dummy
	(1)	(2)	(3)	(4)	(5)
GF	0.0210***	0.0246***	0.2575**	0.2453***	0.2375***
	(2.69)	(2.78)	(2.36)	(3.46)	(3.43)
Log (1+5 year avg. #SA)	1.0767***				
	(16.64)				
Controls in column 3 of Panel A	Yes	Yes	Yes	Yes	Yes
Industry and Year FE	Yes	Yes	Yes	Yes	Yes
Model	OLS	OLS	Poisson	Negative Binomial	Logit
Observations	28,390	70,080	69,957	70,080	69,957
Adj. R^2/Pseudo R^2	0.3436	0.1539	0.4070	0.1997	0.2152

Table 3. Effect of good faith exception on strategic alliances using stacked regressions

This table provides the regression results using stacked regression approach (Baker et al., 2022), where for each event, the set of control firms are those that have not been treated yet. The dependent variable is *Log (1+#SA)*, the natural logarithm of 1 plus the number of strategic alliance deals announced during the year. The main independent variable is *GF*, which is an indicator variable that equals 1 if the state in which the firm is headquartered has adopted the good faith exception and 0 otherwise. IC and PP controls are the indicator variables relating to the passage of implied contract and public policy exceptions. Firm controls are the set of firm-level control variables in column 2 of Table 2, Panel A, while state controls refer to the set of state-level control variables in column 3 of Table 2, Panel A. Appendix B provides variable definitions. Industries are defined at the 2-digit SIC level. *T*-statistics, with standard errors clustered by state, are reported in parentheses. *, **, and *** denote significance at 10%, 5%, and 1%, respectively.

	Dependent variable = Log (1+#SA)					
	(1)	(2)	(3)	(4)	(5)	(6)
GF	0.0426***	0.0395***	0.0281***	0.0363*	0.0343*	0.0381*
	(4.70)	(4.78)	(3.89)	(1.91)	(1.82)	(1.73)
IC and PP controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	No	Yes	Yes	No	Yes	Yes
State controls	No	No	Yes	No	No	Yes
Industry and Year FE	Yes	Yes	Yes	No	No	No
Firm and Year FE	No	No	No	Yes	Yes	Yes
Observations	571,490	571,490	571,490	561,439	561,439	561,439
Adj. R^2	0.0671	0.1512	0.1520	0.3758	0.3783	0.3789

Table 4. Effect of good faith exception on strategic alliance deals in years surrounding event year

This table reports the estimates of OLS regression in which the dependent variable is the natural logarithm of 1 plus the number of strategic alliance deals announced during the year. The sample consists of 70,080 firms in the Compustat-CRSP universe from 1985 to 2003. *GF (-2)* is an indicator variable that equals 1 if the firm is headquartered in a state that will pass the good faith exception in two years and 0 otherwise; *GF (-1)* is an indicator variable that equals 1 if the firm is headquartered in a state that will pass the good faith exception in a year and 0 otherwise; *GF (0)* is an indicator variable that equals 1 if the firm is headquartered in a state that adopts the law during the current year and 0 otherwise; *GF (+1)* is an indicator variable that equals 1 if the firm is headquartered in a state that passed the law one year ago and 0 otherwise; *GF (+2)* is an indicator variable that equals 1 if the firm is headquartered in a state that adopted the law two or more years ago and 0 otherwise. Appendix B provides a detailed definition of the variables. Industries are defined at the 2-digit SIC level. *T*-statistics, with standard errors clustered by state, are reported in parentheses. *, **, and *** denote significance at 10%, 5%, and 1%, respectively.

