Acquiring Access to Finance[*]

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Abstract

This paper exploits the deregulation of U.S. interstate banking laws to examine how firms' financial constraints affect mergers and acquisitions. We find robust evidence that improved access to finance increases the probability that firms become targets in acquisitions. The acquirers driving this result are small and private firms which likely benefit from expanded access to finance. For acquisitions of targets with good access to finance, we confirm that target return premiums are higher, acquirers have better post-merger operating and stock performance, and combined-firm leverage is higher. Overall, these results reveal that targets' financial resources play an important role in M&A.

Why do firms conduct mergers and acquisitions (M&A)? An expansive body of literature takes up this question and offers explanations based on various sources of efficiency gains.[1] Despite years of research on this question, only recently have researchers begun to focus on gains in *financing* efficiencies.[2] In general, these papers examine how acquirers' superior financial positions create synergies with capital-starved targets. We contribute to this young branch of literature by showing a reciprocal effect: We find that target firms' access to finance can be a valuable resource for acquirers.

As with many corporate finance topics, the possibility of omitted variables makes it difficult to identify causal effects. In our case, firms could be valuable targets for a variety of reasons that correlate with their financial conditions. For example, Bena and Li (2014) show that firms' technological assets and skills contribute to their attractiveness as targets. Therefore, if access to finance and a firm's ability to develop technology are correlated (see, e.g., Amore, Schneider, and Zaldokas (2013) and Cornaggia et al. (2014)), then a positive correlation between a target's access to finance and its likelihood of being acquired could merely reiterate that firms with valuable technological assets and skills are attractive targets. We exploit the staggered deregulation of U.S. interstate banking laws to circumvent this problem.

Interstate banking deregulation was adopted by different states from late 1970s to mid-1990s. It opened local banking markets to outside competitors by allowing out-of-state bank

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[1] Andrade, Mitchell, and Stafford (2001) and Betton, Eckbo, and Thorburn (2008) provide surveys of this literature.
[2] To our knowledge, only four papers examine improvements in financing efficiencies as a source of merger gains. Mantecon (2008) shows that acquirers gain in the acquisition of private firms in part because these targets lack access to finance which limits the targets' growth opportunities. Almeida, Campello, and Hackbarth (2011) develop and test a model of "liquidity mergers", whereby financially distressed firms are acquired by liquid firms. These mergers reallocate liquidity to firms that might be otherwise inefficiently terminated. Erel, Jang, and Weisbach (2013) use a sample of European acquisitions and find that targets' cash holdings, sensitivities of cash to cash flow, and sensitivities of investment to cash flow decline after being acquired. These effects indicate that acquisitions relieve targets' financial constraints. Liao (2014) uses a sample of international minority block acquisitions and finds that targets issue new debt and equity and increase their investment expenditures after being acquired. These results suggest that the targets were financially constrained prior to being acquired.

holding companies to acquire banks chartered in the deregulated states. As a result, bank efficiency increased, loan prices decreased (Jayaratne and Strahan (1998)), and credit supply increased (Dick and Lehnert (2010) and Amore, Schneider, and Zaldokas (2013)). These events were driven by federal actions and the political economy of the financial industry at the state level, and were largely unrelated to states' product markets. Therefore, to the extent that firms rely on capital from banks in their headquarter states, these events provide exogenous shocks to firms' access to finance.

We examine acquisition activities aggregated to the state-pair-year level around deregulatory events. The states of Connecticut and California, which deregulated in 1983 and 1987, respectively, provide an example of how our tests work. Before 1983, firms in California spent on average 0.76% of their out-of-state acquisition dollars on targets located in Connecticut. This ratio increased to an average of 3.88% between 1983 and 1987, the years that Connecticut's banking market was open and California's remained closed. After 1987, when both states became deregulated, this ratio decreased to 1.75%. Our main analysis extends this simple example to a multivariate setting with all state-pair-year observations from 1981 to 1997. After controlling for a variety of state characteristics, state-pair characteristics, state-pair fixed effects, and year fixed effects, we find that once a state opens to interstate banking, the value of acquisitions made by outside states of targets in the deregulated state increases by 19%. Similarly, we find that the number of acquisitions increases by 21%.[3]

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[3] We test the robustness of our main finding in several ways. First, we exclude observations associated with Delaware, South Dakota, District of Columbia, Hawaii, and Alaska. Our results are robust in the remaining sample, indicating they are not driven by states with unusual corporate laws or states less connected with other states. Second, we restrict the sample to observations before 1992. The results are robust in this restricted sample as well, indicating they are not driven by later years when most states are open to interstate banking. Third, we control for *intra*state banking events that occurred during the mid-1970s and 1980s. We find that, like interstate banking, intrastate banking also has a positive and significant effect on cross-state acquisition activity. However, the effect on interstate banking retains its magnitude and statistical significance after controlling for this effect. Fourth, we control for banks' informational roles in the M&A market by including an indicator variable for whether either state of a

These results have implications beyond the M&A literature. For example, most corporate finance studies assume that firms take their external financing environments as given. Our results indicate that firms make efforts to change their external financing environments. This idea is related to the recent wave of corporate tax inversions, whereby U.S. corporations acquire companies in countries with lower tax rates in order to move their headquarters to those countries and pay lower taxes. Our results also contribute to the enormous literature on the finance-growth nexus.[4] We uncover evidence of a previously untested channel—enhanced target attractiveness—through which access to finance can encourage economic growth.

Having established a positive link between access to finance and firms' attractiveness as targets, we turn our attention to the mechanisms behind this effect. We conjecture that targets' access to finance should be especially important for firms that rely on bank financing. We test this conjecture by decomposing each state-pair-year observation into four: deals where small acquirers bid for small targets, small acquirers bid for big targets, big acquirers bid for small targets, and big acquirers bid for big targets. Similarly, in separate tests, we decompose each state-pair-year observation into four based on whether the acquisitions involve private or public firms. We repeat our main tests on these subsamples and find significant results in deals where small acquirers bid for small targets, small acquirers bid for big targets, private acquirers bid for private targets, and public acquirers bid for public targets. In contrast, we find no results among

given state-pair allows the other state's banks to enter. Our results are virtually unchanged, indicating our results are not driven by banks' informational roles, as in Ivashina et al. (2009). Fifth, we use a testing framework inspired by Bertrand and Mullainathan (2003) to examine the dynamics of state-pair-year acquisitions around deregulatory events. We find no pre-existing trends. This evidence relieves concerns that our results are spurious or driven by reverse causality. Finally, we conduct a placebo test whereby we maintain the empirical distribution of years when states deregulated but we randomly assign states to these deregulation years (without replacement). We find no effect of interstate banking on acquisition activity under this false distribution. This non-result corroborates the notion that the paper's findings are not driven by an omitted variable(s) that coincides with the overall interstate banking deregulation process.

[4] This literature dates back to Schumpeter (1912) and takes up the question of whether finance follows growth (e.g., Robinson, 1952) or creates growth (e.g., Hicks, 1969). Recent papers generally provide evidence that access to finance creates growth. Examples include Jayaratne and Strahan (1996), Levine, Loayza, and Beck (2000), and Butler and Cornaggia (2011). Testing channels through which this effect obtains remains an active area of inquiry.

deals where big acquirers bid for small targets, big acquirers bid for big targets, private acquirers bid for public targets, and public acquirers bid for private targets. These findings indicate our results are mostly driven by acquirers that are likely to be financially constrained.

Our main tests use state-level data. This approach allows us to observe the effect of interstate banking deregulation on merger activity at a macro (state) level without restricting the sample to mergers by firms with publicly available financial statements. Despite this advantage, we dig deeper to the firm level. Because our state-level results are driven by small and private acquirers, we model the probability that a firm receives a bid from a small (and, separately, private) acquirer in a given year. Controlling for a variety of firm characteristics and fixed effects, we find the likelihood of receiving a cross-border acquisition bid from a small (private) acquirer increases by 68% (73%) after the firm's state opens to interstate banking. For large (public) firms, the likelihood is almost unchanged.

The rest of the paper consists of tests that corroborate the paper's main finding. For example, we find that better access to finance in the target's state relative to the acquirer's state has a positive and significant effect on the target return premium. This effect is concentrated among small targets. If a small firm's home state is open to interstate banking, the firm earns a higher target premium than a small target whose home state does not allow interstate banking. For deals with small bidders, we find that if the target firm's home state provides better access to finance than the bidder's, the target firm earns a higher abnormal return than if its home state's access to finance is similar to the bidder's.

We also examine the effects of targets' access to finance on the performance of the acquirer. We follow Harford (2005) and track the long-run stock performance of cross-state acquirers using calendar-time portfolio returns. We find that a portfolio of firms that acquire

targets in states that are open to interstate banking earns a significantly larger alpha than a portfolio of firms that acquire targets in states that are closed to interstate banking. We perform a variety of sample splits based on acquirers' sensitivities to external finance (size, payout ratio, and external finance dependence) and generally find that acquirers that are more sensitive to external finance experience higher long-run abnormal returns when they acquire targets with good access to finance.

