The Value of Access to Finance: Evidence from M&A*

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Abstract

We examine synergies in mergers and acquisitions generated by targets' comparative advantage in access to bank finance. We find robust evidence that greater access to bank finance increases firms' attractiveness and valuation as acquisition targets. Targets' comparative advantage in bank finance 1) saves financing costs for the merged firms, with stronger effects if the acquirers have greater frictions in accessing bank loans, and 2) enables acquirers with good growth opportunities to borrow more. Both effects boost acquirers' long-term stock performance and profitability. These results reveal that targets, not just acquirers, contribute to financial synergies in M&A.

Keywords: M&A, Access to finance, Financial synergy

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] Recent research focuses on gains in *financing* efficiencies, in particular.[2] This growing body of literature shows that acquirers' superior financial positions can create synergies with capital-starved targets. A central theme to this literature is that synergies arise when acquirers possess valuable financial characteristics which targets lack.

However, recent experience indicates financial synergies can arise because of *targets*' financial characteristics. Corporate tax inversions are one such example. In these deals, acquirers purchase targets in foreign countries with lower corporate tax rates. With the combined firm headquartered in the target's home country, the acquirer enjoys savings from the target's comparative tax advantage. Reverse mergers provide another example (Asquith and Rock, 2011). These deals often involve public targets headquartered in the U.S. and private acquirers headquartered in other countries. U.S.-based targets are attractive because they have a comparative advantage in access to equity financing.

In this paper, we examine the role of access to bank finance in M&A. On one hand, firms with good access to bank finance may use this source of capital to pay for acquisitions. This hypothesis flows from the aforementioned existing studies showing that acquirers use their superior financial positions to create synergies with capital-starved targets. On the other hand,

[1] Andrade, Mitchell, and Stafford (2001) and Betton, Eckbo, and Thorburn (2008) provide surveys of this literature.

[2] Lewellen (1971) was perhaps the first to propose a purely financial rationale for M&A. Other papers, such as Bruner (1988) and Smith and Kim (1994) examine the role of cash holdings in M&A. Our work differs in that we explicitly examine the role of financing efficiencies gained through banking relationships. To our knowledge, only five other 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. Greene (2016) shows private targets depend more on acquirers for financing if targets are financially constrained. 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) study a sample of European acquisitions and find that acquirers generate synergies by relieving 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.

targets with good access to bank finance may attract acquirers which lack this resource. This hypothesis follows the rationale behind corporate tax inversions and reverse mergers.

We exploit the staggered deregulation of U.S. interstate banking laws to test these hypotheses. These events provide variation in firms' access to bank finance and enable us to identify the causal effect of firms' comparative financial advantages on synergy creation. Interstate banking deregulations, which allow out-of-state bank holding companies to acquire banks chartered in the deregulated states, were adopted by different states from the late 1970s to mid-1990s (see Table II). Because states historically restricted banking within their borders, these milestone deregulations opened local banking markets to outside competitors for the first time.[3] Ceteris paribus, firms in deregulated states hence enjoy greater credit supply than firms in states that are not deregulated.[4]

Our main finding is that *targets*' comparative advantages in access to bank finance influence acquisitions. Our testing framework allows both hypotheses (either acquirers use access to bank finance to purchase constrained targets, or acquirers seek targets with good access to bank finance) the opportunity to express themselves in the data. 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 0.71% of their acquisition dollars on targets located in Connecticut. This ratio increased to an average of 2.16% 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 0.83%. Our analysis extends this simple example to a multivariate setting with all state-pair-year observations of cross-state

[3] Even national banks are required by the McFadden Act of 1927 to obey state-level restrictions on branching, which effectively prohibits cross-state banking (Kerr and Nanda, 2009).