	Dependent variable = Log (1+#SA)					
	(1)	(2)	(3)	(4)	(5)	(6)
GF (-2)	0.0248	0.0357	0.0315	0.0327	0.0353	0.0343
	(0.71)	(1.15)	(0.98)	(0.73)	(0.79)	(0.76)
GF (-1)	0.0452	0.0559	0.0493	0.0567	0.0595	0.0540
	(0.91)	(1.22)	(1.06)	(1.07)	(1.13)	(1.01)
GF (0)	0.0295	0.0419	0.0440	0.0658	0.0632	0.0779
	(0.98)	(1.36)	(1.41)	(1.44)	(1.39)	(1.57)
GF (+1)	0.0330**	0.0482***	0.0475***	0.0711**	0.0688**	0.0781**
	(2.14)	(3.07)	(3.13)	(2.41)	(2.29)	(2.40)
GF (+2)	0.0426***	0.0388***	0.0261***	0.0485*	0.0480*	0.0543*
	(4.36)	(3.81)	(2.71)	(1.82)	(1.79)	(2.00)
IC and PP controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	No	Yes	Yes	No	Yes	Yes
State controls	No	No	Yes	No	No	Yes
Industry and Year FE	Yes	Yes	Yes	No	No	No
Firm and Year FE	No	No	No	Yes	Yes	Yes
Observations	70,080	70,080	70,080	70,080	70,080	70,080
Adj. R^2	0.0780	0.1641	0.1653	0.3797	0.3821	0.3835

Table 5. Effect of good faith exception on strategic alliance deals by growth opportunities

This table reports the estimates of OLS regression in which the dependent variable is *Log (1+#SA)*, the natural logarithm of 1 plus the number of strategic alliance deals announced during the year. The sample consists of 70,080 firms in the Compustat-CRSP universe from 1985 to 2003. *GF* is an indicator variable that equals 1 if the firm is headquartered in a state that has adopted the good faith exception by the year and 0 otherwise. *High Tobin's q* is an indicator variable that equals 1 if the firm's *Tobin's q* is above the median value for the year and 0 otherwise. *High sales growth* is an indicator variable that equals 1 if the firm's *Sales growth* is greater than the median value for the year and 0 otherwise. The control variables in the odd-numbered columns exclude *Tobin's q* since the standalone *High Tobin's q* is already included. Appendix B provides a detailed definition of the variables. Industries are defined at the 2-digit SIC level. *T*-statistics, with standard errors clustered by state, are reported in parentheses. *, **, and *** denote significance at 10%, 5%, and 1%, respectively.

	Dependent variable = Log (1+#SA)			
	(1)	(2)	(3)	(4)
GF: a	0.0075	0.0092	0.0396*	0.0333
	(0.80)	(0.77)	(1.84)	(1.59)
High Tobin's *q*: b	0.0426***		0.0187***	
	(6.03)		(5.19)	
High sales growth: b		-0.0025		-0.0027
		(-0.69)		(-1.36)
a x b	0.0355***	0.0343***	0.0084	0.0219**
	(3.41)	(2.77)	(0.95)	(2.23)
Controls in column 3, Panel A, Table 2	Yes	Yes	Yes	Yes
Industry and Year FE	Yes	Yes	No	No
Firm and Year FE	No	No	Yes	Yes
Observations	70,080	70,080	70,080	70,080
Adj. R^2	0.1612	0.1659	0.3828	0.3836

Table 6. Effect of good faith exception on the choice between internal investment and strategic alliance

This table examines firms' choice between strategic alliances and internal investment. The sample consists of firms in the Compustat-CRSP universe from 1985 to 2003. *Log (1+#SA/internal investment)* is the natural logarithm of 1 plus the ratio of the number of strategic alliance deals to *Internal investment* (million dollars). *Internal investment* is the sum of capital expenditure and research and development (R&D) expenditure. *Log (1+#SA/capex)* is the natural logarithm of 1 plus the ratio of the number of strategic alliance deals to capital expenditure (million dollars). *Log (1+#SA/R&D)* is the natural logarithm of 1 plus the ratio of the number of strategic alliance deals to R&D expenditure (million dollars). In columns 1 and 2 (3 and 4; 5 and 6), only firms with positive *Internal investment* (capital expenditure; R&D expenditure) are included in the sample. *GF* is an indicator variable that equals 1 if the state in which the firm is headquartered has adopted the good faith exception and 0 otherwise. In Panel B, *High Tobin's q* is an indicator variable that equals 1 if the firm's *Tobin's q* is above the median value for the year and 0 otherwise. *High sales growth* is an indicator variable that equals 1 if the firm's *Sales growth* is greater than the median value for the year and 0 otherwise. The control variables in the odd-numbered columns exclude *Tobin's q* since the standalone *High Tobin's q* is already included. Appendix B provides a detailed definition of the variables. Industries are defined at the 2-digit SIC level. *T*-statistics, with standard errors clustered by state, are reported in parentheses. *, **, and *** denote significance at 10%, 5%, and 1%, respectively.