We examine the post-merger operating performance of combined firms, based on whether the acquirer and target's states are open to interstate banking. We examine two performance measures: sales growth and profitability. We again follow Harford (2005) and regress each measure on its pre-merger counterpart and a variable that captures whether the target's state has better access to finance than the acquirer's state. Although we find no effects on profitability, we do find that post-merger sales growth is significantly higher if the target's state has better access to finance than the acquirer's state. We also find analysts' long-term growth forecasts on combined firms are greater if the targets' states have better access to finance. The effect is generally stronger for acquirers that are more sensitive to external finance. These results indicate that better access to finance obtained through cross-state acquisitions enhances revenue, both realized and anticipated.

Finally, we examine how the post-merger leverage of the combined firm is related to the difference in access to finance between the acquirer's and target's home states. Analogous to our examination of post-merger operating performance, we regress the combined firm's book leverage ratio on its pre-merger counterpart and a variable measuring the difference in banking market openness between the acquirer's and target's home states. We find that the combined firm has higher leverage ratio when the target's state has better access to finance than the

acquirer's state. This finding confirms the idea that acquirers are able to achieve a financial synergy by acquiring firms with better access to finance.

The rest of the paper proceeds as follows. Section 2 describes the paper's data and empirical methods. Section 3 contains the paper's main results and robustness tests. Section 4 contains results that corroborate the paper's main finding and shed light on the mechanisms through which it obtains. Section 5 concludes.

2. Data and Methods

We obtain mergers and acquisitions (M&As) data between 1981 and 1997 from SDC Platinum. We consider all M&As from SDC Platinum in our analysis, irrespective of whether the merger resulted in a 100% takeover or only a change in controlling interest. Our main results are robust if we restrict the sample to 100% takeovers. In addition to the transaction value, announcement date, and other deal-related characteristics, we also collect data on the states where the acquirers and targets' headquarters are located. For firms involving in cross-state M&As, we retrieve financial information from Compustat and stock return information from CRSP by matching firms using CUSIP.

We compute two main measures of cross-state acquisition activities. First, we compute the total transaction value of acquisitions made by firms located in state P targeting firms located in state Q, and scale it by the total transaction value of acquisitions made by firms located in state P targeting firms outside of P. We call this ratio *Acquisition Volume P buys Q*. As an alternative, we use number of deals in place of total deal value to construct *Acquisition Number P buys Q*. We construct these measures for each state-pair and each year of the sample. Our primary sample consists of 43,350 ($51 \times 50 = 2,550$ state pairs over 17 years) state-pair-year

observations. By construction, firms spend just 2% of their out-of-state acquisition dollars on firms in a given state. Table I shows that, on average, states spend 2.1% of their out-of-state acquisition dollars in every other state per year.[5]

[Insert Table I here.]

In our baseline analysis, we examine whether better access to finance makes firms more attractive targets for cross-state M&As. The major challenge in this exercise is that cross-state M&A activities and credit supply in the destination state may be endogenous. We tackle this issue by using interstate banking deregulation events across states as a natural experiment.

Interstate banking deregulation was adopted in a staggered manner by different states from late 1970s to mid-1990s. By allowing out-of-state bank holding companies to acquire banks chartered in the deregulated states, it opened local banking markets to outside competitors. As a result, bank efficiency increased, loan price decreased (Jayaratne and Strahan (1998)), and credit supply increased (Dick and Lehnert (2010) and Amore, Schneider, and Zaldokas (2013)). More importantly, these deregulatory events were driven by federal actions and the political economy of the financial industry at the state level, and were most likely exogenous to activities in states' product markets. For example, after the savings and loans crisis, federal legislators allowed acquisition of failed banks and thrifts by banks chartered in any states, even if such transactions were not in accordance with state laws. This change paved the way for bilateral and regional agreements between states to allow interstate banking (see, e.g., Kerr and Nanda (2009) and Amore, Schneider, and Zaldokas (2013)).

Figure 1 conveys the basic idea of this paper. The sample year is 1986. The height of the bar in a state represents the fraction of the state's cross-state acquisitions targeting firms in states

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[5] The small deviation from 2% is caused by missing values in actual data. Specifically, for some state-pair-years, the denominator, total value of cross-state deals, is 0. Such observations therefore have a missing value, and are excluded when computing the average ratio.

that are open to interstate banking (after adjusting for state and year means). We group this ratio into quartiles, with the 1st quartile shown in yellow, the 2nd quartile in light orange, the 3rd quartile in dark orange, and the 4th quartile in red. The dark blue states are open to interstate banking while the light blue ones are not. As shown in the figure, the open states have a relatively strong tendency to acquire firms in other open states, as we see many dark orange and red bars in the dark blue states (14 out of 26). More importantly, a considerable number of closed states also exhibit interest in acquiring firms in open states, although this preference is less pronounced (10 out of 23). Our analysis below examines the nature of this relationship in a more detailed approach—a multivariate analysis of yearly activities between state pairs.

[Insert Figure 1 here.]

Following existing literature, we construct a dummy variable, *Open*, which equals 1 if the state is open to interstate banking in the year concerned and 0 otherwise. Our key variable of interest, *Open Q-P*, is the difference in this dummy variable between states Q and P, the target state and acquirer state, respectively. If target firms' access to finance is a lure for acquirers, then we should see a positive coefficient on *Open Q-P*.

We control for a variety of state characteristics, including stock valuation, and economic and institutional factors that may also affect cross-border M&A activities. *Stock Return Q-P* is the difference between the average cumulative stock return in the past 12 months of firms in the target and acquirer states. We include this variable to capture the effect of differences in market valuations on cross-state acquisitions. Return data are from CRSP. *GDP growth Q-P* and *GDP per capita Q-P* is the difference between the GDP growth and GDP per capita, respectively, in the target and acquirer states. GDP data are from Bureau of Economic Analysis (BEA). *Unemployment Q-P* is the difference in unemployment rates between the target and acquirer

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states. Unemployment data are from Bureau of Labor Statistics (BLS). *Corporate Tax Q-P* is the difference between the median corporate income tax rates in the target and acquirer states. Corporate income tax rates are from Council of State Governments' Book of the States. *Anti-Combination Q-P* is the difference between two variables: an indicator taking a value of 1 if the target state has adopted anti-business combination laws, and a similar indicator taking a value of 1 if the acquirer state has adopted anti-business combination laws. Information about states' anti-business combination laws is from Atanassov (2013).[6] *Industry Dissimilarity PQ* is the square root of sum (over industries) of squared differences between the target and acquirer states in terms of each industry's (3-digit SIC) share in the state GDP. Again, industry GDP data are from the BEA. *Economic Correlation PQ* is the correlation between the target state's Coincident Index and the acquirer's. Coincident Index data are from Federal Reserve Bank of Philadelphia.

Our baseline regression equation is therefore as follows:

$$Acquisition\ Vol.P\ buys\ Q_{pqt} = \boldsymbol{\alpha_{pq}D_{pq}} + \boldsymbol{\alpha_t D_t} + \beta_1(Open\ Q - P) + \boldsymbol{\beta_c Controls} + \varepsilon_{pqt}\ \textbf{(1)}$$

The regression sample is a panel of state-pair-year observations. We use $\boldsymbol{D_{pq}}$, a vector of state-pair dummies to control for unobserved characteristics between pairs of states. Examples include the geographic distance between states and their cultural similarity. $\boldsymbol{D_t}$ is a vector of year dummies, which we use to control for time-specific factors such as merger waves.[7] In the regression, we assume the residuals are clustered at the state-pair level and report stand errors

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[6] This paper takes up the question of whether changes in corporate control affect innovation. Related papers, such as Cornaggia, Miao, Tian, and Wolfe (2014), show that good access reduces the likelihood of being acquired for small, innovative firms. These firms need not rely on acquisitions to relieve their financial constraints, as in Erel et al. (2014).

[7] Merger waves, i.e., the tendency of mergers and acquisitions to cluster in time, are well known phenomenon (see, e.g., Brealey and Myers (2003)). Recent studies on merger waves include Mitchell and Mulherin (1996), Harford (2005), and Maksimovic, Phillips, and Yang (2013).

based on this assumption. Table I reports summary statistics for all variables in the regressions. The Appendix contains detailed variable definitions.

3. Results

3.1. Baseline

Table II shows our baseline results. We find that better access to finance in the target state relative to the acquirer state is a significant determinant of cross-state M&A activities. The effect of *Open Q-P* is statistically significant and economically large. Everything else equal, once state Q opens to interstate banking, the value of acquisitions by state P firms targeting state Q firms increases by 19%. The increase is 21% if we consider the number of acquisitions instead of the value (Column 2). These effects are substantial. For comparison, they are almost twice as large as the effect of an increase in either the relative stock return between the two states (*Stock Return Q-P*) or the relative GDP growth between the states (*GDP Growth Q-P*) from their 25th to 75th percentiles. The evidence indicates that better access to finance in the target state is one of the major drivers of cross-state M&As.

[Insert Table II here.]

We note that stock valuation of the target state relative to that of the acquirer state has a negative and significant effect on the acquisition volume. This is consistent with the tendency of overvalued acquirers to buy undervalued targets. We also find wealthier states (with higher GDP per capita) and states with higher GDP growth are more attractive M&A destinations. Interestingly, firms in states with higher unemployment rates and/or higher corporate tax rates also attract cross-states raiders, perhaps due to a greater chance of finding bargain deals.[8]

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[8] In an alternative specification, we replace *Open Q-P* with two dummy variables: *Q Open & P Closed*, which equals 1 if *Open Q-P* equals 1, and *Q Closed & P Open*, which equals 1 if *Open Q-P* equals -1. We find *Q Open & P*

3.2. Robustness

We test the robustness of our results in a number of ways. First, to address concerns that our results are driven by states with unusual corporate laws or states less connected with others, we exclude Delaware, South Dakota, District of Columbia, Hawaii, and Alaska from the sample. Second, to address concerns that our results are driven by later years of the sample when most states are open to interstate banking, we only use 1981-1991 as the sample period. As shown in Column 1 and 2 of Table III, our results remain qualitatively the same.