[4] Indeed, prior research has shown that bank efficiency increased, loan prices decreased (Jayaratne and Strahan, 1998), and credit supply increased (Dick and Lehnert, 2010; and Amore, Schneider, and Zaldokas, 2013) after the interstate banking deregulation.

acquisitions from 1981 to 1997. After controlling for a variety of state characteristics (e.g., growth opportunities and availability of targets that might coincide with banking deregulations), state-pair characteristics (e.g., industry similarity), and a host of fixed effects, we find that the total amount of acquisitions by firms in state A targeting firms in state B is 22% higher than the average acquisition flow between a state pair if state B has better access to finance than state A. Similarly, we find the number of acquisitions is 32% higher. These results remain qualitatively similar in a host of robustness checks.[5]

We further show that our results are driven by both "pushing" forces from acquirers' states and "pulling" forces from targets' states. Specifically, while states with good access to finance (deregulated states) tend to pull cross-state acquirers, states with poor access to finance (regulated states) tend to push resident firms to pursue targets elsewhere. That is, firms use M&A to escape poor banking conditions at home while actively pursuing good banking conditions across state borders.[6]

We examine cross-sectional variation in acquirers' characteristics to distinguish two possible explanations for why firms in deregulated states are more attractive targets. The results could be due to 1) deregulated states' improved access to bank finance, which is our focus, or 2) changes in growth opportunities in deregulated states that coincide with these states' banking deregulations but are not fully absorbed by our controls. If targets' comparative advantages in

[5] The results are robust when we control for the intrastate banking deregulations that overlap with the interstate banking deregulations in some states, when we control for banks' informational role in matching merger partners (Ivashina et al., 2009), when we control for difference in innovative productivity between states, when we address potential reverse causality à la Bertrand and Mullainathan (2003), when we control for state-pair-specific time trends, and when we conduct a placebo test and randomly reassign states' deregulation years. Further, despite the filters it places on the data, we find consistent results in tests using micro (firm-level) data, which allow us to control for individual target characteristics.

[6] A corollary of this result is that good access to finance in home states tends to discourage resident firms from acquiring targets in outside states. This finding, however, does not necessarily contrast with existing evidence that acquirers with good access to finance generate synergies by relieving targets' financial constraints (e.g., Erel, Jang, and Weisbach, 2013; and Liao, 2014). Although firms with easy bank access appear less interested in acquiring outside targets, for those that do acquire financially constrained targets, synergy creation is by all means possible, albeit not the focus of this paper.

bank access drive our results, then the effect we document should be particularly strong for acquirers that rely more on bank financing (e.g., small and private firms) and acquirers with greater frictions in accessing bank loans (e.g., firms with more information asymmetry or fewer pledgable assets). However, if unobserved growth opportunities drive our results, then the effect we document should be particularly strong for acquirers with limited growth opportunities.[7]

We test the above conjectures by decomposing each state-pair-year observation into two observations based on a variety of acquirer characteristics: 1) small vs. big acquirers, 2) private vs. public acquirers, 3) acquirers with many vs. few intangible assets (relative to total assets), and 4) acquirers with many vs. few growth opportunities. We use the first three splits to test the bank access explanation and the fourth to test the growth opportunities explanation.[8] We repeat our main tests on these subsamples and find significantly stronger results in deals with small acquirers and acquirers with many intangible assets. We also find stronger results for private acquirers, but the difference from public firms is just shy of statistical significance. We find no difference between deals with acquirers with few growth opportunities and those with many growth opportunities. These findings indicate that the targets' attractiveness is likely driven by improved bank access rather than unobserved growth opportunities.

Given targets' financial advantage, we anticipate acquirers to reduce financing costs and/or increase borrowing after mergers. We test this conjecture by examining the post-merger interest expense of combined firms. We find that combined firms enjoy significantly lower

[7] Large firms with cross-state operations are likely able to borrow from various states where they operate, which might make it harder to find our results. Although it is not obvious that these firms would be less interested in targets with comparative advantages in access to bank finance, the results should be cleaner when we analyze small and large acquirers separately.

[8] Using the intangible assets ratio (one minus the ratio of property, plant, and equipment over total assets) to measure firms' frictions in accessing bank finance is motivated by its correlation with firm complexity, information asymmetry, and monitoring cost (see, e.g., Porter, 1992; Edmans, 2009; Duru, Wang, and Zhao, 2013; and Cremers and Sepe, 2014). It is also related to the availability of collateral for firms to access bank loans (see, e.g., Aghion and Bolton, 1992; Hart and Moore, 1984; and Campello and Larrian, 2015). Under both channels, greater intangible assets are associated with greater frictions in accessing bank loans.

financing costs if targets have better access to bank finance than acquirers. This effect is even stronger if acquirers have many intangible assets and thus are likely to face more frictions in bank loans. We dig deep into loan-level analysis and further confirm that the reduction in financing costs obtains via targets' relationship banks. We conduct similar tests based on combined firms' leverage and find combined firms use more debt when targets have better access to bank finance than acquirers, but only if the acquirers have plentiful growth opportunities. The evidence reveals two sources of financial synergies: financing cost savings through targets' relationship banks and increased borrowing capacity for high-growth acquirers.