Panel A. Choice between internal investment and strategic alliance

	Dependent variable = Log (1+#SA/internal investment)		Log (1+#SA/capex)		Log (1+#SA/R&D)	
	(1)	(2)	(3)	(4)	(5)	(6)
GF	0.0025*	0.0037	0.0103***	0.0077	0.0038*	0.0111
	(1.98)	(0.92)	(3.03)	(0.88)	(1.92)	(0.98)
Controls in column 3, Panel A, Table 2	Yes	Yes	Yes	Yes	Yes	Yes
Industry and Year FE	Yes	No	Yes	No	Yes	No
Firm and Year FE	No	Yes	No	Yes	No	Yes
Observations	68,180	68,180	68,034	68,034	33,068	33,068
Adj. R^2	0.0535	0.1529	0.0836	0.2079	0.0682	0.1746

Panel B. Choice between internal investment and strategic alliance by growth opportunities

	Dependent variable = Log (1+#SA/internal investment)		Log (1+#SA/capex)		Log (1+#SA/R&D)	
	(1)	(2)	(3)	(4)	(5)	(6)
GF: a	0.0013	0.0026	0.0031	0.0054	0.0069	0.0104
	(0.32)	(0.66)	(0.35)	(0.62)	(0.61)	(0.92)
High Tobin's *q*: b	0.0021		0.0021		0.0058*	
	(1.49)		(0.74)		(1.95)	
High sales growth: b		-0.0006		-0.0019		0.0020
		(-0.66)		(-1.24)		(0.83)
a x b	0.0059***	0.0026*	0.0112***	0.0057*	0.0080**	0.0017
	(3.41)	(1.93)	(3.20)	(1.90)	(2.26)	(0.56)
Controls in column 3, Panel A, Table 2	Yes	Yes	Yes	Yes	Yes	Yes
Firm and Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	68,180	68,180	68,034	68,034	33,068	33,068
Adj. R^2	0.1528	0.1529	0.2080	0.2079	0.1746	0.1746

Table 7. Effect of good faith exception on the choice between external acquisition and strategic alliance

This table examines firms' choice between strategic alliances and external acquisition. The sample consists of firms in the Compustat-CRSP universe from 1985 to 2003. In Panel A, *Log (1+#M&A)* is the natural logarithm of 1 plus the number of completed M&A deals announced during the year. *Log (1+M&A/assets)* is the natural logarithm of 1 plus the ratio of deal values of all completed M&A announced during the year to total assets. *Log (1+M&A)* is the natural logarithm of 1 plus the deal values of all completed M&A announced during the year (million dollars). *GF* is an indicator variable that equals 1 if the state in which the firm is headquartered has adopted the good faith exception and 0 otherwise. In Panel B, *#SA-#M&A* is the number of strategic alliance deals minus the number of completed M&A. *Log (1+#SA/#M&A)* is the logarithm of 1 plus the ratio of the number of strategic alliance deals to the number of completed M&A. In columns 3 and 4, only firms with at least one completed M&A deals are included in the sample. In both panels, we only include M&A deals in which the firm controls less than 50% of target's shares prior to the announcement and owns 100% of target's shares after the deal is completed. Appendix B provides a detailed definition of the variables. Industries are defined at the 2-digit SIC level. *T*-statistics, with standard errors clustered by state, are reported in parentheses. *, **, and *** denote significance at 10%, 5%, and 1%, respectively.

Panel A. Impact on M&A numbers and M&A value

	Dependent variable = Log (1+#M&A)		Log (1+ M&A/assets)		Log (1+M&A)	
	(1)	(2)	(3)	(4)	(5)	(6)
GF	-0.0014	-0.0108	-0.0007	-0.0043*	-0.0274**	-0.0207
	(-0.50)	(-0.98)	(-0.64)	(-1.69)	(-2.17)	(-0.35)
Controls in column 3, Panel A, Table 2	Yes	Yes	Yes	Yes	Yes	Yes
Industry and Year FE	Yes	No	Yes	No	Yes	No
Firm and Year FE	No	Yes	No	Yes	No	Yes
Observations	70,080	70,080	69,585	69,585	70,080	70,080
Adj. R^2	0.0842	0.2140	0.0423	0.1316	0.1175	0.2015

