Discipline or Disruption? Stakeholder Relationships and the Effect of Takeover Threat[*]

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(This draft: July 2013)

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ABSTRACT

While a sizable literature suggests that firms benefit from vulnerability to takeovers because it reduces agency problems, the threat of takeovers can also impose *ex ante* costs on firms by adversely affecting important stakeholders, such as major customers. In this paper, we find that for firms with corporate customers as important stakeholders, an exogenous reduction in the threat of takeovers results in better operating performance, increases firms' ability to attract new customers, and strengthens relationships with existing customers. Our results imply that anti-takeover provisions can increase shareholder value for firms for which stakeholder relationships are very important.

Key Words: takeovers, corporate governance, product market relationships, Business Combination Laws
JEL Codes: G34, G38, L14

An extensive literature suggests that an active takeover market is an important mechanism for reducing managerial slack and improving firm performance (e.g., Grossman and Hart (1980), Jensen (1986), Gompers, Ishii, and Metrick (2003), Bebchuk, Cohen, and Ferrell (2009), Bertrand and Mullainathan (2003)). In this paper, we argue and provide evidence that the threat of takeovers can also impose *ex ante* costs on firms that have important stakeholders.

The intuition is simple. Takeovers are disruptive to relationships between firms and their stakeholders. Therefore, *ex ante*, a higher threat of takeover makes a stakeholder more reluctant to enter into a relationship. This adversely affects the firm as it has greater difficulty in attracting high quality stakeholders. In this paper, the stakeholders we focus on are the firm's principal customers, *i.e.*, corporate customers that account for at least 10% of sales and/or are important for the firm's business.

There is ample informal evidence that the risk of disruption caused by the takeover of a supplier is an important concern for customers. For example, in 2010, Dow Jones launched a new information service called *Supplier & Risk Monitor*. This service aims to provide managers with "proactive monitoring of the events affecting suppliers and supply chains" and "help them better manage risk and identify potentially disruptive events."[1] Ten categories of potential risks to the supply chain are considered, of which "Acquisitions and Mergers" is one ("Bankruptcy" and "Management Moves" are the other corporate events among the 10 categories).

A specific example of customer concern about supply-chain disruption is the U.K. based WPP Group's takeover attempt of the Ogilvy Group in 1989.[2] Ogilvy, one of the world's largest advertising companies, was subject to a hostile takeover bid from WPP in 1989. Ogilvy's clients

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[1] According to Brigitte Ricou-Bellan, vice president and managing director of Enterprise Solutions, Dow Jones, "Dow Jones Supplier & Risk Monitor helps manage the often overwhelming and fragmented flow of information related to key suppliers, providing supply chain managers with critical information that can help them better manage risk and identify potentially disruptive events before they lead to full-blown supply chain disasters, such as product recalls or loss of revenue."

[2] In Appendix A, we discuss several other examples in detail.

included major companies (customers) such as American Express, Unilever, Seagram, and Ford Motor. Several of the clients reacted very negatively to the announcement of the takeover bid. For example, Edgar Bronfman Jr., executive vice president of Seagram's United States operations, called the offer "very unwelcome", and added that a takeover would lead to 'tremendous disruption". Nancy Muller, a spokeswoman for American Express, said "advertising is a personal service business, and anything that might affect the level of service we receive or the creative output of the agency would be a matter of great concern for us."[3]

Our main hypothesis is that a decrease in the *threat of takeovers* can have beneficial effects for firms with principal customers. To show this empirically, we exploit exogenous changes to the threat of takeovers due to the passage of Business Combination (BC) Laws in 30 states in the U.S. between 1985 and 1991. Such changes in law are not affected by endogeneity concerns, unlike anti-takeover protections chosen by individual firms, since the latter could reflect and anticipate those very performance changes that we intend to study.[4] As has been discussed extensively in the literature (see, for example, Bertrand and Mullainathan (2003)), these BC laws empower the target boards with the right to refuse certain transactions that make it easier for the acquiring firm to pay back the debt incurred for the acquisition. This enables the board to resist hostile takeovers.

In a framework that is equivalent to a triple-difference setting, we find that the effect of BC laws leads to an increase in return on assets (ROA) of 0.8 percentage points for firms that have principal customers relative to similar firms that do not have principal customers. The median ROA

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[3] Microsoft has an arrangement in place with graphics and mobile processor manufacturer Nvidia that gives it the exclusive right to equal any offers by third-parties for 30 percent or more of Nvidia's outstanding shares. The deal effectively prevents any other company besides Microsoft from acquiring Nvidia. According to an article published in Digital Trends in June 3, 2011, "Having the option to prevent another company acquiring Nvidia puts Microsoft in a strong position as it means *the computer giant can stop another company coming along and potentially disrupting the supply chain for components for its devices*, such as upcoming tablets running Windows 8."
(http://www.digitaltrends.com/computing/microsoft-pact-with-nvidia-could-result-in-future-takeover/).
[4] Similar empirical strategies have been used by Bertrand and Mullainathan (1999, 2003), Garvey and Hanka (1999), Cheng, Nagar, and Rajan (2005), Rauh (2006), Yun (2009), Giroud and Mueller (2010), and Francis, Hasan, John, and Waisman (2009).

for our sample firms with principal customers is 10.7 percent. Thus, the effect of reduction in takeover threat due to BC laws on the ROA of firms with principal customers are economically significant, and translates to a 7.5 percent increase for firms with principal customers.[5] BC laws affect only the firms that are incorporated in the state that passed the law and only one-third of the firms from our dependent supplier sample are located in their state of incorporation. This allows us to control for shocks at the level of state of location. We also control for industry-level shocks while examining the effect of BC laws on firm performance.

Customers are likely to be especially concerned about potential disruption caused by the takeover of a supplier when the product in question is somewhat unique and customized to the requirements of the customer, or when they have to make specific investments in the product (such as adapting their production processes to a particular type of input being supplied). Firms that supply to *principal customers* typically supply products that are customized to the requirements of the customer, as opposed to selling standardized products to a large number of customers. Moreover, customers buying products from R&D intensive suppliers or buying durable products are especially likely to be vulnerable to the threat of takeover of suppliers.[6] In support of this, we find that the effect of BC law in ROA is higher for suppliers with high R&D expense and those in durable goods industries.

We investigate the channels through which decrease in takeover threat affects firm performance. We find that the passage of a BC law in the state of incorporation of firms that have

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[5] Consistent with Bertrand and Mullainathan (2003) and Giroud and Mueller (2010), for firms without principal customers, we find that ROA decreases by around 1 percentage point after the passage of BC law.

[6] This is because products supplied by R&D intensive suppliers are likely to be unique and more difficult to replace. On the other hand, durable goods typically require after-sales support from the supplier. As an example of the importance of after-sales service for customers of durable goods, consider the recent wave of consolidations in the high-tech industry, driven by firms such as Oracle, IBM, and Hewlett-Packard. An Associated Press article published in 2010 ("Tech Customers Skeptical of Takeovers" by Jordan Robertson, July 5, 2010) documents how customers are poorly served when their suppliers are acquired. One customer who replaced DEC servers with machines from IBM and Sun Microsystems when DEC was acquired by Compaq states: "I have never seen a merger that saves the customer money", and that he "learned to try to pick computing suppliers that aren't likely to be acquired".

corporate principal customers leads to an increase in sales (scaled by assets) and a decrease in cost of goods sold (COGS) as a proportion of sales, as well as SG&A expenses as a proportion of sales. We also find that the passage of a BC law leads to an increase in the number of corporate principal customers and in the proportion of total sales of the supplier to principal customers. Further, we find that BC law leads to stronger relationships between a supplier and its existing corporate principal customers. In particular, a reduction in threat of takeover leads to a longer relationship with principal customers. A BC law affecting the supplier firm leads to greater sensitivity of that supplier's investment to that of its corporate customer, and similarly, a greater sensitivity of the supplier's operating performance to that of its corporate customer. This increase in comovement suggests that there is greater outsourcing of some of the production to the supplier after the passage of BC law.

One way a supplier could benefit from a BC law is that the customer would favor it over other suppliers that are in states that did not pass BC laws. Our data allow a test of this channel by identifying a sample of two competing suppliers of the same principal customer, where one supplier's state passes a BC law and the other supplier's state does not do so in the prior and subsequent three years. This sample is necessarily small because we want to ensure that the suppliers come from the same 4-digit SIC code, so that it is extremely likely that they are supplying similar products to their common principal customer. We find that while the supplier incorporated in law-change state experiences higher sales growth and ROA after a BC law, its competing supplier (which is not incorporated in the same state) experiences a decrease in sales growth and ROA, relative to industry benchmarks, over the three years after the BC law. This implies BC laws have a negative effect on competing supplier firms that are not even incorporated in the state that passed the law.

Our story requires that hostile takeovers are disruptive to relationships. Since a principal customer is clearly a valuable stakeholder, one might wonder why an acquirer would disrupt the

relationship between the supplier and the customer. In general, an acquisition can affect the efficiency of the supplier for the very same reasons that preclude the customer from vertically integrating with the supplier in the first place. In Section I of the paper we provide a number of other reasons for why the relationship is likely to be disrupted. Importantly, in the data we do observe that relationship between a supplier and its principal customer is very likely to be disrupted (i.e. discontinued) after the supplier firm becomes a target of a takeover attempt.