We conclude by examining long- and short-term stock market reactions to acquisitions where targets have a comparative advantage in access to bank finance. We track the long-run (3-year) stock performance of cross-state acquirers using calendar-time portfolio returns. We find that a portfolio of firms that acquire targets in deregulated states earns a significantly larger alpha than a portfolio of firms that acquire targets in states that do not allow interstate banking. Moreover, acquirers that face more frictions in bank financing and acquirers with greater growth opportunities experience higher long-run abnormal returns when they acquire targets in deregulated states. We find that targets' and acquirers' shareholders only gradually realize the value associated with targets' comparative financial advantages. Specifically, when acquirers face more frictions in bank financing or have greater growth opportunities, we find significantly greater cumulative abnormal returns for both acquirers and targets in an intermediate period around deal announcement dates.

To the best of our knowledge, this paper is the first to show that *targets*' comparative financial advantages contribute to synergy creation in M&A. As prior research on financial synergies mostly focuses on synergies generated by acquirers purchasing capital-starved targets

(Mantecon, 2008; Almeida, Campello, and Hackbarth, 2011; Erel, Jang, Weisbach, 2013, and Liao, 2014), our findings open a new and important dimension to this literature. By documenting that firms—even those with sufficient financial resources to make acquisitions—endeavor to reduce financing costs and boost profits by acquiring firms with comparative advantages in external finance, we shed new light on corporate strategies which actively extend firm boundaries to optimize financial environments and performance. In this respect, our insights could help policy makers and stakeholders better understand the motivations and consequences of similar corporate actions such as tax inversions and reverse mergers.

The paper proceeds as follows. Section 2 describes data, variable construction, and our empirical model. Section 3 reports the baseline results and robustness tests. We examine the mechanisms that drive our results in section 4. Section 5 concludes.

2. Data and Methods

We obtain M&A data between 1981 and 1997 from SDC Platinum. We consider all M&As irrespective of whether the merger resulted in a 100% takeover or only a change in controlling interest. Our main results are unchanged if we consider 100% takeovers only. We exclude deals that involve firms in the financial and utility industries. 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 involved in cross-state M&As, we retrieve financial information from Compustat and stock return information from CRSP.

Table I lists, from both acquirers' and targets' perspectives, each state's total number and dollar amount of transactions during the sample period (columns N and V respectively). We also

report each state's total number and dollar amount of cross-state transactions (columns NC and VC respectively) and their ratios to the overall (sum of within-state and cross-state) transactions (columns %NC and %VC). States are actively involved in cross-state acquisitions. Acquiring states' minimum %VC (%NC) is 12% (42%), and target states' minimum %VC (%NC) is 34% (52%). On average, for acquirers, cross-state transactions account for 65% (69%) of overall transaction volume (number). For targets, cross-state transactions account for 70% (73%) of overall transaction volume (number).

[Insert Table I here.]

We compute two main measures of cross-state acquisition activities for each state-pair-year of the sample. First, we compute the total transaction value of acquisitions made by firms located in state A targeting firms located in state B, divided by the total transaction value of acquisitions made by firms located in state A. We call this ratio *Acquisition volume A buys B.* As an alternative, we use the number of transactions in place of total transaction value to construct the ratio *Acquisition number A buys B.*[9] Since each observation is a state-pair-year, the total number of potential observations is 43,350 (51 × 50 = 2,550 state pairs over 17 years). However, we lose some observations due to missing values in some state-pair-years. On average, states spend 1.35% of their acquisition dollars in another particular state in a given year.

In our baseline analysis, we examine whether firms with better access to bank finance attract more acquirers in cross-state M&As. The major challenge in this exercise is that cross-state M&A activities and credit supply in target states may be endogenously determined. To tackle this issue, we use interstate banking deregulation events across states as a natural experiment. Firms in deregulated states experience a positive and plausibly exogenous shock to

[9] Including within-state deals in the denominator allows us to implicitly control for factors that can influence the volume of both within-state and cross-state deals (Erel, Liao, and Weisbach, 2012). However, our results are robust if we only include cross-state acquisitions in the denominator.

their bank credit supply (see. e.g., Kerr and Nanda, 2009 and Amore, Schneider, and Zaldokas, 2013), and therefore have a comparative advantage in bank finance over firms in regulated states. Table II reports the years in which each state started to allow interstate banking.