[Insert Table III here.]

Third, we control for *intra*state branching deregulation that may interfere with the effect of interstate banking. During the mid-1970s and 1980s, U.S. states lessened restrictions on intrastate branching, i.e., allowing banks to branch within their chartered states, with varying degrees. We therefore include *Intrastate Q-P* to control for this effect. *Intrastate Q-P* is the difference between the target and acquirer states in terms of an indicator variable which equals 1 if the state has deregulated intrastate branching by the year concerned and 0 otherwise. Column 3 of Table III shows that while intrastate branching also has a positive and significant effect on cross-state acquisition activity, the effect of our key variable of interest largely maintains its magnitude as in the baseline model and is larger than the effect of intrastate branching.

Fourth, we address the concern that our results may be driven by banks' informational roles in the M&A market. Ivashina et al. (2009) show that relationship bank lending and bank client networks help to match acquirers with targets, especially when acquirers and targets have a relationship with the same bank. In our setting, as state Q's deregulation allows banks in state P

Closed has a positive effect on cross-state acquisition volume while *Q Closed & P Open* has a negative effect. That is, the baseline effect works in both directions: better access to finance in an outside state attracts acquirers in the home state while better access to finance in the home state discourages firms from acquiring targets in outside states.

to buy banks in state Q, state P's banks will have client network in both states. This information advantage may make it easier for banks' clients in state P to find suitable targets in state Q.

We therefore add to the baseline regression an indicator variable, *Open PQ*, which equals 1 if either state of a state-pair PQ allows the other state's banks to enter. To the extent that *Open PQ* captures banks' network effect on M&A activities, *Open Q-P* only picks up the effect due to the states' difference in access to finance. The result is shown in Column 4 of Table III. We find that while *Open PQ* is statistically and economically insignificant, the effect of *Open Q-P* is virtually unchanged.

Fifth, we address reverse causality concerns by examining the dynamic effects of interstate banking deregulation. Although we argue above that interstate banking deregulation is an exogenous shock to firms' financing environments, there may still be concerns that product market integration across states prompted state governments to facilitate bank integration through deregulation. Following Bertrand and Mullainathan (2003), we use four dummy variables in place of *Open*, the dummy indicating whether a state is open to interstate banking in the year concerned: *Before 1* equals 1 if the state opens to interstate banking in the year following the observation; *Before 0* equals 1 if the state opens to interstate banking in the same year as the observation; *After 1* equals 1 if the state opened to interstate banking in the year prior to the observation; *After 2* equals 1 if the state opened to interstate banking two or more years prior to the observation. After constructing these variables, we take the difference between states Q and P in terms of each of the four dummy variables to get *Before 1 Q-P*, *Before 0 Q-P*, *After 1 Q-P*, and *After 2 Q-P*. We then run our baseline regression replacing *Open Q-P* with these four variables.

Column 5 of Table III shows that the coefficients on *Before 1 Q-P* is negative and economically and statistically insignificant, indicating that there is no effect of deregulation before its introduction, thus dissipating reverse causality concerns. By contrast, the coefficients on *Before 0 Q-P*, *After 1 Q-P*, and *After 2 Q-P* are all positive with increasing economic significance. *After 2 Q-P* is statistically significant with the largest economic impact. These results indicate the effect of deregulation was felt more and more over time, as banking conditions improve gradually after deregulation. These dynamic effects are therefore consistent with a causal interpretation of our baseline results.

Finally, we conduct a placebo test to address concerns of omitted variables that coincide with the overall interstate banking deregulation process. Specifically, certain events in some states may occur in steps similar to the nation-wide deregulation progress. If those omitted events also have an impact on cross-state M&As, our baseline results could be spurious. For example, if deregulation in Texas coincides with bad economic conditions in states that are otherwise popular destinations of cross-state M&As, then if we observe more deals shifting to Texas, this effect would not be attributed to its deregulation, alone. Although it is unlikely that such omitted events could have occurred in a systematic way coinciding with the overall deregulation process, a placebo test that is designed to captures such a "systematic coincidence" can directly address this possibility.

Toward this end, we develop a test that uses the true empirical distribution of states' deregulation years. However, instead of using the correct deregulation year for each state, we randomly reassign deregulation years to states (without replacement). We then recreate the variable of interest, *Open Q-P*, based on this placebo distribution. This exercise maintains the overall progress of state deregulation over the sample years but disrupts the match of states to

their true deregulation years. As a result, events that coincide with the overall deregulation process will still be captured by the placebo *Open Q-P*, while our real variable of interest will have no systematic presence in the regression. We replicate our baseline regression under this specification. Column 6 of Table III shows the results. The coefficient on the placebo *Open Q-P* is economically small with a negative sign and is statistically insignificant. This non-result further corroborates the causal interpretation of our baseline results.[9]

4. Mechanisms

The previous section establishes our main finding that better access to finance in the target state is a major driver of cross-state M&As. In this section we conduct further analyses to understand the forces underlying this effect.

4.1. Firms with Different Sensitivities to Bank Financing

If better access to finance is an important lure for cross-state acquisitions, we should expect this effect to be the strongest among acquirers that value access to finance the most. Therefore, we examine how target states' interstate banking deregulation affects cross-state M&A activities for acquirers with varying sensitivities to bank financing.

We separate acquirers (targets) into two groups according to their size. We define an acquirer (target) as a small acquirer (target) if its total assets are less than the sample median of acquirers (targets) in the year concerned. For acquirers (targets) whose total assets are missing in Compustat, we supplement this information from SDC. If total assets are still missing in SDC, then we consider this acquirer (target) as a small firm. We also split acquirers (targets) into

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[9] Our results are also robust to the following changes. First, for the dependent variable, we scale the total value of acquisitions made by firms located in state P targeting firms located in state Q by the total value of acquisitions made by firms located in state P (i.e., including both within state P acquisitions and acquisitions outside of P). Second, we use a Tobit model instead of a linear regression model. We do not report these results to conserve space but they are available upon request.

public versus private firms. We define an acquirer or target as a private firm if it is not covered by Compustat. We expect small and private acquirers to be particularly interested in targets' states' banking conditions, because they have limited external finance options and are especially reliant on bank debt (see, e.g., Petersen and Rajan (1994), Fluck, Holtz-Eakin, and Rosen (1998), and Berger and Udell (2002)).

Based on the small versus big split, we replace the baseline dependent variable, *Acquisition Volume P buys Q*, with each of the following: (1) *Acquisition Volume P Small buys Q Small*, which equals the total transaction value of acquisitions made by *small* firms located in state P targeting *small* firms located in state Q, scaled by the total transaction value of acquisitions made by *small* firms located in state P targeting *small* firms outside of P; (2) *Acquisition Volume P Small buys Q Big*, which equals the total transaction value of acquisitions made by *small* firms located in state P targeting *big* firms located in state Q, scaled by the total transaction value of acquisitions made by *small* firms located in state P targeting *big* firms outside of P;. (3) *Acquisition Volume P Big buys Q Small*, which equals the total transaction value of acquisitions made by *big* firms located in state P targeting *small* firms located in state Q, scaled by the total transaction value of acquisitions made by *big* firms located in state P targeting *small* firms outside of P;. (4) *Acquisition Volume P Big buys Q Big*, which equals the total transaction value of acquisitions made by *big* firms located in state P targeting *big* firms located in state Q, scaled by the total transaction value of acquisitions made by *big* firms located in state P targeting *big* firms outside of P. Following a similar approach, based on the private versus public split, we construct the following dependent variables: (5) *Acquisition Volume P Private buys Q Private*, (6) *Acquisition Volume P Private buys Q Public*, (7) *Acquisition Volume P Public buys Q Private*, and (8) *Acquisition Volume P Public buys Q Public*.

Table IV reports the results, with each column corresponding to one of the above eight dependent variables. The impact of *Open Q-P* is statistically significant and economically large among cross-state deals where small acquirers bid for small targets, small acquirers bid for big targets, private acquirers bid for private targets, and public acquirers bid for public targets. By contrast, among deals where big acquirers bid for small targets, big acquirers bid for big targets, private acquirers bid for public targets, and public acquirers bid for private targets, the effect of *Open Q-P* is statistically insignificant and economically small. These findings suggest that the lure of access to finance is the strongest for firms that are dependent on bank financing. Our baseline results are therefore mostly driven by firms which value access to finance the most. By expanding to areas with better banking conditions, they actively change their external financing environment. This finding is a novel contribution to the literature, as most prior research explicitly or implicitly assumes firms take their external financing environment as given. Our results indicate that they make effort to change it.

[Insert Table IV here.]