Overall, we find that higher threat of takeovers can adversely affect firm performance because it prevents the firm from committing to long-term relationships with stakeholders. This hypothesis has several important implications. Some studies seem to suggest that shareholders always prefer greater vulnerability to hostile takeovers (see, e.g., Gompers, Ishii, and Metrick (2003), Bebchuk, Cohen, and Ferrell (2009)). Our results imply that this might not be the case, especially for firms for which long-term stakeholders are important, e.g., firms in manufacturing industries and especially in durable goods industries. This can perhaps explain why many firms have anti-takeover measures in place, and this may, in fact, be optimal from the shareholders' perspective. Cremers, Nair, and Peyer (2008) find evidence consistent with firms trading off costs and benefits of takeover defense and choosing an optimum level. While they do not provide direct evidence of cost of being exposed to the market for corporate control, they "speculate that […] takeovers can be disruptive to a target firm's existing suppliers, customers, and employees, especially in long-term relationships." Our paper confirms their hypothesis. In a recent working paper, Johnson, Karpoff and Yi (2013) find that firms adopt more takeover defenses at the IPO stage if they have more important customers and suppliers; moreover, the customer firms experience more positive stock price

reactions at the IPO stage if the suppliers adopt anti-takeover provisions. These results complement our findings in this paper about the benefits of being insulated from takeovers.[7]

The rest of the paper is organized as follows. Section I provides detailed arguments for why a reduction in takeover threat can be beneficial for the shareholders of a firm. Section II provides details about our data. Section III presents our empirical approach and analysis. Section IV concludes.

I. How Can Takeover Protection Be Beneficial to Firms with Important Customers?

Shleifer and Summers (1988) were among the first to argue that takeovers – especially hostile ones – can impose ex ante costs on a firm's shareholders because they adversely affect the incentives of important stakeholders to make specific investments in the relationship. They argue that such takeovers are usually motivated by the possibility of *ex post* wealth redistribution in favor of shareholders, for example, through layoffs, renegotiation of wage contracts, or asset sales; however, these actions also reduce the incentives of stakeholders such as employees to acquire specific skills that are not valuable outside the firm. Shleifer and Summers (1988) argue that firms can prosper only if the "implicit contracts" with employees and other stakeholders are not reneged, even though such a breach can increase shareholder value ex post.[8]

One context in which the arguments of Shleifer and Summers (1988) are particularly plausible is the situation in which a firm depends on a few principal customers for its sales. These principal customers are among the most important stakeholders for such firms. The presence of

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[7] Bates, Becher, and Lemmon (2008) suggest other benefits of anti-takeover provisions: they endow target managers with leverage sufficient to deter opportunistic bidding, negotiate for higher value bids, and pursue higher-value third-party suitors.

[8] Schnitzer (1995) formalizes these kinds of arguments and models them in the context of managerial incentives.

these costs implies that takeover protection of the supplier will enable it to attract more business from its principal customers.

There are several reasons that the acquisition of a supplier could be disruptive to the relationship with the firm's principal customers and impose costs on the latter. In Appendix A, we discuss these reasons in detail and provide several examples and anecdotal evidence. Here, we briefly summarize these arguments.

A. Acquirer Debt and Debt-Financed Acquisitions

Most acquisitions paid for in cash involve an increase in the acquirer's debt. The takeover boom of the 1980s (the period during which most of the state-level Business Combination Laws were passed) saw many acquisitions financed with debt. During periods of industry consolidation, serial acquirers often emerge with high levels of debt. Acquirers burdened with takeover debt are undesirable from the point of view of a customer of the target because they might go into financial distress, cut quality, and let go of key employees, all of which affect the customer adversely. There is substantial anecdotal evidence that debt-financed takeovers are indeed a concern for customers, as we discuss in Appendix A.

B. Horizontal Market Power and Consolidation

An acquirer may be interested in acquiring a supplier to increase its monopsony power vis-à-vis upstream firms or to compete more effectively with other suppliers. This is clearly costly for the customer, not only because it can result in the customer paying higher prices for the products, but also because it eliminates competition for its suppliers and creates scope for slack.

A related issue arises when an acquirer attempts to buy suppliers with the specific objectives of overhauling and consolidating product lines. Oracle's pursuit of consumer relationship management (CRM) product suppliers such as PeopleSoft and Siebel was motivated by a desire to consolidate the functionalities from various products into one application. However, PeopleSoft's

and Siebel's customers were strongly opposed to the move as they had already invested in a particular system and were concerned about losing support. A principal customer who has invested in a particular product from a supplier is at risk if the latter's acquisition is driven by the desire to replace existing products with an improved product that has a broader range of functionalities, since the switching costs may be substantial.

C. Other Acquisition Motives

Motives for an acquisition could be unrelated to the principal customer – for example, an undervalued supplier without adequate takeover protection could be an attractive takeover target. In such cases, the acquisition could impose costs on the principal customer if the integration of the supplier with the acquirer is inefficient. For example, the acquisition could be associated with replacement or departure of employees who are crucial to the relationship with the principal customer, or other inefficiencies that arise when an independent entity is integrated into a much larger one. Even though such transitions impose costs on the principal customer, the latter may not be able to switch if it has already invested in the relationship (e.g., designed its production process to the input provided by the supplier).

A principal customer is particularly vulnerable if an acquirer is mainly interested in aspects of the supplier's business that do not involve the principal customer. Thus, an acquirer may decide to acquire a supplier to exploit a specific synergy – for example, access to specific markets, co-branding of certain products, or a particular know-how. However, such an acquisition may not be in the interest of a principal customer who relies on the supplier for a very specialized product.

The acquisition could also be driven by the acquirer's need to grow rapidly or acquire assets quickly to fill orders from its own customers. In such cases, given capacity constraints, its own requirements may take priority over those of the supplier's customers, leading to delays in delivery or deterioration of quality of the input supplied to the principal customer. In Appendix A, we

discuss Flextronics' acquisition of Dovatron, as an example of an acquirer's being more interested in the supplier's other business than that with the customer.[9]

II.   Data

Our main data source is Standard and Poor's Compustat. Our sample consists of all firms that are not regulated utility firms (*i.e.*, Industries 31 and 48 in Fama-French 48 industry classification) and are located and incorporated within the U.S. The start of our sample period is 1979, which is the earliest period for which information on principal customers is available. As in Bertrand and Mullainathan (2003) and Giroud and Mueller (2010), our sample period ends in 1995. We exclude firms for which the book value of assets is missing or negative. We also drop firms for which the state of location or incorporation is not available from Compustat. This leaves us with 13,092 firms and 100,496 firm-year observations.

The Statement of Financial Accounting Standards No. 14 (SFAS 14, issued in 1976 and superseded by SFAS 131 in 1997) of the Financial Accounting Standards Board (FASB) requires firms to disclose the names of and sales to their principal customers during our sample period. Principal customers are those who account for more than 10% of the total revenue of the firm and are considered important for business. Since non-corporate customers may not be driven by profit/value maximization motives, the arguments we make as to why customers care about threat of disruption may not hold for them. Therefore we focus only on identifying firms that supply to corporate principal customers.[10] These data are obtained from Compustat's segment customer files. For some of the tests we need to obtain financial information of the principal customers. However, the database reports only the name of the customer without identifiers. Often only an abbreviated

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[9] The dispute between the customer and the acquirer in this case resulted in the largest jury verdict in a civil dispute in Orange County history.

[10] Throughout the paper the term "principal customer" refers to corporate principal customers.

version of the name is reported, and the same customer is reported in a different form in different years and by different suppliers. Sometimes, the disclosed customer name is a subsidiary or a business segment of a firm. We manually match the customer to Compustat. We are unable to match all principal customers to a firm in Compustat since some customer firms are private and our matching procedure is not perfect. Those principal customers that we are able to match to Compustat, we refer to as *identified principal customers*.

[Insert Table I Here]

Table I shows the mean and median values of some characteristics for all sample firms, supplier firms (*i.e.*, firms that reported at least one principal customer), and customer firms that are in Compustat (*i.e.*, those that are in Compustat and are reported as a principal customer by at least one firm). The median customer firm is larger, older, and has a higher return on assets (ROA) than the median firm in Compustat. The median supplier firm is smaller and slightly younger than the median firm in Compustat. The ROA of the median supplier firms is comparable to that of a median Compustat firm. The median supplier firm obtains one-quarter of its revenues from principal customers. This suggests that these customers are quite important from the perspective of the suppliers.

[Insert Table II Here]

Table II shows the number of firms that are incorporated and located in each state. The firm's state of location is defined as the state in which its headquarters is located. The state of incorporation determines the legal jurisdiction that applies to the firm. A state's Business Combination Laws apply to firms incorporated in that state. We find that about 66% of the supplier firms are located outside their states of incorporation.[11] This allows us to examine the effects of BC

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[11] Compustat reports the states of location and incorporation for the latest available year. Bertrand and Mullainathan (2003), and Giroud and Mueller (2010) argue that changes in state of incorporation during the sample period are rare. Therefore, like them, we use the state of incorporation for the latest available year.

laws, which operate at the level of the state of incorporation, while controlling for shocks at the level of state of location.

III.   Empirical analysis

A. Primary empirical methodology

Our empirical strategy relies on the exogenous change in takeover threat due to the passage of BC laws in 30 states between 1985 and 1991. As mentioned earlier, these laws reduce the threat of a hostile takeover for firms that are incorporated in the state that passes such a law.[12] The years in which states in the U.S. passed BC laws are reported in Table II. Drawing on the study of the political economy of BC law passage by Romano (1987), Bertrand and Mullainathan (2003) argue that it is exogenous to the performance of firms incorporated in that state, with the possible exception of one or two large firms since these laws were typically passed in response to lobbying by one or two large firms that came under attack from a raider. Therefore, BC law passage is essentially exogenous for most supplier firms, which are typically small, and had no role to play in passage of the law.