[Insert Table II 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 B-A*, is the difference in this dummy variable between states B and A, the target's home state and acquirer's home state, respectively. *Open B-A* measures the target state's comparative advantage in bank finance relative to the acquirer state.

We control for a variety of state characteristics. *Within-state acquisition growth B* (*A*) is the annual growth of acquisition volume in state B (A). We use these measures to control for the availability of potential targets in the target and acquirer states, respectively. The rationale is that if there are more potential targets available in a state for cross-state and within-state acquirers alike, we expect the state's within-state acquisition volume to experience higher growth. *Tobin's Q B-A* is the average market-to-book assets ratio of Compustat firms residing in the target state (B) minus that of the acquirer state (A). This variable controls for potential growth opportunities in the target state relative to the acquirer state. *Stock return B-A* is the difference between the average cumulative stock returns in the past 12 months of firms residing in the target state and of those in the acquirer state. We include this variable to capture the effect of differences in market valuations on cross-state acquisitions. Return data are from CRSP.

GDP growth B-A and *GDP per capita B-A* is the difference in GDP growth and GDP per capita, respectively, between the target and acquirer states. These variables proxy for productivity differences between the two states. GDP data are from Bureau of Economic

Analysis (BEA). *Unemployment B-A* is the difference in unemployment rates between the target and acquirer states. Unemployment data are from Bureau of Labor Statistics (BLS). *Corporate tax B-A* 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 B-A* 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). *Industry dissimilarity A&B* is the square root of the sum (over industries) of squared differences between the target and acquirer states in terms of each industry's (three-digit SIC) share in the state GDP. Again, industry GDP data are from the BEA. *Economic correlation A&B* is the correlation between the target and acquirer states' Coincident Indexes. Coincident Index data are from Federal Reserve Bank of Philadelphia. Table III reports the summary statistics of the main variables.

[Insert Table III here.]

Our baseline regression equation is therefore as follows:[10]

$$Acq.vol.A\ buys\ B_{AB,t} = \boldsymbol{\alpha_{AB}D_{AB}} + \boldsymbol{\alpha_t D_t} + \beta_1(Open\ B-A) + \boldsymbol{\beta_c Controls} + \varepsilon_{AB,t} \qquad \textbf{(1)}$$

The regression sample is a panel of state-pair-year observations. We use $\boldsymbol{D_{AB}}$, a vector of state-pair dummies to control for persistent characteristics of pairs of states, e.g., differences in the acquirer and target states' physical and economic sizes, the geographic distance between states, and their cultural similarity. $\boldsymbol{D_t}$ is a vector of year dummies, which control for time-

[10] We use OLS for our main regressions. Our results are very similar when using a Tobit model.

specific macroeconomic factors such as merger waves.[11] Because states' acquisition flows to other states are likely correlated, we cluster residuals by acquirer states and adjust stand errors accordingly.

3. Results

3.1. Baseline

Table IV shows our baseline results. We find that target states' comparative advantage in bank finance is an important determinant of cross-state M&A activities. The effect of *Open B-A* is statistically significant and economically large. Everything else equal, the dollar amount (number) of acquisitions by firms in state A targeting firms in state B as a percentage of the total amount (number) of acquisitions by firms in state A, is 0.00314 (0.00296) higher if state B has better access to bank finance than state A (due to deregulation). This number translates into a 22% (33%) greater volume (number) than the average acquisition volume (number) between a state pair. 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 B-A*) or the relative GDP growth between the states (*GDP Growth B-A*) from their 25th to 75th percentile. This evidence indicates that targets' comparative advantage in bank finance is an important attraction for cross-state acquirers.

[Insert Table IV here.]

The effects of control variables are generally consistent with the literature. For example, stock valuation of the target state relative to that of the acquirer state has a negative and significant effect on the acquisition volume, consistent with the tendency of acquirers with high

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

market valuation to buy targets with weaker performance (Erel, Liao, and Weisbach, 2012). We also find wealthier states (with higher GDP per capita) and states with higher GDP growth are more attractive M&A destinations, consistent with the idea that greater productivity attracts acquirers. 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.