4.2. Likelihood of Being a Target of Cross-State Acquisitions

So far we conduct our analyses at the state level. We next explore firm level evidence. Specifically, we examine whether a firm is more likely to be targeted by out-of-state acquirers if the firm's home state is open to interstate banking. Since our state-level results indicate that cross-border efforts to acquire access to finance are concentrated among small and private firms, we model the likelihood of a firm receiving a bid by an out-of-state small (or private) firm in a given year in a probit framework. In this setting, our independent variable of interest is *Open*, a dummy equal to 1 if the firm's home state is open to interstate banking. We follow Comment and Schwert (1995) and Gasper, Massa, and Matos (2005) to specify other control variables. Because

it is difficult and unusual for a small or private firm to acquire a big firm, we also control for the (potential target) firm's size and its interaction with *Open*. As a robustness check, we also model the number of bids a firm receives from out-of-state small (or private) firms in a given year in a zero-inflated negative binomial framework.

Table V reports the results. *Open State* is positive and significant in all specifications, indicating that firms residing in states with better access to finance attract more cross-state acquisition bids by small and private firms. However, if the firm is big and therefore difficult for small and private firms to acquire, the lure of access to finance becomes remote. Indeed, the coefficient on the interaction term *Big Firm*Open State* is negative and significant, with a magnitude offsetting the effect of *Open State*.

The bottom panel of Table V also reports the marginal effects on the dependent variable given the firm's size and its home state's banking openness. For small firms, their likelihood of receiving a cross-state acquisition bid increases from 1.17% to 1.97%, or a 68% increase, if their home states open up to interstate banking. For large firms, not surprisingly, the likelihood is almost unchanged. The results from the zero-inflated negative binomial model are very similar. In summary, we use firm-level evidence to confirm that it is precisely those firms valuing access to finance the most that are eager to make cross-border bids to gain such access.

4.3. Target Return Premium in Cross-State Acquisitions

For access to finance to motive cross-state acquisitions, it must be valuable. Do target firms residing in states with better access to finance earn higher abnormal returns around the bid announcement? If yes, how much higher? Answers to these questions will provide direct evidence about the value of access to finance.

Following Schwert (2000), we measure the acquisition premium earned by a target firm as the sum of abnormal returns of the firm's stock for trading days [-63, +126] relative to the bid announcement date, D. Abnormal returns are computed relative to the market model whose parameters are estimated using daily returns for the trading year from D-316 to D-64. If a target receives more than one bid within one year, we only consider the first bid. Then we regress the target return premium on *Open Q-P*, the difference in access to finance between the target and acquirer states. Considering that small firms value access to finance the most and their targets are usually small firms as well, we interact *Open Q-P* with a dummy variable indicating whether the target is a small firm, and a dummy variable indicating whether the acquirer is a small firm, respectively.

Table VI reports the results. We find that better access to finance in the target state relative to the acquirer state has a positive and significant effect on the target return premium, but only for small targets. For big targets, the effect is negative and statistically insignificant. The economic significance is also large for small targets. If a small firm's home state is open to interstate banking, the firm will earn a target premium 28% higher than that earned by a small target whose home state does not allow interstate banking. This difference is more than twice the abnormal return earned by an average target. These results indicate that targets with good access to finance provide considerable value in cross-state M&As.

[Insert Table VI here.]

For deals with small bidders, the target firm earns a 32% higher abnormal return if its home state has better access to finance than that of the bidder, and the effect is statistically significant. This evidence further confirms better access to finance being an especially valuable resource for small firms.

4.4. Acquirer Long-Run Stock Performance

We examine the long-run stock performance of acquirers to develop a better understanding of whether targets' access to finance creates value. We follow Harford (2005) and track the long-run performance of cross-border acquirers using calendar-time portfolio returns. Specifically, we construct two calendar-time portfolios *Open* and *Closed*. Portfolio *Open* (*Closed*) consists of acquirers that made cross-state acquisitions in the past 36 months of targets residing in states open (closed) to interstate banking. We fit returns on these two portfolios to the Fama-French 3-factor model. We also implement a zero-investment strategy, *Open-Closed*, which longs portfolio *Open* and shorts portfolio *Closed*, and fit the return of this strategy to the 3-factor model as well.

Panel A of Table VII reports the results. For value-weighted portfolios, portfolio *Open* earns a monthly alpha of 1.21%, which is statistically significant. Portfolio *Closed*'s monthly alpha is 0.8% and is also statistically significant. Importantly, *Open-Closed* has a monthly alpha of 0.4% and is statistically significant. For equally weighed portfolios, *Open* still earns higher abnormal returns than *Closed*, although the difference is not statistically significant. This evidence indicates that acquirers targeting firms in states with better access to finance exhibit better long-run performance on average. This finding is consistent with the idea that acquired access to finance adds value to the firm.

[Insert Table VII here.]

Next, we split the sample acquirers according to their sensitivities to external finance conditions. We construct the calendar-time portfolios *Open* and *Closed* based on the split samples. Specifically, in Panel B (C, D, E), we track the performance of the *Open-Closed* strategy conditional on the subsamples of small and big acquirers (low and high payout acquirers,

high and low external-finance-dependence acquirers), respectively. An acquirer is considered small (big) if its total assets are below (above) the annual sample median in the year immediately before the bid announcement. A low (high) payout acquirer is one whose payout ratio is below (above) the sample median in that year. A high (low) external-finance-dependent acquirer is one whose *External Finance Dependence* (*EFD*) is above (below) its industry (3-digit SIC) median in that year. We construct *External Finance Dependence* following Rajan and Zingales (1998).[10]

Panels B through D show that acquirers that are more sensitive to external finance conditions (small, low payout, and high EFD acquirers) generally experience higher long-run abnormal returns. Using value-weighted portfolios, except for high versus low EFD acquirers, the zero-investment strategy that longs acquirers who value access to finance more and shorts those valuing access to finance less earn a statistically significant and economically large alpha (1.52 to 1.80% per month) over a course of 36 months. Although the abnormal performance is slightly weaker using equally weighted portfolios, the results are generally consistent with the notion that access to finance adds the most value to cross-state acquirers who need it the most. This large amount of value creation appears to be a powerful incentive for cross-state M&As.

4.5. Post-Merger Operating Performance

To confirm our finding in the previous section, we further analyze the post-merger operating performance of the combined firm. We examine two performance measures: sales growth and profitability. Following Harford (2005), we regress each of the post-merger performance measures of the merged firm on its pre-merger counterpart and our variable of interest, *Open Q-P*. The post-merger performance measures are industry median-adjusted (Healy, Palepu, and Ruback (1992)). We construct the pre-merger counterpart of post-merger

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[10] Almeida, Campello, and Weisbach (2004) show that dividend policy and asset size are highly correlated with frictions on a firm's access to external finance. Rajan and Zingales's (1998) measure of external finance dependence directly captures the proportion of capital expenditures financed externally.

performance measures by weighting the value of the acquirer's pre-merger measure and that of the target's with their pre-merger total assets.

We report results for sales growth in Panel A of Table VIII. We find post-merger sales growth is significantly higher if the target state has better access to finance than the acquirer state. This result indicates that acquirers are able to improve their revenue after acquiring better access to finance through cross-state M&As.

[Insert Table VIII here.]

We further examine whether the effect is stronger for acquirers with greater sensitivities to external finance conditions. In columns 2-4, we include the following dummy variables: *Small Acquirer*, *Low Payout Acquirer*, and *High EFD acquirer*, one at a time together with their interactions with *Open Q-P*. As shown by the coefficient on the interaction term, the effect of *Open Q-P* on sales growth is greater for firms with high sensitivities to external finance conditions, although this incremental effect is not statistically significant. We do not find a significant effect of acquired access to finance on the profitability of the merged firm. For brevity, we do not report these results but they are available upon request.

One issue with using pre-merger accounting measures in gauging changes in post-merger operating performance is the benchmarking problem. In other words, we cannot observe the expected performance absent a merger to compare it to post-merger performance (Harford (2005)). Thus, we follow Harford (2005) and compare post-merger analyst long-term earnings forecasts to their pre-merger counterparts. To the extent that the pre-merger long-term forecast incorporates expected performance absent a merger, it mitigates the benchmarking problem.

As shown in Panel B of Table VIII, although *Open Q-P* has on average an insignificant effect on post-merger long-term earnings forecast, this is due to its insignificant effect on firms

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that are less sensitive to external finance conditions. In fact, the effect of *Open Q-P* is large and concentrated among acquirers that are more sensitive to banking conditions. That is, if the target's state has better access to finance than the acquirer's state, expert opinions predict that small, low payout, and highly-external-finance-dependent acquirers will see significant earnings grow after mergers. This evidence reinforces the idea that better access to finance improves firm performance. As such, it serves as a driving force for cross-state acquisitions.

4.6. Post-Merger Leverage

So far the evidence indicates that firms that acquire targets with good access to finance experience improved stock performance, sales growth, and long-term earnings expectation. We next test whether these acquirers actually use more debt after access-to-finance-based acquisitions. We adopt the same regression framework used above and regress the book leverage ratio of the merged firm on its pre-merger counterpart and our variable of interest, *Open Q-P*. Because firms with very high (low) leverage have little ability to further increase (decrease) leverage, we exclude deals where the pre-merger book leverage of the combined firm is more than 25 percentage points higher or lower than the industry median.

Table IX reports the results. Column 1 shows that the post-merger leverage ratio is indeed higher if the target's state has better access to finance than the acquirer's. In columns 2-4 we examine whether this effect is stronger among financially constrained acquirers. Although *Open Q-P* is generally significant, the interaction terms are all statistically insignificant. Therefore, it appears that if the target's state has better access to finance, the merged firm tends to use more debt whether the acquirer is financially constrained or not. These results are consistent with firms taking advantage of the financial synergies provided by their targets with better access to finance.