In our first set of empirical tests, which provides the basic structure for many of the later tests, we examine whether these laws have different effects on the performance of firms principal customers, relative to benchmark firms with no principal customers. We estimate the following model for all firms in our sample:

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[12] These laws affect not just those takeover attempts which are overtly hostile, but can also takeovers which would seem friendly, but the management would not oppose knowing that such an action would lead to the acquirer pursuing the takeover in a hostile fashion. In unreported results, we find that BC laws reduce the likelihood of being a target of hostile as well as non-hostile takeovers.

$$\text{Performance}_{ijst} =$$

$$\alpha_i + \alpha_{jt} + \alpha_{st} + \beta \ \text{PC Dummy}_{it} +$$

$$\gamma \ \text{PC Dummy}_{it} \times \text{After\_BC\_Law}_{it} +$$

$$\phi \ \text{After\_BC\_Law}_{it} + \boldsymbol{\delta'} \ \textbf{Controls}_{it} + \varepsilon_{it}$$

$$\ldots \ (1)$$

where i indexes firms, j indexes industry, s indexes the state of location, and t indexes time. α_i, α_{jt}, and α_{st} are firm, industry-year, and state-year fixed effects, respectively. The standard errors in our estimations are clustered at the state of incorporation level.[13]

The dependent variable in Equation (1) is a measure of operating performance: return on assets (ROA), which is defined as EBITDA (earnings before interest, taxes, depreciation and amortization) divided by book value of total assets. Like Giroud and Mueller (2010), we drop observations that are at the extreme 1% tails of ROA values to remove the impact of outliers. *PC Dummy* is a dummy variable that equals 1 if this firm has at least one principal customer and 0 otherwise. *After_BC_Law* is a dummy variable that equals 1 if a BC law has been passed in the firm's state of incorporation by time t, and 0 otherwise. We include size, the square of size, and firm age as additional control variables. Size is defined as the natural logarithm of total assets, and firm age is the natural logarithm of one plus the number of years the firm has been included in Compustat.

Only about one-third of the firms are incorporated in their state of location, allowing us to control for shocks at the level state of location while examining the effect of BC law on firm performance. We control for industry as well as local shocks by including industry-year (Fama-French 48 industries) and state-year fixed effects respectively. Some researchers have included the average of the dependent variable for each industry-year and state-year to try and achieve the same

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[13] This allows for potential correlation between error terms of the same firm over time, as well as across different firms incorporated in the same state. The statistical significance of our main results is not affected if standard errors are clustered by firm.

objective. Gormley and Matsa (2013) show that such a specification gives inconsistent estimates, which can potentially be severely biased. Therefore, we estimate the fixed effects model.[14] Since there are a large number of fixed effects in three different dimensions, it is not computationally feasible to estimate this in the form of an OLS by including the dummy variables. We estimate the model using an iterative procedure.[15]

The coefficient ϕ in Equation (1) captures the effect of BC laws on firms that do not have any principal customers, while γ captures the additional effect on firms with principal customers relative to firms with no principal customers. Therefore, γ is the coefficients of our primary interest.

In the above specification, the firm fixed effects control for fixed differences across firms, which subsumes any fixed differences between firms in the treated group and the control group. The treatment group is the set of firms that are incorporated in states in which a BC law has been passed. The control group includes all firms incorporated in states that have not passed a BC law until time t. Thus, firms incorporated in states that have never passed a BC law are always a part of the control group. In addition, firms that are incorporated in a state that did pass a BC law will be part of the control group for the period prior to the passage of the BC law.

A specification estimating the coefficient on *After_BC_Law* in the presence of the controls in the above specification would, in essence, be a difference-in-difference estimate of the effect of BC law. It would capture the differential change in performance of the treatment group firms due to BC law, relative to the change in performance of the control group firms over the same period. This would be ϕ in the following regression specification.

$$Performance_{it} =$$

$$\alpha_i + \alpha_t + \phi\ After\_BC\_Law_{it} + \boldsymbol{\delta'}\ \textbf{Controls}_{it} + \varepsilon_{it} \qquad\qquad \dots \quad (2)$$

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[14] It turns out that controlling for the average of the dependent variable at the state-year and industry-year level, instead of including fixed effects, gives very similar results in this context.

[15] We thank Paulo Guimaraes for providing the code for this estimation. The code is very similar to the one used in Carneiro, Guimaraes, and Portugal (2012).

By comparison, the specification in Equation (1) is equivalent to a triple-difference approach, where the coefficient γ captures whether the law has a differential effect on performance of firms with principal customers, relative to firms with no principal customers.

We also employ other specifications similar to that in Equation (1). In particular, we replace the dummy variables capturing the presence a principal customers with the continuous variable *PC Percentage*, which is defined as the ratio of sales to principal customer to the total sales of the firm.

B. Effect of an exogenous reduction in takeover threat on firm profitability

The reduction in the threat of hostile takeovers for firms incorporated in a state that passes a BC law can potentially have two opposing effects. First, the managers who no longer fear losing their jobs after a hostile takeover may start to enjoy the "quiet life" and their complacency could lead to worse firm performance. This effect has been emphasized by previous studies, including Bertrand and Mullainathan (2003), and Giroud and Mueller (2010). Alternatively, when the takeover threat is reduced, firms may find it easier to commit to long-term relationships with their stakeholders, including existing and potential principal customers. We would therefore expect a reduction in takeover threat to have a positive effect on the performance of firms with principal customers, relative to those without principal customers.

[Insert Table III Here]

The results presented in Table III show the effect of BC laws on performance of different types of firms and are consistent with the above arguments. Column (1) shows the results of a base case regression specification given in Equation (2). Consistent with Bertrand and Mullainathan (2003), and Giroud and Mueller (2010), we find that BC laws have an adverse effect on the performance of the average firm in the sample. Column (2) shows the result of estimating the regression specification given in Equation (1). We find that, relative to firms with no principal customers, the ROA of firms with principal customers increases by 0.8 percentage points as a result

of BC law. Like in column (1), the coefficient of *After_BC_Law* is negative, indicating that BC law results in a decrease in ROA of a firm with no principal customers.

To test the robustness of these results, we replace the dummy variables that capture the presence of principal customers with continuous variables representing the proportion of sales to such customers. The results for this specification are presented in column (3) of Table III. Paralleling the results based on dummy variables, we find that BC laws have a larger positive and significant effect on the performance of firms for which sales to principal customers are more important.

Columns (4) and (5) show the results analogous to columns (2) and (3), after replacing *PC Dummy* with *Id PC Dummy*, which represents that the firm has a principal customer that exists in the Compustat Database. We show these results because some of our later tests require information on the principal customer. For those tests we recognize a supplier-customer relationship only when both firms are included in the Compustat. Note that this slight change in definition makes no difference to the results.

Giroud and Mueller (2010) show that the effect of anti-takeover laws on firm performance depends on the extent of product market competition within the industry. They use the Herfindahl-Hirschman Index (HHI) at the 3-digit industry level as their measure of industry concentration. In unreported tests we find that controlling for HHI and interaction of HHI with *After_BC_Law* dummy makes no difference to our results.

C. Interaction with product uniqueness

The possibility of disruption of the relationship is likely to be of greater concern to the customer if the goods supplied by the supplier requires after-sales support, or is unique and specifically produced for the customer. Firms in durable goods industries are more likely to be producing unique products that require after-sales support in the form of servicing and maintenance

(Titman and Wessels (1988)). Therefore we would expect that the effect of a reduction in takeover threat on performance should be stronger for dependent suppliers in durable goods industries relative to those in non-durable industries. Column (1) of Table IV shows this effect. A firm is defined as producing a durable good if it is in an industry that is classified as durable goods industry by Gomes, Kogan, and Yogo (2009).

Suppliers that have high R&D intensity are likely to produce goods for their customer that are unique and not easily producible by some other firm, making them indispensible for the customer. Column (2) of Table IV shows that the effect of reduction in takeover threat is higher for supplier firms with high R&D intensity. This suggests that the impact of a reduction in takeover threat is indeed higher when the importance of a long-term relationship is greater—*i.e.,* when the supplier supplies a durable or a unique product.

[Insert Table IV Here]

D. Examining the sources of improvement in performance

To provide further support for our hypothesis and better understand why BC laws lead to improvement in the performance of suppliers with principal customers, we explore the effect of BC laws on other firm level variables of performance. ROA, which is our main measure of performance, can be decomposed as follows:

$$\text{ROA} = \text{EBITDA/Assets} = (\text{Sales} - \text{Costs})/\text{Assets}$$

$$= (\text{Sales/Assets}) [1 - \text{COGS/Sales} - \text{SG\&A/Sales} - \text{Other Costs/Sales}]$$

One possibility is that the improvement in performance of suppliers is a result of an increase in orders from corporate principal customers, leading to higher sales as a proportion of assets. Alternatively, stronger relationships can also lead to better cost efficiency driven by economies of scale for the supplier firm. This can lower the cost of goods sold (COGS), as well as sales, general, and administrative expenses (SG&A), as a proportion of sales.

We run regressions similar to that in Equation (1), where the dependent variable is sales scaled by total assets. The coefficient in column (1) on the first interaction term shows that for suppliers with principal customers, the ratio of sales to total assets goes up by a statistically significant 2.7 percentage points due to BC law.