3.2. Robustness

We test the robustness of our results in a number of ways. First, 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, to varying degrees. The years in which each state started to allow intrastate branching are also reported in Table II. We therefore include *Intrastate B-A* to control for this effect. *Intrastate B-A* is the difference between the target and acquirer states in terms of an indicator variable which equals 1 if the state allowed intrastate branching in the year concerned and 0 otherwise. Column 1 of Table V shows that while intrastate branching has a positive but insignificant effect on cross-state acquisition activity, the coefficient on our key variable of interest, *Open B-A*, is still statistically significant and largely maintains its magnitude as in the baseline model.

[Insert Table V here.]

Second, 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 B's deregulation allows banks in state A

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

We therefore add to the baseline regression an indicator variable, *Open AB*. It equals 1 if either state of a state-pair AB allows banks in the other state to enter its local market. [12] These entrant banks can then work as information intermediaries for potential merger partners in either state. Still, consider the state-pair Connecticut and California example we described in the introduction. When Connecticut first opened up to interstate banking, it only allowed banks from its neighboring states, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont, to enter. Therefore, the information channel would only work for merger partners in Connecticut and its neighboring states. For Californian acquirers buying Connecticut targets, the information channel is inactive because Californian banks were not (yet) allowed to enter Connecticut and vice versa. But the access to finance channel *is* active because entrant banks from Connecticut's neighboring states help to improve bank access in Connecticut. To the extent that *Open AB* captures banks' network effects on M&A activities, *Open B-A* only picks up the effect due to the target and acquirer states' differences in bank access. As reported in Column 2 of Table V, we find that while *Open AB* is statistically insignificant, the effect of *Open B-A* is virtually unchanged. Thus, the effect of target states' comparative advantage in bank finance is not confounded by banks' role as information intermediaries.

Third, we address the concern that our results could be driven by the link between bank access and corporate innovation. For example, Amore, Schneider, and Zaldokas (2013) and Chava, Oettl, Subramanian, and Subramanian (2013) show that interstate banking deregulation stimulates local firms' innovation. If innovative firms are more popular targets, then our baseline

[12] Data on each state's deregulation schedule and the set of outside states whose banks the state allows to enter its local banking market are from Amel (2000). We thank Dean Amel for kindly providing us these data.

results could reflect the influence of access to finance on the complexion of firms within deregulated states. For example, such firms could become more attractive targets because they use their expanded access to bank finance to enhance their innovation, productivity, etc. Although we already control for the availability of potential targets using within-state acquisition growth in both target and acquirer states, we further add to the baseline regression a control for the difference in patent output per capita between each pair of states to capture the relative availability of innovative firms, *Patents per capita B-A*. Patents data are from NBER Patent Citation database initially created by Hall, Jaffe, and Trajtenberg (2001), and we follow Cornaggia et al. (2015) to aggregate patent output to the state level. Column 3 of Table V reports the results. The effect of *Open B-A* is qualitatively unchanged, while the relative availability of innovative firms has no significant impact. This finding indicates that changes in innovative firms caused by changes in states' banking environment does not confound our baseline results.

Fourth, 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

B and A in terms of each of the four dummy variables to compute *Before 1 B-A*, *Before 0 B-A*, *After 1 B-A*, and *After 2 B-A*. We then run our baseline regression replacing *Open B-A* with these four variables. The variable *Before 1 B-A* allows us to assess whether any effect on cross-state merger activities can be found before deregulation changes the comparative financial advantage between states. Finding such an "effect" of deregulation prior to its inception could be symptomatic of reverse causality.

Column 4 of Table V shows that the coefficients on *Before 1 B-A* is negative and economically and statistically insignificant, indicating that there is no effect of deregulation before its introduction, thus mitigating concerns of reverse causality. By contrast, the coefficients on *Before 0 B-A*, *After 1 B-A*, and *After 2 B-A* are all positive with increasing economic significance. *After 2 B-A* 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.