4.7. Acquisition Payment Method

If firms make cross-state acquisitions to alleviate financial constraints, it seems natural to expect that the means of payment in these transactions is more likely to be with stock than cash. We take this question to the data. Unfortunately, SDC data on the means of payment is sparse. Therefore, we can only provide suggestive evidence based on deals where such data is available (about 15% of sample deals). We find that among the deals where the acquirer's state allows interstate banking, 73% are paid entirely in cash, 6% are paid entirely in shares, and 2% are paid in a combination of cash and shares (the rest is paid in "other" means or "unknown"). By contrast, among the deals where the acquirer's state does not allow instate banking, 68% are paid entirely in cash, 10% are paid entirely in shares, and 3% are paid in a combination of cash and shares. Although a paucity of data prevents us from making strong claims, this evidence indeed suggests that acquirers in states with poorer access to finance are less (more) likely to use cash (shares) as the transaction currency than acquirers from states with better access to finance.

5. Conclusion

This paper demonstrates that the desire to obtain better access to finance is a major motivation of M&As. Firms with limited options for external finance are the most active pursuers of better financing conditions; they endeavor to improve their financing options by reaching across borders for targets with good access to finance. Although our setting involves acquisitions made across state borders within the U.S., our results have implications for M&As that cross international borders. As prior research on cross-country M&As focuses on efficiency gains in terms of governance (e.g., Rossi and Volpin (2004)) and market timing (e.g., Erel, Liao,

and Weisbach (2012)), our evidence suggests that financial synergies where acquirers benefit from targets can be another incentive.

Our primary analysis features state-level data. However, we corroborate our findings with firm-level evidence. From a target firm's point of view, better access to finance makes it a more attractive and valuable target. From an acquirer's point of view, the opportunity to acquire better access to finance translates into better stock returns and operating performance. The value created thus serves as a strong incentive for firms to make cross-state acquisitions.

Appendix 1. Variable Definitions

Variable	Definition
Acquisition Volume P buys Q	Value of deals where state p firms buy state q firms divided by total value of deals where state p firms buy firms outside of p
Acquisition Number P buys Q	Number of deals where state p firms buy state q firms divided by total number of deals where state p firms buy firms outside of p
Open Q-P	Indicator of the target state being open to interstate banking minus that of the acquirer state
Stock Return Q-P	12-month cumulative stock return of firms in the target state minus that of the acquirer state
GDP Growth Q-P	Real GDP growth of the target state minus that of the acquirer state
GDP per capita Q-P	Real GDP per capita of the target state minus that of the acquirer state
Unemployment Q-P	Unemployment rate of the target state minus that of the acquirer state
Corporate Tax Q-P	Median corporate tax rate of the target state minus that of the acquirer state
Anti-Combination Q-P	Indicator of the target state having anti-business combination laws minus that of the acquirer state
Industry Dissimilarity P&Q	Square root of the sum (over industries) of the squared difference between the acquirer and target states in terms of each industry's share in the state GDP
Economic Correlation P&Q	Correlation between the coincident indexes of the acquirer and the target states
Intrastate Q-P	Indicator of the target state allowing intrastate branching minus that of the acqurier state
Open PQ	Equals 1 if state P allows banks in state Q to enter or state Q allows banks in state P to enter
Before 1 Q-P	Indicator of the target state to start opening to interstate banking next year minus that of the acquirer state
Before 0 Q-P	Indicator of the target state starting opening to interstate banking this year minus that of the acquirer state
After 1 Q-P	Indicator of the target state having started opening to interstate banking last year minus that of the acquirer state
After 2 Q-P	Indicator of the target state having started opening to interstate banking at least 2 years ago minus that of the acquirer state
Acquisition Volume P Small buys Q Small	Value of deals where state p small firms buy state q small firms divided by total value of deals where state p small firms buy small firms outside of p
Acquisition Volume P Small buys Q Big	Value of deals where state p big firms buy state q small firms divided by total value of deals where state p big firms buy small firms outside of p
Acquisition Volume P Big buys Q Small	Value of deals where state p small firms buy state q big firms divided by total value of deals where state p small firms buy big firms outside of p

Acquisition Volume P Big buys Q Big	Value of deals where state p big firms buy state q big firms divided by total value of deals where state p big firms buy big firms outside of p
Acquisition Volume P Private buys Q Private	Value of deals where state p private firms buy state q private firms divided by total value of deals where state p private firms buy private firms outside of p
Acquisition Volume P Private buys Q Public	Value of deals where state p private firms buy state q public firms divided by total value of deals where state p private firms buy public firms outside of p
Acquisition Volume P Public buys Q Private	Value of deals where state p public firms buy state q private firms divided by total value of deals where state p public firms buy private firms outside of p
Acquisition Volume P Public buys Q Public	Value of deals where state p public firms buy state q public firms divided by total value of deals where state p public firms buy public firms outside of p
Targeted by Outside Small	Equals 1 if the firm is targeted by a small firm outside of its home state in the forecast period and 0 otherwise
# Bids by Outside Small	Number of bids by small firms outside of the firm's home state received in the forecast period
Targeted by Outside Private	Equals 1 if the firm is targeted by a private firm outside of its home state in the forecast period and 0 otherwise
# Bids by Outside Private	Number of bids by private firms outside of the firm's home state received in the forecast period
Open State	Equals 1 if the firm's home state is open to interstate banking and 0 otherwise
Big Firm	Equals 1 if the firm's total assets is above the annual sample median and 0 otherwise
Asset Liquidity	4-year average of the ratio of net liquid assets to total assets [(act-lct)/at] prior to the forecast period
Debt-to-Equity	4-year average of the ratio of debt to equity [dltt/ceq] prior to the forecast period
Market-to-Book	4-year average of the ratio of the year-end market value of common stock to the book value of equity [prcc_f*csho/ceq] prior to the forecast period
P/E	4-year average of the ratio of the year-end stock price to earnings per share [prcc_f/epspx] prior to the forecast period
Sales Growth	Sales growth over 4 years prior to the forecast period
ROE	4-year average of the ratio of earnings to equity [2*ibadj(t)/(ceq(t)+ceq(t-1))] prior to the forecast period
Abnormal Return	4-year average of daily abnormal return based on the market model prior to the forecast period, where the market model parameters are estimated in the 5th year before the forecast period
State Stock Return	12-month cumulative stock return of firms in the firm's home state
State GDP Growth	Real GDP growth of the firm's home state
State GDP per capita	Real GDP per capita of the firm's home state
State Correlation with US	Correlation between the coincident index of the firm's home state and that of the US

State Unemployment	Unemployment rate of the firm's home state
State Corporate Tax	Median corporate tax rate of the firm's home state
State Anti-Combination	Equals 1 if the firm's home state has anti-business combination laws and 0 otherwise
Target Premium	Sum of the abnormal returns of the target firm's stock for trading days [-63,+126] relative to the bid announcement date, where the abnormal returns are based on the market model whose parameters are estimated using daily returns for the trading year ending on day -64.
Small Target	Equals 1 if the target firm's total assets is below the annual sample median and 0 otherwise
Small Bidder	Equals 1 if the bidder firm's total assets is below the annual sample median and 0 otherwise
Post-Bid Competition	Equals 1 if there is a competing offer for the target in the 6 months after the current bid
Same Industry	Equals 1 if the bidder and target are in the same industry (Fama-French 48 industry classification)
Hostile	Equals 1 if the bid is hostile
Tender Offer	Equals 1 if the bid involves a tender offer
Toehold	The fraction of the target's common stock owned by the bidder at the bid announcement date
Distance PQ	The distance between the capital cities of the target and bidder states
Return of Acquirer Targeting Open	Monthly return of a calendar-time portfolio of acquirers which, in the past 36 months, acquired targets in states open to interstate banking
Return of Acquirer Targeting Close	Monthly return of a calendar-time portfolio of acquirers which, in the past 36 months, acquired targets in states not open to interstate banking
Return of Acquirer Targeting Open-Close	Return of Acquirer Targeting Open - Return of Acquirer Targeting Close
Market	The market return in a Fama-French 3-factor model
SMB	The return on the Small-minus-Big factor portfolio in a Fama-French 3-factor model
HML	The return on the High-minus-Low factor portfolio in a Fama-French 3-factor model
Small (Big) Acquirer	Equals 1 if the acquirer's total assets is above (below) the annual sample median and 0 otherwise
Low (High) Payout Acquirer	Equals 1 if the acquirer's payout ratio [(dvc+dvp+prstkc)/oiadp] is above the sample median in the year when included in the calendar-time portfolio
High (Low) External-Finance-Dependent Acquirer	Equals 1 if the acquirer's external finance dependence (Rajan and Zingales (1998)) is below (above) the 3-digit SIC industry median and 0 otherwise

Post-Merger Long-term Analyst Forecast	Average analyst long-term EPS forecast on the merged firm after merger
Pre-Merger Long-term Analyst Forecast	Average analyst long-term EPS forecast on the asset-weighted combined firm before merger
Post-Merger Sales Growth	Post-merger 3-year average of industry median-adjusted sales growth [sale(t)/sale(t-1)-1] of the merged firm
Pre-Merger Sales Growth	Pre-merger 3-year average of industry median-adjusted sales growth [sale(t)/sale(t-1)-1] of the asset-weighted combined firm
Post-Merger Book Leverage	Post-merger 3-year average of industry median-adjusted book leverage [(dltt+dlc)/at] of the merged firm
Pre-Merger Book Leverage	Pre-merger 3-year average of industry median-adjusted book leverage [(dltt+dlc)/at] of the asset-weighted combined firm

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Figure 1. Interstate Banking Deregulation and Cross-State Acquisitions: 1986. The color of each state indicates whether it is open to interstate banking. Dark states are open to interstate banking and light states are not. The height of each bar represents the fraction of the state's cross-state acquisition volume involving targets in states that are open to interstate banking, adjusted for state and year means.