Panel B. Choice between M&A and strategic alliance

	Dependent variable = #SA-#M&A		Log (1+ #SA/#M&A)	
	(1)	(2)	(3)	(4)
GF	0.0624*	0.1950**	0.0356**	0.1143*
	(1.83)	(2.64)	(2.31)	(1.76)
Controls in column 3, Panel A, Table 2	Yes	Yes	Yes	Yes
Industry and Year FE	Yes	No	Yes	No
Firm and Year FE	No	Yes	No	Yes
Observations	70,080	70,080	10,574	10,574
Adj. R^2	0.0408	0.3383	0.2134	0.3620

Table 8. Effect of good faith exception on strategic alliance deals by firm innovativeness

This table reports the estimates of OLS regression in which the dependent variable is the natural logarithm of 1 plus the number of strategic alliance deals announced during the year. The sample consists of 70,080 firms in the Compustat-CRSP universe from 1985 to 2003. *GF* is an indicator variable that equals 1 if the firm is headquartered in a state that has adopted the good faith exception by the year and 0 otherwise. *Innovative industry* is 1 if the average number of patents per firm for the industry during the fiscal year is above the median value for the year and 0 otherwise. *High firm-to-economy proximity* is 1 if the firm's firm-to-economy technological proximity is above the median value for the year and 0 otherwise (Li et al., 2019). Appendix B provides a detailed definition of the variables. Industries are defined at the 2-digit SIC level. *T*-statistics, with standard errors clustered by state, are reported in parentheses. *, **, and *** denote significance at 10%, 5%, and 1%, respectively.

	Dependent variable = Log (1+#SA)			
	(1)	(2)	(3)	(4)
GF: a	0.0011	0.0117	0.0253	0.0374*
	(0.16)	(1.36)	(1.38)	(1.86)
Innovative industry: b	0.0479***		0.0283***	
	(7.25)		(3.91)	
High firm-to-economy proximity: b		0.0496***		0.0049
		(3.88)		(1.00)
a x b	0.0482***	0.0418**	0.0570***	0.0212**
	(5.47)	(2.12)	(4.80)	(2.62)
Controls in column 3, Panel A, Table 2	Yes	Yes	Yes	Yes
Industry and Year FE	Yes	Yes	No	No
Firm and Year FE	No	No	Yes	Yes
Observations	70,064	70,080	70,064	70,080
Adj. R^2	0.1677	0.1702	0.3846	0.3836

Table 9. Effect of good faith exception on strategic alliances by alliance types

This table provides the regression results relating the passage of the good faith exception to strategic alliance activities for 70,080 firms in the Compustat-CRSP universe from 1985 to 2003. *#Diff ind. partner SA* (*#Same ind. partner SA*) is the number of strategic alliance deals announced in the year in which the focal firm and the partner firm are in different (the same) SIC 4-digit industries (industry). *GF* is an indicator variable that equals 1 if the firm is headquartered in a state that has adopted the good faith exception by the year and 0 otherwise. Appendix B provides variable definitions. Industries are defined at the 2-digit SIC level. *T*-statistics, with standard errors clustered by state, are reported in parentheses. *, **, and *** denote significance at 10%, 5%, and 1%, respectively.

	Dependent variable =			
	Log (1+ #Diff ind. partner SA)	Log (1+ #Same ind. partner SA)	Log (1+ #Diff ind. partner SA)	Log (1+ #Same ind. partner SA)
	(1)	(2)	(3)	(4)
GF	0.0231***	0.0061*	0.0482**	0.0083
	(2.85)	(1.88)	(2.43)	(0.86)
Controls in column 3, Panel A, Table 2	Yes	Yes	Yes	Yes
Industry and Year FE	Yes	Yes	No	No
Firm and Year FE	No	No	Yes	Yes
Observations	70,080	70,080	70,080	70,080
Adj. R^2	0.1474	0.0640	0.3622	0.2134

Table 10. Good faith exception and alliance partner's risk and innovation characteristics