To test if the improvement in firm performance documented earlier is partly driven by reduction in costs, we run a regression similar to that in Equation (1), with the LHS variables are cost of goods sold scaled by sales (COGS/Sales) and selling, general, and administrative expense scaled by sales (SGA/Sales), respectively. Columns (3) and (5) of Table V show that for firms with principal customers COGS/Sales goes down by 1 percentage point. However, this effect is not statistically significant. SGA/Sales goes down by 1.8 percentage points. The results are similar when we use fraction of sales to principal customers instead of the dummy variable for existence of a principal customer. This suggests that BC law leads to higher sales as well as better cost efficiency for firms with corporate principal customers.

We next examine whether a reduction in takeover threat due to BC law leads to an increase in the ability of the firm to attract more business from principal customers. We do this by examining the effect of BC law on the number of principal customers and the fraction of sales of the supplier firm to its principal customers. These results are shown in Table VI. We estimate a specification similar to Equation (2) for all firms in our sample with the dependent variable replaced by the number of principal customers and fraction of sales to all principal customers.[16] These results are presented in Table VI.

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[16] We estimate OLS because our specification has a large number of fixed effects. A non-linear model will not provide consistent parameter estimates due to incidental parameters problem. However, a Poisson model with firm fixed effects estimated using a quasi-maximum likelihood procedure does not suffer from this problem. In unreported results we find

We see a significant increase in the number of principal customers as well as the proportion of total sales to principal customers as a result of BC law. Column (1) shows that BC law leads to an increase in the number of principal customers by about 0.08. Since the average number of principal customers is 0.8, this represents a 10% increase in number of principal customers due to BC law. Column (2) shows that the fraction of sales to principal customers goes up by 2.8 percentage points as a result of BC law. These results support our hypothesis that BC laws helps firms attract new principal customers and shift their emphasis to doing business with principal customers.

Overall, our results so far suggest that a reduction in the takeover probability of the supplier allows it to obtain more business from principal customers, resulting in an improvement in its ROA. This improvement seems driven by an increase in suppliers' total sales and a decrease in the proportion of administrative costs to total sales.

E. The effect of BC law on competing suppliers

All the results presented so far focus on the effect of BC laws on supplier firm that enjoy lower takeover threat due to passage of the law. We might also expect the BC laws to indirectly impact other firms: those that are not incorporated in the state and are in direct competition with the suppliers directly impacted by the BC law because they supply same or similar goods to a common principal customer. In this sub-section we examine whether there is any evidence of such an effect.

Previously we found that BC laws lead to greater business from principal customers. In general, the increase in business from principal customers could come from three channels:

i)   The supplier gains new business from an existing customer at the expense of another competing supplier that already sells a similar product to the same customer and located in a

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that a Poisson model for number of principal customers gives similar results to the ones reported. While estimating this model we cluster standard errors by firm. A Possion model underestimates standard errors if the data exhibit overdispersion. Clustering standard errors breaks the strong link between the coefficient estimates and standard errors in the model, which helps deal with this problem.

state that did not (recently) have a law change. These firms can be identified from our data since they already are suppliers of the same customer. Providing evidence for this channel is essentially equivalent to identifying the indirect effect on BC law that we mentioned earlier.

ii)   The supplier gains at the expense of other potential suppliers firms. These are not currently supplying to the customer, but might become a supplier in the future based on new needs of the customer. The difference between this channel and the previous one is that the potential supplier firms cannot be identified as they are not currently supplying to that customer.

iii)   The supplier obtains more business from principal customers, replacing production that the customer would have done in-house and was reluctant to outsource before the reduction in takeover threat.

As argued, the second channel, *i.e.*, gains at the expense of other potential suppliers, although potentially important, is difficult to identify. Therefore, we confine attention to the first two. In this section we attempt to provide a direct test of the first channel. Later in the paper we provide supporting evidence for the second channel.

We identify customer firms with two suppliers in the same 4 digit SIC industry, but incorporated in different states. A narrow industry definition ensures that these firms are extremely likely to be supplying the same product and competing with each other for the business of their common principal customer.[17] Let us, for the sake of the clarity of exposition, refer to these entities as customer, supplier1, and supplier2, respectively. We require that the state of incorporation of supplier1 (state1) passes a BC law at some point, say year t. Further, we require that the supplier2's state of incorporation (state2) does not pass a BC law in a [t-3, t+3] window. When state1 passes a BC law, this should have a positive effect on the business it gets from the customer. Our results so

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[17] Two suppliers in the same broad industry might be supplying complementary products. If that were the case, we might expect the opposite of the effect we are trying to look for here.

far are consistent with this. Our aim is to show that supplier2, whose state of incorporation does not pass a BC law around the same time, is adversely affected, since the customer is likely to shift business away from it and give it to supplier1.

Our dataset does not capture all competing suppliers. There may be two suppliers which supply similar products to the same customer, but the customer may not be a principal customer (representing more than 10% of sales) for one of the suppliers. Further, suppliers may be capable of producing goods and services that are associated with a different SIC code than those they have been classified into. Therefore we are unable to obtain a comprehensive sample of competing suppliers to the same customer. Nevertheless, we obtain a small sample of trios of customer-supplier1-supplier2 where both suppliers are in the same industry. We then examine the effect of the passage of BC law in state1 on the year-on-year change in ROA and growth in sales to the principal customer of supplier1 and supplier2. For benchmarking, we obtain the average change in ROA and the growth rate of sales to their principal customers of all other suppliers in our sample in the same industry as supplier1 and supplier2.

[Insert Table VII Here]

Table VII shows the average growth rate of sales of supplier1 and supplier2 to their principal customers, as well as the annual change in ROA for three years after the passage of BC law in state1. We notice that supplier1 has higher sales growth and change in ROA compared to the benchmark firms in each of the three years following the law change. On the other hand, supplier2 has negative sales growth and change in ROA relative to the benchmark firms in each of these three years. This clearly shows the negative effect on a competing supplier incorporated in a *different state* due to a BC law change. All effects are in the direction predicted and most of them are statistically significant. As expected, the differences in sales growth between supplier1 and supplier2 are highly statistically significant, as are the differences in change in ROA.

The above test also helps us address any possible concerns of endogeneity in our main results, arising from the passage of BC laws in anticipation of future performance of firms incorporated in that state. We argued earlier that this is unlikely to be a concern in our context, where we focus on supplier firms which are small and played no role in determining the passage of BC law. Note that, since the competing suppliers identified for this test are incorporated in a different state, this test is not affected by the above endogeneity concern. It would be hard to argue that adoption of BC law in one state would be in anticipation of future under-performance of firms that are incorporated in a different state.

F. The effect of takeover threat on the strength of customer-supplier relationships

A reduction in the probability of a takeover of the supplier should lead to a strengthening of the relationship between the supplier and the customer. We show in Section III.C that suppliers' sales to principal customers increase after the probability of a takeover is reduced. That result is based on firm-level data. In this subsection we provide further evidence that the customer-supplier relationship is strengthened by focusing on relationship-level data. For suppliers that have multiple principal customers in the same year, we now treat each of the relationships as a separate observation.

We first construct a panel of relationships where a supplier-customer-year is used as a unit of observation. When a supplier lists the same customer as a principal customer for at least two consecutive years, we call it a "relationship". We examine whether the reduction in takeover threat due to adoption of a BC law in the supplier's state has an effect on the probability that the relationship will continue. To do this, we estimate a Probit model in which the dependent variable is a dummy variable that takes the value of 1 if the relationship continues for the subsequent year(s), and 0 if the supplier firm still exists in the Compustat but the relationship does not continue. Our main explanatory variable of interest is *After_BC_Law*, which is 1 if a BC law has been passed in the

current year or any of the previous years in the supplier's state of incorporation. Control variables include the logarithm of the length of past relationship, sales to this customer as a proportion of total sales of the supplier, and cost of materials purchased from this supplier as a proportion of the COGS of the customer. We also include ROA, size, and the square of size for the supplier and the customer as control variables.

[Insert Table VIII Here]

Column (1) of Table VIII shows that a BC law leads to a significant increase in the probability that the relationship between the supplier and a principal customer continues for at least one more year. Column (2) shows that we obtain similar results when looking at the probability of continuation of the relationship for at least two more years.

We provide further evidence of relationship strengthening for the subsample of relationships with corporate customers using a different strategy. A closer relationship would likely result in the supplier's undertaking more investments at times when the customer increases its investment. This should result in a greater co-movement in their investments. Moreover, a stronger relationship should result in greater co-movement of the supplier's and customer's performance. For example, greater demand for the customer's products should lead to more orders for the supplier's products from the customer.

[Insert Table IX Here]

We first examine whether the sensitivity of the supplier's investment to that of the customer goes up as a result of BC law adoption in the supplier's state. We use Capex scaled by total assets as our variable to capture investment. Column (1) of Table IX shows the results for the regression of supplier's investment on customer's investment, the interaction between customer's investment and a dummy variable representing the passage of a BC law, and other controls. Column (2) replaces the customer's investment with its one-period lagged investment to allow for the possibility that the

effect of a shock leading to higher customer investments might not be immediately transmitted to the supplier. For both specifications, we see that the coefficients on the interaction term are statistically significant at the 5% level. This implies that the sensitivity of the supplier's investment to the customer's investment increases after the adoption of a BC law, suggesting higher outsourcing by the customer to the supplier.

To ensure that we are not picking up a general or mechanical effect of an increasing comovement of the supplier firm with the customer firm's industry, we calculate the *p value* of the test using a different method. We run a similar regression by replacing the customer firm with a randomly chosen firm in its industry (*i.e.*, Fama-French 48 Industries) and size quintile. We obtain the distribution of the coefficient of interest and note where the value of the coefficient with respect to the actual customer firm lies in this distribution. Using this method also, we find that the coefficient is significant at the 5% level.