State open status and cross-state acquistions targeting open states

Year 1986

State open: 1 (Yes), 0 (No)
0
1
Quartiles of fraction of cross-state acquisition volume targeting open states
0-25%
25-50%
50-75%
75-100%

Table I
Summary Statistics

The sample is a panel of state-pair-year observations from 1981 to 1997. Each state-pair is a combination of two states in the U.S. Variable definitions are in Appendix 1.

Variable	N	Mean	Std. Dev.	Min	25th Pctl	Median	75th Pctl	Max
Acquisition Volume P buys Q	31300	0.022	0.099	0.000	0.000	0.000	0.000	1.000
Acquisition Number P buys Q	31300	0.015	0.050	0.000	0.000	0.000	0.000	1.000
Open Q-P	31300	-0.022	0.401	-1.000	0.000	0.000	0.000	1.000
Stock Return Q-P	31300	-0.006	0.194	-0.638	-0.105	-0.004	0.098	0.638
GDP Growth Q-P	31300	-0.002	0.040	-0.120	-0.025	-0.001	0.022	0.120
GDP per capita Q-P	31300	0.001	0.013	-0.078	-0.005	0.000	0.005	0.078
Unemployment Q-P	31300	-0.061	2.302	-5.567	-1.533	-0.058	1.400	5.567
Corporate Tax Q-P	31300	-0.147	3.628	-9.000	-2.500	0.000	2.050	9.000
Anti-Combination Q-P	31300	-0.019	0.577	-1.000	0.000	0.000	0.000	1.000
Industry Dissimilarity PQ	31300	0.124	0.063	0.024	0.083	0.105	0.150	0.500
Economic Correlation PQ	31300	0.641	0.599	-0.952	0.585	0.972	0.993	1.000

Table II
Cross-State Acquisition Volume: Baseline Regressions
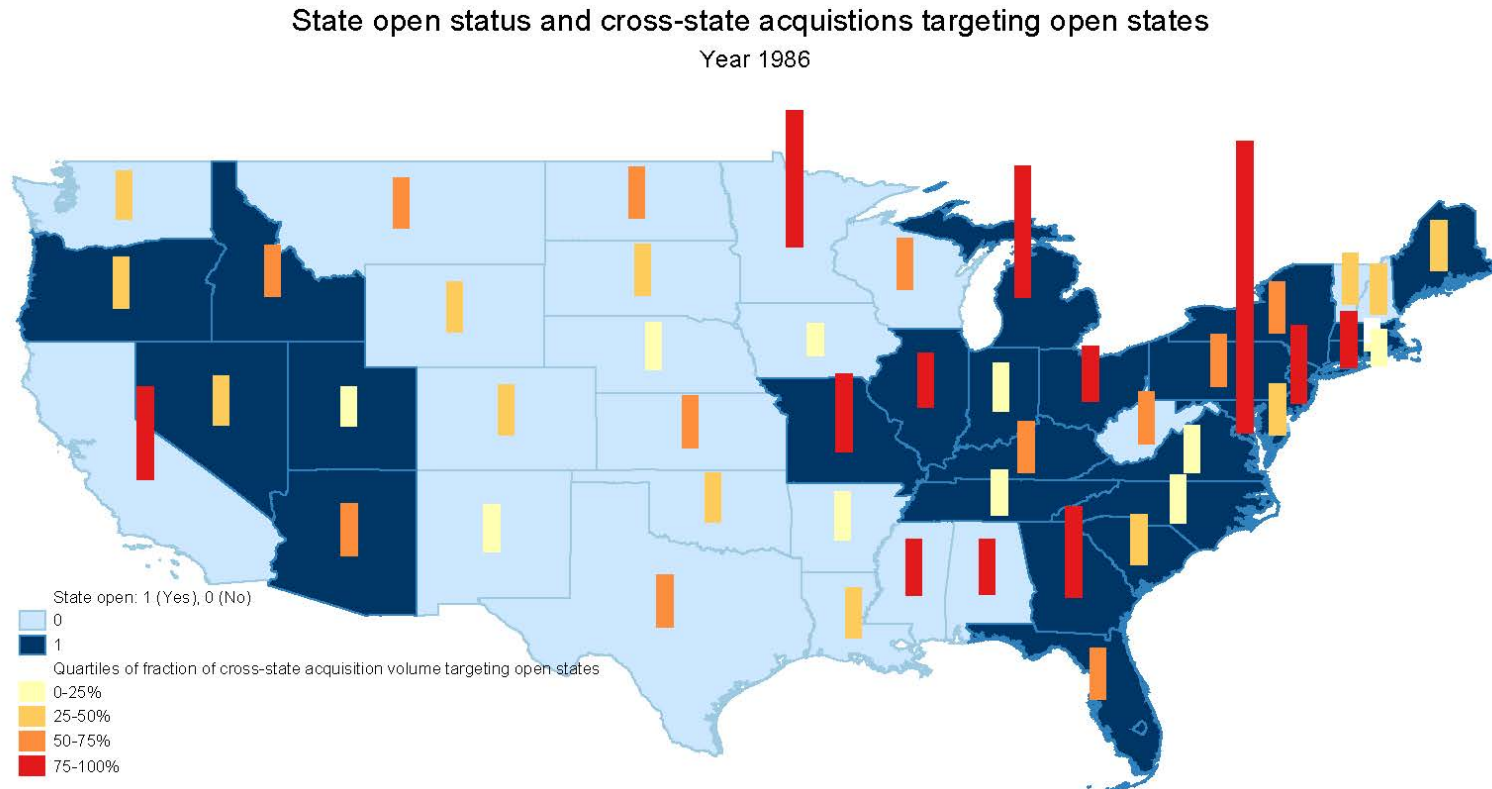
The sample is a panel of state-pair-year observations from 1981 to 1997. Each state-pair is a combination of two states in the U.S. The table reports results from OLS regressions. The dependent variable in column 1 is *Acquisition Volume P buys Q*, i.e., the dollar volume of deals where firms residing in state P acquire firms residing in state Q divided by the dollar volume of deals where firms residing in state P acquire firms residing in states other than P. The dependent variable in column 2 is *Acquisition Number P buys Q*, the number (rather than dollar volume) of deals where firms residing in state P acquire firms residing in state Q divided by the number of deals where firms residing in state P acquire firms residing in states other than P. Definitions of other variables are in Appendix 1. Standard errors are clustered by state-pair, with corresponding t-statistics reported in parentheses. ***, **, and * indicates statistical significance at the 1%, 5%, and 10% respectively.

	(1) $ Acquisitions	(2) # Acquisitions
Open Q-P	0.00398***	0.00381***
	(2.622)	(3.518)
Stock Return Q-P	-0.00912***	-0.00824***
	(-3.206)	(-4.555)
GDP Growth Q-P	0.0433***	0.0555***
	(2.856)	(5.461)
GDP per capita Q-P	0.223***	0.127***
	(3.327)	(2.781)
Unemployment Q-P	0.00229***	0.00163***
	(6.469)	(7.540)
Corporate Tax Q-P	0.00130***	0.00109***
	(5.261)	(7.173)
Anti-Combination Q-P	-0.000250	-0.00153*
	(-0.198)	(-1.794)
Industry Dissimilarity PQ	-0.0161	-0.00731
	(-0.715)	(-0.500)
Economic Correlation PQ	0.000353	-0.00002
	(0.330)	(-0.0282)
Constant	0.0192***	0.0171***
	(4.385)	(5.881)
State-Pair Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
N	31,300	38,181
R-Sqr	0.100	0.138

Table III
Cross-State Acquisition Volume: Robustness Tests

The sample is a panel of state-pair-year observations from 1981 to 1997 (except for column 2). Each state-pair is a combination of two states in the U.S. The table reports results from OLS regressions. The dependent variable is *Acquisition Volume Q-P*. Column 1 excludes states DE, SD, DC, HI, and AK from the baseline sample. Column 2 restricts the baseline sample to observations from 1981 to 1991. Column 3 further controls for *Intrastate Q-P*. Column 4 further controls for *Open PQ*. Column 5 examines the dynamic effects of banking deregulation using *Before 1 Q-P, Before 0 Q-P, After 1 Q-P,* and *After 2 Q-P*. Column 6 is a placebo test where states are randomly assigned (without replacement) to deregulatory years while maintaining the true distribution of the deregulatory years across states. Standard errors are clustered by state-pair, with corresponding t-statistics reported in parentheses. ***, **, and * indicates statistical significance at the 1%, 5%, and 10% respectively. Variable definitions are in Appendix 1.