The sample consists of 7,522 strategic alliance deals between 1985 and 2003 by the firms in our sample. We obtain the partner firms for each deal from SDC and require the partner firm to be in the Compustat-CRSP universe. In cases with multiple partners, we focus on the largest partner by asset size. We show the mean characteristics of the partner firms. Column 1 shows the characteristics of the partners to deals made by the focal firms whose headquarters are in states with the good faith exception (partners of treatment firms). Column 2 shows the characteristics of the partners of deals made by focal firms whose headquarters are in states without the good faith exception (partners of control firms). The third column reports the differences in the mean characteristics between partners of the treatment and control firms. Two-sample *t*-tests are conducted to determine whether the mean values are significantly different between the two groups. Firm characteristics from CRSP and Compustat are measured as of $Year_{t-1}$, where $Year_t$ is the year in which the strategic alliance partnership is announced. *#Patents* is the number of patents applied between $Year_{t-5}$ and $Year_{t-1}$. *#Avg. citation* is the average number of forward citations to the patents that are applied between $Year_{t-5}$ and $Year_{t-1}$. Appendix B provides a detailed definition of the variables. *, **, and *** denote significance at 10%, 5%, and 1%, respectively.

	Treatment sample (Obs.=2,937)	Control Sample (Obs.=4,585)	Difference of mean
Partner characteristics	(1)	(2)	(1)-(2)
Return volatility	0.034	0.033	0.001
CF volatility	0.106	0.092	0.014***
R&D/assets	0.106	0.088	0.018***
Log (1+ #Patents)	4.412	3.684	0.728***
Log (1+ #Avg. citation)	2.361	2.033	0.328***

Table 11. Effect of good faith exception on innovation outcomes

The sample consists of 8,120 firms in the Compustat-CRSP universe with at least one strategic alliance deal announced during 1985 to 2003. We report the mean values of the innovation outcomes for the focal firms in our sample, both pre- and post-alliance. We measure pre-alliance patenting activities between $Year_{t-1}$ and $Year_{t-5}$ and post-alliance patenting activities between $Year_t$ and $Year_{t+4}$, where $Year_t$ is the effective year of the alliance deal. We focus on the effective year in this table because we are examining outcome variables. Columns 1 to 3 include focal firms whose headquarters are in states with the good faith exception. Columns 4 to 6 include focal firms whose headquarters are in states without the good faith exception. Column 7 reports the difference-in-differences results between columns 3 and 6. *#Patents* refer to the total number of patents applied for during the measurement period. *#Explorative patents* refer to the total number of patents applied for during the measurement period that have at least 80% of their citations outside the firm's existing patenting expertise. *#Exploitative patents* refer to the total number of patents applied for during the measurement period that have less than 80% of their citations outside the firm's existing patenting expertise. *#Patents citing partners* refer to the total number of patents applied for during the measurement period that cites patents of alliance partners. Appendix B provides detailed definition of the variables. *, **, and *** denote significance at 10%, 5%, and 1%, respectively.

	Treatment sample (Obs.=2,864)			Control Sample (Obs.=5,256)			Difference-in-difference
	Pre-alliance	Post-alliance	Difference (Post-Pre)	Pre-alliance	Post-alliance	Difference (Post-Pre)	(3)-(6)
Focal firm	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Log (1+#Patents)	2.203	2.466	0.264***	1.981	2.109	0.128***	0.135***
#Explorative patents/#Patents	0.013	0.018	0.005***	0.017	0.017	-0.001	0.006***
#Exploitative patents/#Patents	0.987	0.982	-0.005***	0.983	0.983	0.001	-0.006***
#Patents citing partners/#Patents	0.028	0.068	0.040***	0.021	0.046	0.025***	0.014***

Table 12. Effect of good faith exception on firm growth by strategic alliance deals

This table reports the estimates of OLS regressions in which the dependent variable is the natural logarithm of *Tobin's q* measured in $Year_{t+1}$. The sample consists of firms in the Compustat-CRSP universe from 1985 to 2003, after excluding the firms with missing values for *Tobin's q* in $Year_{t+1}$. $GF_{Yeart-1}$ is an indicator variable that equals 1 if the firm is headquartered in a state that has adopted the good faith exception by $Year_{t-1}$ and 0 otherwise. $SA\ dummy_{Yeart}$ is an indicator variable that equals 1 if the firm forms at least one strategic alliance deal in $Year_t$ and 0 otherwise. Appendix B provides a detailed definition of the variables. *T*-statistics, with standard errors clustered by state, are reported in parentheses. *, **, and *** denote significance at 10%, 5%, and 1%, respectively.