Similarly, we test the sensitivity of a supplier's ROA to contemporaneous and lagged ROA of the customer. The results presented in columns (3) and (4) of Table IX show that the ROA sensitivity goes up significantly after the passage of a BC law.

Overall we find strong evidence that BC laws result in a reduction in takeover threat to the supplier, leading to an increase in the strength of the customer-supplier relationship. This is reflected in (a) a greater probability that the relationship will continue, (b) a greater sensitivity of the supplier's investment to that of its customer, and (c) a greater sensitivity of the supplier's performance to that of its customers.

G. The effect of a takeover (or a takeover attempt) on relationship continuation

Our arguments as to why takeover protection can have beneficial effects on suppliers with principal customers require that takeovers can be disruptive to the customers. We provide anecdotal evidence in the introductory section, outline the channels through which such disruption can occur

in Section I, and provide examples in Appendix A. In this section, we provide empirical support for this link in the argument by examining the effect of a takeover (or a takeover attempt) of the supplier on the probability of continuation of relationship with an existing customer.

Table X shows the effect of a takeover or a takeover attempt of the supplier on the continuation of a customer-supplier relationship for another year (or another two years).[18] A relationship with a principal customer is considered to be discontinued only if the supplier firm is covered by Compustat even after the event, but it no longer reports this principal customer. This ensures that a firm's dropping out of the database or consolidating in financial statement reporting with the acquirer is not considered a discontinuation of a relationship. For the purpose of this test, we define takeover as cases in which the acquirer has less than 50% ownership of the target firm before the deal and aims to hold more than 50% after the deal. The main independent variables of interest are whether the supplier was successfully taken over in a particular year and whether there was an unsuccessful takeover attempt on the supplier. We define success and failure with respect to the original intentions of the acquirer. Information of mergers and acquisitions is obtained from the SDC Platinum database.

The Probit model we estimate is similar to the one we use to examine the effect of passage of a BC law on relationship continuation, and has the same set of control variables. It is possible that the acquisition is triggered by worsening sales to principal customers, which in turn can have an effect on likelihood of continuation of a relationship with the customer in the future. Therefore, we include an additional control variable – the growth rate of sales to principal customers in the past

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[18] We examine effects of all takeovers, including those that are not classified as hostile by the SDC database. This is for two reasons. First, the SDC database classification tends to miss out on identifying quite a few takeovers as hostile, which were not hostile at deal completion although they started out as such. Second, BC laws affect not just those takeover attempts which are overtly hostile, but also takeovers which would seem friendly, but the management would not oppose knowing that such an action would lead to the acquirer pursuing the takeover in a hostile fashion. In unreported results, we find that BC laws significantly reduce the likelihood of takeover attempts that were classified as hostile by SDC and well as those that were not.

year. Contrary to the above concern, we observe that sales to principal customers tend to rise, rather than fall, in the year before a takeover.

We find that a successful takeover of the supplier reduces the probability of relationship continuation into the next year by about 17.6 percentage points, and the probability of the relationship continuing two more years by about 19.7 percentage points. An unsuccessful takeover attempt reduces the probability of the relationship continuation into the next year by about 6.5 percentage points.

A merger deal could use cash, stock, or a mix of the two. Since cash deals are more likely to be financed using debt, they would increase the bankruptcy risk of the supplier, making the relationship less attractive from the customer's perspective. We might therefore expect a lower probability of relationship continuation for deals financed by cash than those financed by stock. Columns (2) and (4) of Table X show that this is indeed the case – for successful as well as unsuccessful takeover attempts. The probability of relationship continuation is lower if a higher fraction of the deal is financed using cash. These results provide support for the hypothesis that a takeover of a supplier is indeed likely to disrupt its relationship with a customer.

IV.   Conclusion

Using the passage of Business Combination Laws as a source of exogenous variation, we find that firms that have important relationships with principal customers experience a significant improvement in operating performance when the threat of a takeover goes down. This is consistent with the notion that the threat of takeovers can make it difficult for firms to commit to long-term relationships with other stakeholders, which in turn adversely affects performance. The impact of a reduction in takeover threat on performance of firms with principal customers is larger when the

importance of a long-term relationship is greater, e.g., when the supplier produces a durable good or a unique good for its customers.

We find that after the passage of BC laws, the number of principal customers increases, the supplier's fraction of sales to principal customers increases, and the relationship between the supplier and its principal customers becomes stronger, as evidenced by a higher likelihood of relationship continuation and greater sensitivity of the supplier's performance and investment to those of the customer. Taken together, these empirical results support the hypothesis that the threat of takeovers can impair the ability of firms to commit to long-term relationships with important stakeholders, adversely affecting their profitability and performance. We also find empirical evidence supporting the notion that a relationship is more likely to be discontinued if the supplier is taken over, or is subject to an unsuccessful takeover attempt. This provides evidence that customer-supplier relationships are indeed disrupted due to takeovers.

Our results have a number of important implications. From a policy perspective, our results imply that takeover-friendly laws may not be optimal for all firms. Further, adoption of anti-takeover measures may not necessarily hurt shareholders, especially for firms that need to attract important stakeholders by implicitly promising a long-term relationship. Moreover, governance mechanisms that attract and retain important stakeholders are likely to be more effective than those that do not.

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Appendix A: Examples of Customer-supplier Relationship Disruption due to Takeovers

A.1 Acquirer Debt and the Potential for Supply Disruption: Examples

In Section I.A, we argue that debt-financed acquisitions and debt-laden serial acquirers are often a source of supply disruption. In our sample period, debt financed takeovers, often characterized as hostile, were common. Moreover, an important feature of the BC laws is that they made it difficult for the acquirer to pay for the acquisitions by imposing restrictions on the use of the target assets – precisely the features that would make debt-financed acquisitions difficult. Here, we provide several examples of how acquirer debt led to disruptions.

The first example shows that a customer (McDonald's), concerned about supply disruption following a debt-financed acquisition of its supplier's parent company (Wilson), was instrumental in the sale of the subsidiary (Anderson) to a third party.

Example 1. Wilson and McDonald's

Wilson & Co. began shipping fresh beef patties to McDonald's in 1968. In 1971, the Wilson meat plant incorporated as Anderson Meat and Provisions, and continued selling to McDonald's as a Wilson subsidiary. Sales to McDonald's Corporation accounted for 10.5 percent of Wilson's net sales in 1987. When Doskocil conducted a hostile takeover of Wilson in 1988, McDonald apparently refused to continue the purchase contract with the new owners. Wilson then agreed to sell Anderson to Oklahoma City veterinarian Norman Pick, Anderson's president. As a result, a company called Normac emerged.[19]

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[19] In 1990, McDonald's approached Mr. Lopez, a longtime franchise owner in Los Angeles, about becoming part of the company's supply chain by buying Normac.

Doskocil was already highly levered when it launched its bid for Wilson in 1988 (with a total liability to asset ratio in excess of 0.8). In 1987, Doskocil had repurchased nearly a million shares of its common stock. Late in that same year, the company raised $57.5 million through the bond markets.

On February 28, 1990, Doskocil announced that the company and its subsidiaries, including the recently acquired Wilson Foods Corp., were in default on a $133 million loan agreement. Chairman Larry Doskocil said the company's liquidity problems resulted, in part, from interest expense tied to Doskocil's $238 million acquisition of Wilson Foods in 1988 and delays in selling Wilson's fresh and retail meats division.

The case illustrates the customer's (McDonald's) refusal to invest in a relationship with a debt-laden acquirer. While it could not prevent the takeover, it was an important enough customer that selling the Anderson division was the only way Doskocil could get any value for Anderson's relationship with McDonald.

Example 2: Debt-Financed Acquisitions in the Auto-Parts Industry in the 1990s

In the auto-parts supplier industry, a big wave of consolidations occurred in the 1990s, with the acquisitions mainly financed with debt. Eventually, the acquirers piled up too much debt and ran into financial trouble, which disrupted supplies to the automakers.

Notably, these events occurred in the age of "just-in-time" parts supply, when automakers started to maintain smaller inventories and their dependence on parts suppliers increased. The motive for the acquisition spree in the auto-parts supplier industry in the 1990s appears to have been to increase size to compete more effectively with larger firms within the industry.

An article published in *Automotive News* on May 13, 2002[20] provides more perspective on the problems afflicting the parts suppliers. The article states that in the 1990s, General Motors and other automakers encouraged suppliers to expand rapidly. Vendors were expected to operate in all major world markets; they were also encouraged to design their own components, which made them key players in vehicle development. However, the desire to expand sparked an unprecedented wave of consolidation. In the 1990s, suppliers negotiated 272 mergers worth $19.5 billion. As a result of that frenzy, many suppliers ended up with heavy burdens of debt. Faced with price pressures and declining production, in the short period between October 2001 and May 2002 half a dozen large suppliers, with combined sales of $7.4 billion, sought Chapter 11 bankruptcy protection.

We discuss two specific cases below.

Example 2.1. Breed Technologies

Breed Technologies was a parts supplier to GM and other car manufacturers. Its example shows how dealing with a debt-laden acquirer (or one that finances its acquisitions by issuing debt) can be costly for the customer. In 1997, Breed acquired AlliedSignal's seat belt business, heavily financing the acquisition with debt. Soon after that, Breed ran into financial distress. In September, 1999, Breed Technologies nearly shut down nine GM truck plants after it stopped supplies of seat belts for 3 days. The reason for the disruption was a pricing dispute, resulting in a demand by Breed that GM pay $44.5 million immediately to meet a repayment obligation. The shutdown would have been very costly to GM, with estimates showing a single day's stoppage resulting in a loss of $80 million per day. Eventually, a court order restored the supply.