	(1) Exclude DE, SD, DC, HI, & AK	(2) 1981-1991	(3) Control for Intrastate Branching	(4) Control for Bank Information	(5) Dynamic Effects	(6) Placebo Test
Open Q-P	0.00370**	0.00360**	0.00327**	0.00398***		-0.000684
	(2.164)	(2.180)	(2.059)	(2.621)		(-0.452)
Intrastate Q-P			0.00269**			
			(2.040)			
Open PQ				-0.000057		
				(-0.0260)		
Before 1 Q-P					-0.00149	
					(-0.785)	
Before 0 Q-P					0.00201	
					(0.944)	
After 1 Q-P					0.00289	
					(1.326)	
After 2 Q-P					0.00565***	
					(2.689)	
Stock Return Q-P	-0.0110***	-0.00533	-0.00918***	-0.00912***	-0.00925***	-0.00939***
	(-3.411)	(-1.366)	(-3.223)	(-3.205)	(-3.128)	(-3.295)
GDP Growth Q-P	0.0445**	0.0332*	0.0384**	0.0433***	0.0378**	0.0504***
	(2.528)	(1.656)	(2.498)	(2.855)	(2.340)	(3.362)
GDP per capita Q-P	0.371***	0.423***	0.214***	0.223***	0.209***	0.226***
	(4.151)	(3.779)	(3.224)	(3.327)	(3.095)	(3.362)
Unemployment Q-P	0.00260***	0.00191***	0.00235***	0.00229***	0.00236***	0.00233***
	(6.489)	(4.067)	(6.585)	(6.469)	(6.356)	(6.540)
Corporate Tax Q-P	0.00145***	0.00155***	0.00128***	0.00130***	0.00132***	0.00133***
	(5.220)	(4.875)	(5.220)	(5.262)	(5.256)	(5.389)
Anti-Combination Q-P	-0.000803	-0.000510	-0.000192	-0.000250	-0.000415	5.29e-05
	(-0.570)	(-0.302)	(-0.153)	(-0.198)	(-0.327)	(0.0418)
Industry Dissimilarity PQ	0.0130	-0.0137	-0.0142	-0.0161	-0.0307	-0.0139
	(0.472)	(-0.411)	(-0.630)	(-0.714)	(-1.133)	(-0.622)
Economic Correlation PQ	0.00100	0.00147	0.000335	0.000354	-0.000875	0.000336
	(0.734)	(1.023)	(0.313)	(0.331)	(-0.713)	(0.314)
Constant	0.0157***	0.0189***	0.0190***	0.0192***	0.0261***	0.0188***
	(3.212)	(3.271)	(4.340)	(4.374)	(5.880)	(4.314)
State-Pair Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
N	27,258	19,494	31,300	31,300	28,212	31,300
R-Sqr	0.101	0.118	0.100	0.100	0.110	0.100

Table IV
Cross-State Acquisition Volume: Acquirer and Target Types

The sample is a panel of state-pair- year observations from 1981 to 1997. The table reports results from OLS regressions. The dependent variable for each column is shown in the column header. Standard errors are clustered by state-pair, with corresponding t-statistics reported in parentheses. ***, **, and * indicates statistical significance at the 1%, 5%, and 10% respectively. Variable definitions are in Appendix 1.

Panel A: Firm Size	(1) Acquisition Vol. P Small buys Q Small	(2) Acquisition Vol. P Small buys Q Big	(3) Acquisition Vol. P Big buys Q Small	(4) Acquisition Vol. P Big buys Q Big
Open Q-P	0.00606***	0.00994**	-0.00003	0.00215
	(3.638)	(2.166)	(-0.0127)	(0.612)
Stock Return Q-P	-0.00985***	-0.0107	-0.0147***	-0.00618
	(-3.540)	(-1.412)	(-2.909)	(-0.744)
GDP Growth Q-P	0.0581***	-0.0159	0.0348	0.0163
	(3.683)	(-0.374)	(1.335)	(0.458)
GDP per capita Q-P	0.217***	0.473**	1.432***	1.556***
	(3.291)	(2.027)	(7.314)	(5.045)
Unemployment Q-P	0.00216***	0.00414***	0.00393***	0.00304***
	(6.087)	(4.245)	(5.970)	(2.966)
Corporate Tax Q-P	0.00134***	0.00267***	0.00121***	0.00101
	(5.877)	(3.540)	(2.900)	(1.355)
Anti-Combination Q-P	-0.00237*	-0.00151	-0.00823***	-0.00292
	(-1.805)	(-0.348)	(-3.482)	(-0.920)
Industry Dissimilarity PQ	0.00820	-0.0556	-0.0216	-0.0423
	(0.344)	(-1.089)	(-0.500)	(-0.739)
Economic Correlation PQ	0.000802	0.00152	-0.00176	0.000221
	(0.713)	(0.532)	(-0.961)	(0.0829)
Constant	0.0150***	0.0312***	0.0132*	0.0189*
	(3.450)	(3.508)	(1.864)	(1.723)
State-Pair Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
N	30,328	10,754	19,589	12,098
R-Sqr	0.097	0.111	0.106	0.118

Table IV, Continued

Panel B: Public vs. Private	(5) Acquisition Vol. P Private buys Q Private	(6) Acquisition Vol. P Private buys Q Public	(7) Acquisition Vol. P Public buys Q Private	(8) Acquisition Vol. P Public buys Q Public
Open Q-P	0.00618***	0.00341	0.00212	0.00482*
	(3.359)	(1.104)	(0.985)	(1.655)
Stock Return Q-P	-0.00565	-0.0214***	-0.0138***	-0.00864
	(-1.631)	(-3.486)	(-3.788)	(-1.397)
GDP Growth Q-P	0.0443**	0.0267	0.0224	0.0401
	(2.528)	(0.806)	(1.145)	(1.483)
GDP per capita Q-P	0.256***	0.554***	0.602***	1.254***
	(3.284)	(3.410)	(5.077)	(4.889)
Unemployment Q-P	0.00220***	0.00238***	0.00324***	0.00350***
	(5.402)	(3.294)	(6.322)	(4.823)
Corporate Tax Q-P	0.00123***	0.00156***	0.00164***	0.00210***
	(4.916)	(3.007)	(5.329)	(3.758)
Anti-Combination Q-P	-0.00199	-0.00614**	-0.00492***	-0.00622**
	(-1.340)	(-2.048)	(-2.905)	(-2.177)
Industry Dissimilarity PQ	-0.0222	-0.0440	0.0205	-0.0731
	(-0.805)	(-1.018)	(0.647)	(-1.556)
Economic Correlation PQ	-0.000628	0.000976	0.000121	0.00184
	(-0.490)	(0.395)	(0.0841)	(0.848)
Constant	0.0170***	0.0255***	0.0142***	0.0234***
	(3.007)	(2.998)	(2.624)	(2.917)
State-Pair Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
N	27,326	16,223	25,134	16,138
R-Sqr	0.091	0.093	0.107	0.104

Table V
Likelihood of Being Targeted by Small/Private Firms in Cross-State Acquisitions

The sample is a panel of firm-by year observations from 1981 to 1997. The table reports results from probit regression (columns 1 and 3) and zero-inflated negative binomial regressions (columns 2 and 4). The dependent variable for each column is shown in the column header. Standard errors are clustered by firm, with corresponding t-statistics reported in parentheses. ***, **, and * indicates statistical significance at the 1%, 5%, and 10% respectively. Variable definitions are in Appendix 1.

	(1) Targeted by Outside Small	(2) # Bids by Outside Small	(3) Targeted by Outside Private	(4) # Bids by Outside Private
Open State	0.206***	0.488***	0.203**	0.453**
	(2.674)	(2.624)	(2.282)	(1.979)
Big Firm	0.0847	0.174	0.226***	0.470***
	(1.456)	(1.224)	(3.357)	(2.714)
Open State * Big Firm	-0.212***	-0.467***	-0.242***	-0.477**
	(-3.173)	(-2.824)	(-3.161)	(-2.387)
Asset Liquidity	0.0416	0.0564	-0.179**	-0.529**
	(0.537)	(0.295)	(-2.131)	(-2.412)
Debt-to-Equity	0.0147	0.0296	0.00923	0.0204
	(1.261)	(0.977)	(0.768)	(0.632)
Market-to-Book	-0.0177***	-0.0443***	-0.0116**	-0.0283*
	(-3.316)	(-2.726)	(-2.202)	(-1.749)
P/E	0.000125	0.000721	0.000343	0.00118
	(0.244)	(0.595)	(0.664)	(0.894)
Sales Growth	0.0116	0.0160	0.0110	0.0139
	(1.407)	(0.795)	(1.294)	(0.649)
ROE	-0.121***	-0.319***	-0.118***	-0.319***
	(-4.564)	(-4.801)	(-4.355)	(-4.588)
Abnormal Return	3.159	14.23	1.261	10.42
	(0.536)	(0.981)	(0.197)	(0.624)
Constant	-2.825***	-19.72	-2.537***	-20.65
	(-5.084)	(-0.424)	(-4.216)	(-0.340)
State Controls	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
N	44,183	44,332	44,063	44,332
Marginal Effects				
Y | Open State=0 & Big Firm=0	0.0117	0.0144	0.0074	0.0093
Y | Open State=0 & Big Firm=1	0.0146	0.0171	0.0136	0.0148
Y | Open State=1 & Big Firm=0	0.0197	0.0235	0.0128	0.0146
Y | Open State=1 & Big Firm=1	0.0144	0.0175	0.0123	0.0145

Table VI
Target Premium in Cross-State Acquisitions

The sample includes cross-state acquisition deals from 1981 to 1997. The table reports results from OLS regressions. The dependent variable is *Target Premium*. t-statistics based on robust standard errors are in parentheses. ***, **, and * indicates statistical significance at the 1%, 5%, and 10% respectively. Variable definitions are in Appendix 1.