	Dependent variable =Log (Tobin's $q_{Yeart+1}$)			
	(1)	(2)	(3)	(4)
GF $_{Yeart-1}$: a	-0.0750***	-0.0776***	-0.0673***	-0.0645***
	(-6.09)	(-6.30)	(-5.76)	(-3.35)
SA dummy $_{Yeart}$: b		0.0221***	0.0341***	0.0349***
		(2.68)	(4.63)	(4.69)
a x b		0.0256***	0.0221**	0.0180**
		(2.72)	(2.65)	(2.10)
IC $_{Yeart-1}$	-0.0014	-0.0031	-0.0097	-0.0056
	(-0.09)	(-0.22)	(-0.83)	(-0.47)
PP $_{Yeart-1}$	0.0150	0.0160	0.0140	0.0169
	(1.42)	(1.51)	(1.49)	(1.23)
Log (Assets $_{Yeart-1}$)			-0.1631***	-0.1621***
			(-17.89)	(-17.50)
Cash $_{Yeart-1}$			0.1135***	0.1104***
			(5.37)	(5.25)
ROA $_{Yeart-1}$			-0.0629***	-0.0636***
			(-4.94)	(-4.92)
Leverage $_{Yeart-1}$			0.1607***	0.1620***
			(10.40)	(10.37)
State GDP per capita $_{Yeart-1}$				-0.2976*
				(-1.90)
State GDP growth $_{Yeart-1}$				0.2153
				(1.28)
Democrats $_{Yeart-1}$				0.0604*
				(1.70)
State unemployment rate $_{Yeart-1}$				0.5290*
				(1.68)
Circuit state's GF $_{Yeart-1}$				-0.0283
				(-1.08)
Firm and Year FE	Yes	Yes	Yes	Yes
Observations	64,711	64,711	64,711	64,711
Adj. R^2	0.6164	0.6167	0.6374	0.6379

Appendix Table 1. Propensity score-matched sample

This table reports the impact of the good faith exception on firms' strategic alliance activities using propensity score-matched samples. We limit the sample to observations falling within the 6 years surrounding the adoption of the good faith exception, including the event year ($Year_t$). The treatment group consists of firms headquartered in states that adopt the good faith exception. We require that the adoption of the good faith exception happens during 1985 to 2003. The control group consists of firms headquartered in states that have never adopted the good faith exception during the sample period. We use a one-to-one nearest neighbor propensity score matching approach without replacement, where the propensity score is estimated using a logit model based on matching covariates from $Year_{t-1}$. Matching covariates are the variables listed in Panel A as well as industry (SIC 2-digit) and year fixed effects. Panel A shows the means of the matching covariates for the treatment and control firms; we find no difference between the treatment and control firms. Panel B presents the regression results using the treatment firms and the matched control firms. *Treatment* is an indicator variable that equals 1 if the firm is headquartered in a state that adopts the good faith exception and 0 otherwise. *Post* is an indicator variable that equals 1 in the year and the years after the adoption of the good faith exception and 0 otherwise. Appendix B provides a detailed definition of the variables. All the specifications include the control variables listed in column 3 of Table 2, Panel A. *T*-statistics, with standard errors clustered by state, are reported in parentheses. *, **, and *** denote significance at 10%, 5%, and 1%, respectively.

Panel A. Comparison of means

	Treatment	Control	Test of difference (P-value)
	(1)	(2)	(1)-(2)
Log (Assets)	4.424	4.691	(0.201)
Cash	0.133	0.123	(0.519)
Tobin's *q*	-0.037	-0.026	(0.603)
ROA	0.281	0.286	(0.817)
Leverage	1.814	1.628	(0.153)

Panel B. Adoption of the good faith exception and strategic alliance activities using matched sample

	Dependent variable = Log (1+#SA)		
	(1)	(2)	(3)
Post	-0.0480**	-0.0558**	-0.0451*
	(-2.21)	(-2.45)	(-1.88)
Treatment x Post	0.0411*	0.0342	0.0667**
	(1.73)	(1.33)	(2.46)
IC and PP controls	Yes	Yes	Yes
Firm controls	No	Yes	Yes
State controls	No	No	Yes
Firm and Year FE	Yes	Yes	Yes
Observations	1,496	1,496	1,496
Adj. R^2	0.4130	0.4276	0.4306