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[20] "Too big to fail; GM props up ailing key suppliers to keep its assembly lines rolling", by Robert Sherefkin, *Automotive News*, May 13, 2002, Vol. 76, Issue 5983.

An article in *Automotive News* on September 6, 1999 states[21]: "The GM lawsuit also underscores the perils of merger mania among suppliers. Over the past five years, Breed spent $1 billion to acquire 11 companies, part of its ambitious bid to compete against industry behemoths Autoliv Inc. and TRW Inc. Breed became the world's fourth-largest maker of airbags and seat belts. *Now it is sinking under a mountain of debt.*"

Example 2.2. Oxford Automotive

In the course of customer-supplier relationships, the customer may need to exploit its bargaining power to ensure quality. However, imposing penalties in the form of withholding payments can be difficult if the supplier has too much debt. Thus, customers will be opposed to acquisitions of their conservatively financed suppliers by firms that are highly levered or that finance the acquisition with debt. Regulation such as the BC laws that make debt-financed acquisitions difficult is thus good for customer-supplier relationships.

An example is Oxford, a supplier of suspensions and chassis components. With worldwide sales of $824 million, the Troy, Mich., business was a key supplier for GM's profitable compact sport-utility vehicles. In 2001, the company spent heavily on factories and tooling to supply components for nine new vehicles. Unable to comply with the terms of its bank loans, Oxford began Chapter 11 reorganization proceedings in January of 2002. What complicated matters for GM was an ongoing dispute with Oxford regarding supplies of defective parts. The two companies were locked in a dispute over a defective part that forced the recall of 6,000 Chevrolet TrailBlazers, GMC Envoys and Oldsmobile Bravadas. Oxford's financial woes made it difficult for GM to withhold millions of dollars in payments to Oxford for the defective parts.

A.2 Acquirer Opportunism and Supply Disruption: Flextronics' Acquisition of Dovatron

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[21] "Breed, GM in belt battle: Price spat perils supply for truck", by Robert Sherefkin, *Automotive News*, September 9, 1999, Vol. 74, Issue 5836.

In Section I.C, we argue that the acquirer might be interested in the supplier's assets if it has plans for deploying these assets for alternative uses, including meeting supply targets for its own customers. Flextronics' acquisition of Dovatron is an example of an acquirer's being more interested in the supplier's other business than that with the customer, Beckman Coulter. Beckman Coulter was Dovatron's customer for switchboards needed for the manufacture of medical instruments. In April of 2000, Flextronics purchased Dovatron. On May 30, 2000, however, Flextronics notified all the customers of Dovatron's Anaheim facility, including Beckman Coulter, that it was closing its doors within 90 days, and that employees were being terminated. The following day Flextronics announced in a public press release that it had just entered into a $30 billion contract with Motorola. It was revealed during testimony at the trial that Flextronics was switching from "high mix low volume" business to "low mix high volume" business. In other words, it no longer wanted to manufacture complicated circuit boards for Beckman Coulter's LX20 but rather was choosing to make simpler circuit boards, such as for cell phones for Motorola.

Table I
Summary Statistics

The mean and median values of several firm characteristics of three samples for the period 1979–1995 are reported in this table. The sample reported in column (1) includes all firms in non-regulated industries from the Compustat Fundamental Annual File. The sample reported in column (2) consists of all dependent suppliers that report at least one principal customer. In column (3), the sample includes all principal customer firms that have dependent suppliers. *ROA* is defined as EBITDA scaled by the book value of total assets; *Total Assets* is the book value of total assets; and *History* is the number of years that a firm has existed in the Compustat database. We also report the mean and median values of the proportional sales to principal customers for dependent suppliers in columns (2) and proportional inputs from dependent suppliers for principal customers in column (3). *ROA* is censored at the 1st and 99th percentile values. We require that all firms in these samples have positive book values of total assets and non-missing information about the state of incorporation and the state of location in the Compustat.

	(1) All Firms in Compustat		(2) All Dependent Supplier Firms		(3) All Principal Customer Firms	
	Mean	Median	Mean	Median	Mean	Median
ROA	0.062	0.101	0.050	0.107	0.141	0.148
Total Assets ($M)	1279.809	53.404	395.123	27.539	7383.667	1492.784
History (Years)	11.480	8.000	10.080	7.000	22.171	24.000
Sales to principal customers / Total Sales			0.324	0.250		
Purchases from dependent suppliers / COGS					0.045	0.010
Total Number of Firms	13092		7302		1184	
Total Number of Observations	100496		39197		5943	

Table II
States of Incorporation and States of Location

This table describes the distribution of dependent suppliers and principal customers across states of incorporation and states of location. This table first reports the year when the Business Combination Law was passed in each state. Column (1) shows the number of dependent suppliers and principal customers in each state by state of incorporation, and column (2) shows the number of suppliers and customers by state of location, *i.e.*, where a firm's headquarters is located. Column (3) shows the number of dependent suppliers and principal customers that are located in their states of incorporation. Our sample includes all firms in non-regulated industries from the Compustat Fundamental Annual File between 1979 and 1995. We also require that all firms in this sample have positive book values of total assets and non-missing information about the state of incorporation and the state of location in Compustat.

State	BC Law	(1) Firms Incorporated in This State		(2) Firms Located in This State		(3) Firms Incorporated and Located in This State	
		Suppliers	Customers	Suppliers	Customers	Suppliers	Customers
Alaska	-	4	1	4	0	2	0
Alabama	-	3	1	31	6	2	0
Arkansas	-	3	3	30	10	3	3
Arizona	1987	26	2	104	12	22	2
California	-	360	43	1300	198	325	40
Colorado	-	197	6	268	26	115	3
Connecticut	1989	18	4	181	32	17	3
D. C† .	-	2	1	15	3	0	0
Delaware	1988	3999	701	22	6	19	5
Florida	-	185	19	378	45	144	17
Georgia	1988	79	17	179	36	67	15
Hawaii	-	7	0	10	0	6	0
Iowa	-	15	5	28	8	10	4
Idaho	1988	2	0	14	3	1	0
Illinois	1989	38	6	269	64	31	6
Indiana	1986	58	14	74	14	43	6
Kansas	1989	19	3	38	4	15	1
Kentucky	1987	11	2	37	7	10	2
Louisiana	-	16	0	37	3	13	0
Massachusetts	1989	178	32	386	64	153	27
Maryland	1989	95	19	123	20	33	10
Maine	1988	7	2	8	1	4	1
Michigan	1989	81	16	142	27	72	13
Minnesota	1987	213	26	241	36	177	23
Missouri	1986	33	9	94	26	25	7
Mississippi	-	6	0	19	2	6	0

Montana	-	4	0	7	0	4	0
North Carolina	-	48	5	119	21	43	3
North Dakota	-	4	0	3	0	2	0
Nebraska	1988	4	1	19	3	3	1
New Hampshire	-	4	0	33	4	2	0
New Jersey	1986	148	28	403	61	108	16
New Mexico	-	10	0	18	1	6	0
Nevada	1991	201	19	57	6	29	6
New York	1985	337	51	731	101	237	25
Ohio	1990	130	37	215	51	112	31
Oklahoma	1991	36	5	88	14	27	4
Oregon	-	50	8	63	12	41	8
Pennsylvania	1989	142	28	261	51	104	22
Rhode Island	1990	10	2	22	5	9	2
South Carolina	1988	11	4	34	4	11	4
South Dakota	1990	3	1	7	2	3	1
Tennessee	1988	25	5	80	18	22	5
Texas	-	174	19	678	106	153	18
Utah	-	79	1	77	6	41	1
Virginia	1988	79	20	155	32	48	12
Vermont	-	5	0	11	2	4	0
Washington	1987	70	10	93	16	55	10
Wisconsin	1987	54	8	77	14	45	8
West Virginia	-	4	0	9	1	3	0
Wyoming	1989	15	0	10	0	6	0
Total		7302	1184	7302	1184	2433	365

† D.C. = District of Columbia

Table III

Table III

Effect of Business Combination Laws on Operating Performance of Dependent Suppliers

This table presents the estimates of OLS regressions of operating performance on the interaction between the status of dependent suppliers for principal customers and the passage of Business Combination Law in suppliers' states of incorporation. Our sample includes all Compustat firms in non-regulated industries for the period between 1979 and 1995. The dependent variable, *ROA*, is censored at 1st and 99th percentile values. *PC Dummy* is a dummy variable that equals 1 if this firm has at least one principal customer, and 0 otherwise; *Id PC Dummy* is a dummy variable that equals 1 if this firm has at least one principal customer that can be identified by Compustat GVKEY, and 0 otherwise. When "*Dummy*" in these variable names are replaced by *"Percentage"*, these dummy variables are replaced by the proportional sales of dependent suppliers' sales to the corresponding type of principal customers. *After_BC_Law* is a dummy variable that equals one if the Business Combination Law has passed in suppliers' state of incorporation, and 0 otherwise. Other control variables in all columns include the natural logarithm of book value of total assets (*Size*), the squared term of Size (*Size Squared*), and the natural logarithm of one plus the number of years the firm has been included in Compustat (*Age*). We control for the firm fixed effects, the state-year fixed effects, and the industry-year fixed effects in all OLS regressions. Industries are defined by the Fama-French 48 industry specification. The standard errors (in parentheses) are clustered at the state of incorporation level. ***, ** and * denotes statistical significance at the 1%, 5%, and 10% level, respectively.