	(1)	(2)
Open Q-P	-0.108	-0.0466
	(-0.995)	(-0.467)
Small Target	-0.0265	
	(-0.300)	
Small Target*Open Q-P	0.383**	
	(2.128)	
Small Bidder		-0.296*
		(-1.969)
Small Bidder*Open Q-P		0.367*
		(1.733)
Post-Bid Competition	0.0861	0.0695
	(0.790)	(0.661)
Same Industry	-0.292***	-0.295***
	(-2.716)	(-2.653)
Hostile	-0.140	-0.251
	(-0.290)	(-0.488)
Tender Offer	-0.0645	0.0186
	(-0.136)	(0.0352)
Toehold	0.0478	0.0453
	(1.121)	(1.000)
Asset Liquidity	0.164	0.161
	(0.579)	(0.589)
Debt-to-Equity	0.0473	0.0437
	(0.734)	(0.673)
Market-to-Book	-0.0251	-0.0306
	(-1.073)	(-1.290)
P/E	0.000751	0.000628
	(0.797)	(0.675)
Sales Growth	0.0145	0.0168
	(0.503)	(0.598)
ROE	-0.213	-0.253*
	(-1.408)	(-1.712)
Abnormal Return	-4.606	-2.134
	(-0.202)	(-0.100)
Constant	0.0673	0.190
	(0.210)	(0.567)
State-Pair Controls	Yes	Yes
Industry Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
N	182	182
R-Sqr	0.408	0.422

Table VII
Acquirer Long-run Stock Performance

The sample includes cross-state acquisition deals from 1981 to 1997 with non-missing data for all regression variables. In Panel A, we construct two calendar-time portfolios, *Open* and *Close*. *Open* (*Close*) consists of acquirers that in the past 36 months made cross-state acquisitions of firms residing in states that are open (close) to interstate banking. We then fit the monthly returns of the two portfolio as well as a strategy that longs *Open* and shorts *Close* (*Open-Close*) to a Fama-French 3-factor model. In Panel B (C, D), we split the sample acquirers into two groups, *Small/Big* (*Low/High Payout, High/Low External Finance-Dependent*), and for each group fit the *Open-Close* strategy to a 3-factor model. The left (right) half of the columns uses value- (equal-) weighting to construct the calendar-time portfolios. t-statistics are in parentheses. ***, **, and * indicates statistical significance at the 1%, 5%, and 10% respectively. Variable definitions are in Appendix 1.

	VW				EW			
	Alpha	Market	SMB	HML	Alpha	Market	SMB	HML
Pooled								
Target State Open	0.0121***	0.952***	-0.199***	-0.157**	0.0067***	0.965***	0.777***	0.0107
	(9.384)	(28.29)	(-3.440)	(-2.459)	(5.105)	(29.53)	(15.35)	(0.177)
Target State Close	0.0080***	0.927***	-0.120	-0.0679	0.0039*	1.066***	0.414***	0.181**
	(4.685)	(25.78)	(-1.352)	(-0.905)	(1.944)	(21.76)	(3.527)	(2.134)
Open-Close	0.0042**	0.0249	-0.0788	-0.0886	0.0029	-0.101*	0.363***	-0.170*
	(2.107)	(0.649)	(-0.861)	(-0.904)	(1.199)	(-1.855)	(2.929)	(-1.741)
Small/Big Acquirer								
Open-Close | Small	0.0196***	-0.0354	0.0977	-0.641***	0.0131**	-0.0624	0.150	-0.400*
	(3.411)	(-0.303)	(0.478)	(-2.608)	(2.499)	(-0.610)	(0.806)	(-1.806)
Open-Close | Big	0.0016	0.0454	-0.0249	-0.0155	-0.0012	-0.0545	0.309*	-0.0096
	(0.530)	(0.646)	(-0.145)	(-0.135)	(-0.390)	(-0.728)	(1.932)	(-0.0928)
Difference	0.0180***				0.0143**			
	(2.781)				(2.361)			
Low/High Payout Acquirer								
Open-Close | Low	0.0147***	0.00441	-0.000841	-0.207	0.00701*	-0.0620	0.293*	-0.138
	(3.456)	(0.0425)	(-0.00529)	(-0.990)	(1.890)	(-0.871)	(1.835)	(-0.880)
Open-Close | High	-0.0006	0.0702	-0.0730	-0.0341	-0.0019	-0.0263	0.218	-0.0428
	(-0.180)	(0.938)	(-0.417)	(-0.307)	(-0.610)	(-0.323)	(1.318)	(-0.380)
Difference	0.0152***				0.00889*			
	(2.905)				(1.848)			
High/Low External Finance-Dependent Acquirer								
Open-Close | High	0.0103*	0.0108	-0.248	-0.377	0.0050	0.0437	0.212	-0.277
	(1.715)	(0.0827)	(-1.217)	(-1.384)	(0.842)	(0.352)	(1.039)	(-1.154)
Open-Close | Low	0.0049**	0.0566	-0.239**	-0.0506	0.0042*	-0.0390	0.165	-0.144
	(2.060)	(0.981)	(-2.194)	(-0.479)	(1.740)	(-0.727)	(1.362)	(-1.287)
Difference	0.0054				0.0008			
	(0.834)				(0.123)			

Table VIII
Combined Firm Operating Performance

The sample includes cross-state acquisition deals from 1981 to 1997. The table reports results from OLS regressions. The dependent variables are *Post-Merger Sales Growth* in Panel A and *Post-Merger Long-Term Analyst Forecast* in Panel B. Standard errors are clustered by state-pair, with corresponding t-statistics reported in parentheses. ***, **, and * indicates statistical significance at the 1%, 5%, and 10% respectively. Variable definitions are in Appendix 1.

Panel A	(1)	(2)	(3)	(4)
Pre-Merger Sales Growth	0.0538	0.0354	0.0905	0.0732
	(1.025)	(0.655)	(1.406)	(1.097)
Open Q-P	0.124**	0.0705**	0.103*	0.0923
	(2.157)	(2.228)	(1.676)	(1.225)
Small Acquirer		0.148***		
		(3.171)		
Small Acquirer*Open Q-P		0.111		
		(1.437)		
Low Payout Acquirer			0.102	
			(1.217)	
Low Payout Acquirer*Open Q-P			0.0202	
			(0.134)	
High EDF Acquirer				0.0313
				(0.441)
High EDF Acquirer*Open Q-P				0.0376
				(0.314)
Constant	0.00619	-0.0600	-0.0244	-0.0427
	(0.119)	(-1.066)	(-0.376)	(-0.800)
State-Pair Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
N	774	774	687	573
R-Sqr	0.463	0.492	0.527	0.570

Table VIII, Continued

Panel B	(1)	(2)	(3)	(4)
Pre-Merger Long-Term Analyst Forecast	0.569	0.313	1.028***	0.762*
	(1.509)	(0.900)	(3.100)	(1.678)
Open Q-P	6.355	0.435	1.356	-0.475
	(0.834)	(0.0805)	(0.267)	(-0.0744)
Small Acquirer		13.73		
		(1.603)		
Small Acquirer*Open Q-P		14.77***		
		(2.702)		
Low Payout Acquirer			-2.843	
			(-0.256)	
Low Payout Acquirer*Open Q-P			37.20***	
			(2.833)	
High EDF Acquirer				0.823
				(0.100)
High EDF Acquirer*Open Q-P				34.60***
				(5.346)
Constant	10.07	16.41*	1.846	17.90***
	(0.964)	(1.850)	(0.177)	(3.610)
State-Pair Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
N	176	176	157	127
R-Sqr	0.865	0.933	0.949	0.979

Table IX
Combined Firm Debt Usage

The sample includes cross-state acquisition deals from 1981 to 1997. The table reports results from OLS regressions. The dependent variables are *Post-Merger Book Leverage*. Standard errors are clustered by state-pair, with corresponding t-statistics reported in parentheses. ***, **, and * indicates statistical significance at the 1%, 5%, and 10% respectively. Variable definitions are in Appendix 1.

	(1)	(2)	(3)	(4)
Pre-Merger Book Leverage	0.610***	0.600***	0.666***	0.628***
	(4.848)	(4.872)	(5.620)	(4.778)
Open Q-P	0.0394*	0.0375*	0.0752**	0.00752
	(1.818)	(1.775)	(2.429)	(0.280)
Small Acquirer		0.0681		
		(1.153)		
Small Acquirer*Open Q-P		-0.0579		
		(-0.299)		
Low Payout Acquirer			0.00883	
			(0.380)	
Low Payout Acquirer*Open Q-P			-0.0310	
			(-0.680)	
High EDF Acquirer				0.00866
				(0.376)
High EDF Acquirer*Open Q-P				0.0417
				(1.167)
Constant	0.0940**	0.0845**	0.0531	0.0863**
	(2.463)	(2.297)	(1.349)	(2.168)
State-Pair Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
N	728	728	620	706
R-Sqr	0.587	0.594	0.684	0.608