(Table III Continued)

	(1) ROA	(2) ROA	(3) ROA	(4) ROA	(5) ROA
After_BC_Law x PC Dummy		0.008**			
		(0.004)			
PC Dummy		0.018***			
		(0.002)			
After_BC_Law x PC Percentage			0.027***		
			(0.007)		
PC Percentage			0.058***		
			(0.008)		
After_BC_Law x Id PC Dummy				0.010**	
				(0.005)	
Id PC Dummy				0.016***	
				(0.003)	
After_BC_Law x Id PC Percentage					0.026***
					(0.007)
Id PC Percentage					0.057***
					(0.008)
After_BC_Law	-0.009***	-0.012***	-0.012***	-0.012***	-0.012***
	(0.002)	(0.003)	(0.002)	(0.003)	(0.002)
Size	0.094***	0.094***	0.095***	0.094***	0.095***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Size squared	-0.007***	-0.007***	-0.007***	-0.007***	-0.007***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Age	-0.035***	-0.035***	-0.035***	-0.036***	-0.035***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes
State-year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Industry-year Fixed Effects	Yes	Yes	Yes	Yes	Yes
SE Clustered (State of Incorp.)	Yes	Yes	Yes	Yes	Yes
No. Obs	96064	96064	96064	96064	96064

Table IV

**Product Uniqueness and Effect of Business Combination Laws
on Operating Performance of Dependent Suppliers**

This table presents the estimates of OLS regressions of operating performance on the interaction between the status of dependent suppliers for principal customers and the passage of Business Combination Law in suppliers' states of incorporation. Our sample includes all Compustat firms in non-regulated industries for the period between 1979 and 1995. The dependent variable, *ROA*, is censored at 1st and 99th percentile values. *Durable* is a dummy variable that equals 1 if the firm belongs to the durable goods industries as defined in Gomes, Kogan, and Yogo (2009). *High R&D* is a dummy variable that equals 1 if the firm's R&D ratio (*i.e.*, R&D expense/total assets) is higher than the median of all Compustat firms in the same year. Other control variables are defined in the same way as described in Table III. Industries are defined by the Fama-French 48 industry specification. We control for the firm fixed effects, the state-year fixed effects, and the industry-year fixed effects in all OLS regressions. The standard errors (in parentheses) are clustered at the state of incorporation level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

(Table IV Continued)

	(1)	(2)
	ROA	ROA
After_BC_Law x PC Dummy x Durable	0.021***	
	(0.008)	
After_BC_Law x PC Dummy x High R&D		0.015**
		(0.006)
After_BC_Law x PC Dummy	0.007*	0.004
	(0.004)	(0.003)
After_BC_Law x Durable	-0.012**	
	(0.006)	
PC Dummy x Durable	-0.035***	
	(0.009)	
After_BC_Law x High R&D		-0.007
		(0.005)
PC Dummy x High R&D		-0.001
		(0.007)
Durable	0.025***	
	(0.008)	
High R&D		-0.048***
		(0.004)
PC Dummy	0.020***	0.018***
	(0.002)	(0.002)
After_BC_Law	-0.011***	-0.010***
	(0.003)	(0.002)
Size	0.094***	0.094***
	(0.005)	(0.005)
Size squared	-0.007***	-0.007***
	(0.000)	(0.000)
Age	-0.035***	-0.035***
	(0.005)	(0.005)
Firm Fixed Effects	Yes	Yes
State-year Fixed Effects	Yes	Yes
Industry-year Fixed Effects	Yes	Yes
SE Clustered (State of Incorp.)	Yes	Yes
No. Obs	96064	96064

Table V
Effect of Business Combination Laws on
Sales and Discretionary Expenses of Dependent Suppliers

This table presents the estimates of OLS regressions of sales and discretionary expenses of dependent suppliers on the interaction between the status of dependent suppliers for principal customers and the passage of a Business Combination Law in suppliers' states of incorporation. Our sample includes all Compustat firms in non-regulated industries for the period between 1979 and 1995. Dependent variables in columns (1), (2) and (3) are defined as follows for each year t: $Sales/TA$ is the total sales scaled by the total assets. $COGS/Sales$ is the cost of goods sold scaled by total sales. $SGA/Sales$ is the selling, general, and administrative expense scaled by total sales. The control variables are defined in the same way as described in Table III. Industries are defined by the Fama-French 48 industry specification. We control for the firm fixed effects, the state-year fixed effects, and the industry-year fixed effects in all OLS regressions. The standard errors (in parentheses) are clustered at the state of incorporation level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Sales/Assets		COGS/Sales		SGA/Sales	
After_BC_Law x PC Dummy	0.027*		-0.010		-0.018***	
	(0.015)		(0.008)		(0.006)	
PC Dummy	0.022**		-0.016***		-0.036***	
	(0.009)		(0.004)		(0.006)	
After_BC_Law x PC Percentage		0.048		-0.003		-0.065***
		(0.035)		(0.019)		(0.021)
PC Percentage		0.009		-0.053***		-0.082***
		(0.035)		(0.014)		(0.028)
After_BC_Law	-0.006	-0.002	0.020***	0.016***	0.013***	0.014**
	(0.009)	(0.011)	(0.006)	(0.005)	(0.005)	(0.005)
Size	0.099***	0.099***	0.017***	0.016***	-0.017*	-0.017
	(0.01)	(0.01)	(0.003)	(0.003)	(0.009)	(0.01)
Size squared	-0.241***	-0.240***	-0.044***	-0.044***	-0.083***	-0.084***
	(0.012)	(0.012)	(0.008)	(0.008)	(0.02)	(0.02)
Age	0.004***	0.004***	0.001*	0.001*	0.005**	0.005**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
State-year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
SE Clustered (State of Incorp.)	Yes	Yes	Yes	Yes	Yes	Yes
No. Obs	97788	97788	97810	97810	81475	81475

Table VI
Effect of Business Combination Laws on Sales to Principal Customers

Column (1) of this table presents the estimates of OLS regression of firms' numbers of principal customers on the passage of a Business Combination Law in suppliers' states of incorporation. Columns (2) present the estimates of OLS regression of percentage sales to principal customers on the passage of a Business Combination Law in suppliers' states of incorporation. Dependent variables are defined as follows: *Num PC* is the total number of all principal customers, and *PC Percentage* is the percentage sales of dependent suppliers to all principal customers in total sales. Independent variables are defined in the same way as described in Table III. Industries are defined by the Fama-French 48 industry specification. We control for the firm fixed effects, the state-year fixed effects, and the industry-year fixed effects in all OLS regressions. The standard errors in all regressions (in parentheses) are clustered at the state of incorporation level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)
Dependent Variable	Num PC	PC Percentage
After_BC_law	0.077***	0.028***
	(0.166)	(0.006)
Size	0.046***	-0.002
	(0.014)	(0.003)
Size squared	-0.008***	-0.002***
	(0.002)	(0.000)
Age	-0.025*	-0.005*
	(0.014)	(0.003)
Firm Fixed Effects	Yes	Yes
State-year Fixed Effects	Yes	Yes
Industry-year Fixed Effects	Yes	Yes
SE Clustered (State of Incorp.)	Yes	Yes
No. Obs.	99625	99625

Table VII
Effect of BC Law on Competing Suppliers

For each law change year *t*, we identify principal customers with competing suppliers (*i.e.*, within the same 4-digit SIC codes) incorporated in different states. We partition all dependent suppliers in this subsample into two groups – suppliers affected by the law change, and competing suppliers. We require that at least one supplier is incorporated in the state with a BC law change and at least one supplier is incorporated in the state that experiences no BC law changes three years before and after year *t*. For suppliers in these two groups, we compute the average growth rate of sales to principal customers and average change of *ROA* in three years after the law change. The statistics for the suppliers incorporated in the states with law changes and for suppliers incorporated outside the states with law changes are reported in column (1) and column (2), respectively. In column (3), we report the average growth rate of sales to principal customers and the change in *ROA* of all other suppliers in the same SIC 4-digit industry. The differences between groups and their t-statistics are also reported in the table.

Panel A				Growth Rate of Sales to Principal Customers						
	(1) Affected Suppliers	(2) Competing Suppliers	(3) Control Sample	Difference (1)-(3)	T-stat (1) -(3)	Difference (2)-(3)	T-stat (2) -(3)	Difference (1)-(2)	T-stat (1) -(2)
Y1	0.320	0.051	0.102	0.218**	2.28	-0.051	-0.97	0.269**	2.53
Y2	0.481	-0.034	0.218	0.263	1.48	-0.252**	-3.73	0.515***	2.96
Y3	0.458	-0.038	0.199	0.259*	1.92	-0.237**	-3.43	0.496***	3.65
Panel B				Change of ROA						
	(1)	(2)	(3)	(1)-(3)	T-stat (1) -(3)	(2)-(3)	T-stat (2) -(3)	Difference	T-stat (1) -(2)
Y1	0.017	0.000	0.003	0.014**	2.07	-0.003	-0.55	0.017**	2.07
Y2	0.012	-0.005	0.005	0.007*	1.83	-0.010	-1.21	0.017*	1.70
Y3	0.012	-0.022	0.003	0.009*	1.91	-0.025**	-2.00	0.034***	2.61
Num. Obs.					155				

Table VIII
Effect of Business Combination Laws on
the Continuation of Customer-Supplier Relationship

This table presents the estimates of Probit regressions of the customer-supplier relationship continuation on the passage of a Business Combination Law in suppliers' states of incorporation and other control variables. The sample for tests in columns (1) and (2) includes all firms with identifiable principal customers (*i.e.*, customers that can be identified by Compustat GVKEY) for the period 1979–1995. *Cont1Y* (*Cont2Y*) is a dummy variable that equals 1 if the relationship with the principal customer will continue in the next year, *t+1* (next two years, *t+1* and *t+2*), and 0 if both the customer firm and the supplier firm still exist in the Compustat but the relationship does not continue. We require that all customer-supplier relationships exist more than one year at year *t*. All control variables reflect customers' and/or suppliers' information at year *t*. *After_BC_Law* is a dummy variable that equals 1 if the Business Combination Law has been passed in suppliers' state of incorporation, and 0 otherwise. *Past Relation Length* is the natural logarithm of the number of years of previous relationship. *Customer Pct COGS* is the proportion of sales from the dependent supplier in customer's total cost of goods sold. *Supplier ROA* (*Customer ROA*) is the ROA of the Supplier (Customer). *Supplier Size* (*Customer Size*) is the natural logarithm of supplier's (customer's) book value of total assets. *Supplier Size Squared* (*Customer Size Squared*) is the squared term of *Supplier Size* (*Customer Size*). We control for the year fixed effects in all regressions. The standard errors (in parentheses) are clustered at the suppliers' state of incorporation level. We also report the marginal effect of *After_BC_Law* evaluated at the means of all other independent variables in square brackets. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

(Table VIII Continued)

	(1)	(2)
	Cont1Y	*Cont2Y*
After_BC_Law	0.104**	0.128***
	(0.042)	(0.046)
	[0.027]	[0.046]
Past Relation Length	0.219***	0.239***
	(0.026)	(0.033)
Supplier Pct NonGov Customer	1.529***	1.446***
	(0.100)	(0.094)
Supplier ROA	0.772***	0.906***
	(0.075)	(0.094)
Supplier Size	0.054**	0.061**
	(0.027)	(0.030)
Supplier Size Squared	0.004	0.006
	(0.003)	(0.004)
Customer Pct COGS	0.073*	-0.026
	(0.042)	(0.042)
Customer_ROA	0.596***	0.605***
	(0.216)	(0.232)
Customer Size	-0.028	-0.007
	(0.042)	(0.049)
Customer Size Squared	0.004	0.003
	(0.003)	(0.003)
Year Fixed Effects	Yes	Yes
SE Clustered (Supplier's State of Incorp.)	Yes	Yes
Pseudo R-Squared	0.089	0.098
No. of Obs	12223	

Table IX
Effect of Business Combination Laws on the Sensitivity of Capital Investment and Operating Performance between Customers and Suppliers

This table presents the estimates of OLS regressions of the suppliers' capital investment (*i.e., Capex*) and operational performance (*i.e., ROA*) on the interaction between their customers' capital investment and operational performance and the passage of a Business Combination Law in the supplier's state of incorporation. The sample for tests includes all pairs of dependent suppliers and their principal customers for the period 1979–1995. We require that all customer-supplier relationships exist more than one year. *Supplier Capex/TA* is the supplier's capital expenditure scaled by its total assets at year *t*. *Supplier ROA* is the *ROA* of the supplier at year *t*. Similarly, *Customer Capex/TA* is the customer's capital expenditure scaled by its total assets at year *t* and *Customer ROA* is the *ROA* of the customer at year *t*. In columns (1) and (3), the contemporaneous *Capex/TA* and *ROA* of customers are used. In columns (2) and (4), we use the lagged one-year *Capex/TA* and *ROA* of customers instead. Other independent variables are defined in a similar way as those described in Table III. We control for the year fixed effects and relationship fixed effects in all OLS regressions. The standard errors (in parentheses) are clustered at the customer-supplier pair level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

To examine statistical significance using a different method, we pick randomly selected peers of customer firms that belong to the same industry and the same size quintile. We carry out similar regressions as discussed above replacing the customer firm with its randomly selected peer. This replacement test is repeated for 1000 times. The mean and standard deviation of 1000 coefficients for the interaction terms in the regressions are reported in square brackets. The percentage of 1000 coefficients that are larger than the coefficients for the true customer-supplier pairs is reported in pointed brackets. This can be interpreted as *p-value*.

(Table IX Continued)

Dependent Variable	(1) Supplier Capex/TA	(2) Supplier Capex/TA	(3) Supplier ROA	(4) Supplier ROA
Customer Capex/TA x After_BC_law	0.098***			
	(0.032)			
[Rand Capex/TA x After_BC_law]	[0.009, 0.042]			
	<1.3%>			
Customer Capex/TA	0.053**			
	(0.022)			
Customer Capex/TA (-1) x After_BC_law		0.079**		
		(0.031)		
		[-0.001, 0.042]		
		<1.8%>		
Customer Capex/TA (-1)		0.002		
		(0.021)		
Customer ROA x After_BC_law			0.162***	
			(0.052)	
			[-0.035, 0.075]	
			<0.5%>	
Customer ROA			0.071**	
			(0.035)	
Customer ROA(-1) x After_BC_law				0.204***
				(0.051)
				[-0.016, 0.074]
				<0.1%>
Customer ROA(-1)				-0.009
				(0.033)
After_BC_law	-0.004	-0.004	-0.028***	-0.033***
	(0.004)	(0.004)	(0.010)	(0.010)
Supplier Age	-0.021***	-0.021***	-0.057***	-0.060***
	(0.003)	(0.003)	(0.008)	(0.008)
Supplier Size	0.012***	0.012***	0.138***	0.142***
	(0.003)	(0.003)	(0.008)	(0.008)
Supplier Size squared	-0.000	-0.001	-0.012***	-0.012***
	(0.001)	(0.001)	(0.001)	(0.001)
Relationship Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
SE Clustered (Customer-supplier Pair)	Yes	Yes	Yes	Yes
Adj R-Squared	0.576	0.578	0.652	0.654
No. Obs.	12223	12223	12223	12223

Table X
Effect of Successful and Unsuccessful M&As on
the Continuation of Customer-Supplier Relationship

This table presents the estimates of Probit regressions of the customer-supplier relationship continuation on the successful and unsuccessful attempts to acquire the suppliers by acquirers that are not the existing customers of these firms. The specification is very similar to what we have in Table VIII. The dependent variable, *Cont1Y* (*Cont2Y*), is a dummy variable that equals 1 if the relationship with the principal customer continues in the next (two) year(s) and 0 if both the customer firm and the supplier firm still exist in the Compustat but the relationship does not continue. *Completed Deal* is a dummy variable that equals 1 if the supplier is successfully acquired by at least one acquirer in year *t*, and 0 otherwise; *Withdrawn Deal* is a dummy variable that equals 1 if there is at least one unsuccessful attempt to acquire the supplier in year *t*, and 0 otherwise. *Pct Cash* is the percentage of deal value that would be paid in cash. In addition to coefficients and standard errors, we also report the marginal effect of *Completed Deal, Withdrawn Deal* and their interactive terms with *Pct Cash* evaluated at the means of all independent variables in square brackets. Other independent variables are defined in a similar way as those described in Table VIII. We control for the year fixed effects in all regressions. The standard errors (in parentheses) are clustered at the suppliers' states of incorporation level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

(Table X Continued)

Probit Regressions	Cont1Y		Cont2Y	
	(1)	(2)	(3)	(4)
Completed Deal	-0.593***	-0.241	-0.512***	-0.077
	(0.163)	(0.259)	(0.158)	(0.236)
	[-0.176]	[-0.072]	[-0.197]	[-0.030]
Completed Deal * Pct Cash		-0.862**		-1.189***
		(0.384)		(0.423)
		[-0.256]		[-0.458]
Withdrawn Deal	-0.217	0.028	-0.333***	-0.195
	(0.141)	(0.167)	(0.126)	(0.158)
	[-0.065]	[0.008]	[-0.129]	[-0.075]
Withdrawn Deal * Pct Cash		-0.532**		-0.326**
		(0.272)		(0.151)
		[-0.158]		[-0.126]
Past Relation Length	0.162***	0.163***	0.176***	0.177***
	(0.025)	(0.025)	(0.029)	(0.029)
NonGov Customer Sales Growth	0.077***	0.077***	0.049***	0.049***
	(0.021)	(0.021)	(0.018)	(0.018)
Supplier Pct NonGov Customer	1.598***	1.601***	1.540***	1.542***
	(0.100)	(0.100)	(0.100)	(0.100)
Supplier ROA	0.816***	0.820***	0.993***	0.996***
	(0.087)	(0.087)	(0.101)	(0.101)
Supplier Size	0.018	0.018	0.018	0.019
	(0.028)	(0.028)	(0.033)	(0.033)
Supplier Size Squared	0.008***	0.008***	0.009***	0.009***
	(0.003)	(0.003)	(0.003)	(0.003)
Customer Pct COGS	-0.105	-0.099	-0.056	-0.048
	(0.216)	(0.216)	(0.249)	(0.248)
Customer ROA	0.222	0.230	0.326*	0.334*
	(0.184)	(0.183)	(0.213)	(0.212)
Customer Size	0.006	0.007	0.016	0.017
	(0.048)	(0.048)	(0.058)	(0.058)
Customer Size Squared	0.001	0.001	0.001	0.001
	(0.003)	(0.003)	(0.003)	(0.003)
Year Fixed Effects	Yes	Yes	Yes	Yes
SE Clustered ((Supplier's State of Incorp.))	Yes	Yes	Yes	Yes
Pseudo R-Squared	0.075	0.076	0.081	0.082
No. of Obs	12223		12223	