Fifth, we address the possibility of omitted variables whose changes over time coincide with changes in *Open B-A*. For example, productivity shocks in certain industries may occur sequentially to firms in different states. If shocks to industry X in state A and to industry X in state B occur sequentially, and their timing coincides with states A and B's interstate banking deregulations, then changes in *Open B-A* may simply pick up the changes in industry X's productivity difference between states, which may affect cross-state merger activities. To tackle this omitted variable issue, we control for a quadratic time trend for each state-pair. That is, we add a state-pair-specific quadratic term, $\gamma_{AB1}t + \gamma_{AB2}t^2$, to the right hand side of equation (1). This quadratic time trend is able to absorb any hump-shaped, U-shaped, or linear changes in

some omitted variables that coincide with the pattern of changes in *Open B-A*, for each state-pair. As reported in column 5 of Table V, the coefficient on *Open B-A* is virtually unchanged even after we control for quadratic time trends. This result attenuates concerns of omitted variables.

Finally, we conduct a placebo test to further address concerns of omitted variables that coincide with the overall interstate banking deregulation process. 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 B-A*, 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 B-A*, while our real variable of interest will have no systematic presence in the regression. We replicate our baseline regression under this specification, and the results are shown in column 6 of Table V. The coefficient on the placebo *Open B-A* is economically small with a negative sign and is statistically insignificant. This non-result indicates that omitted variables that coincide with the overall interstate banking deregulation process are not a significant confounding factor, which corroborates the causal interpretation of our baseline results.

3.3. Pulling and pushing effects

The positive effect of *Open B-A* on *Acquisition volume A buys B* is consistent with the idea that targets' comparative advantage in bank finance attracts potential acquirers. Next we investigate whether this effect is driven by (1) target states' comparative advantage in bank finance pulling acquirers in, (2) acquirer states' comparative *disadvantage* in bank finance pushing acquirers out, or (3) both. To test for these pulling and pushing effects, we re-estimate

equation (1) using two separate indicators of interstate banking deregulation in the acquirer and target states (*Open B* and *Open A*), instead of the difference in the indicators (*Open B-A*).

[Insert Table VI here.]

As reported in Table VI, *Open B* has a positive effect and *Open A* has a negative effect on cross-state acquisition flows and both are statistically significant. Their economic significances are also comparable, although *Open B* (*Open A*) has a relatively larger impact on acquisition number (volume). The results indicate that both pulling and pushing effects are at work. States with more competitive banking environments attract cross-state acquirers while states with less competitive banking environments push resident acquirers to pursue greener pastures elsewhere. This finding further supports the view that firms actively change their boundaries to optimize their financial environment.

4. Mechanisms

The previous section establishes our main finding that firms with better access to bank finance are more attractive targets in cross-state mergers. In this section we conduct further analyses to understand the mechanisms underlying this effect.

4.1. Bank access vs. growth opportunities

We first exploit cross-sectional variations in acquirers' characteristics to confirm that targets' superior banking access is the major lure for acquisition flows into deregulated states. Intuitively, if targets' comparative advantage in bank access drives our results, then the effect we document should be particularly strong for acquirers that rely more on bank financing, e.g., small and private firms (Petersen and Rajan, 1994; Fluck, Holtz-Eakin, and Rosen, 1998; and Berger and Udell, 2002), and for acquirers with greater frictions in external financing, e.g., firms with

more information asymmetry or fewer pledgable assets (Edmans, 2009; Cremers and Sepe, 2014; Campello and Larrain, 2015).

We test the above conjectures by decomposing each state-pair-year acquisition flow observation into two based on acquirer characteristics: 1) small vs. big acquirers, 2) private vs. public acquirers, and 3) acquirers with many vs. few intangible assets (relative to total assets), Specifically, for split 1), we construct two dependent variables, *Acquisition volume small A buys B* and *Acquisition volume big A buys B*. *Acquisition volume small (big) A buys B* equals the dollar volume of acquisitions where small (big) firms residing in state A buy firms residing in state B divided by total dollar volume of acquisitions made by small (big) firms residing in state A. An acquirer is considered as small (big) if its total assets are below (above) the Compustat sample median in the year when the deal is announced. If an acquirer is not a Compustat firm and thus has no total assets data from Compustat, we supplement this information from SDC.

For split 2), we construct two dependent variables, *Acquisition volume private A buys B* and *Acquisition volume public A buys B*. *Acquisition volume private (public) A buys B* equals the dollar volume of acquisitions where private (public) firms residing in state A buy firms residing in state B divided by total dollar volume of acquisitions made by private (public) firms residing in state A. An acquirer is considered as private (public) if it is not (it is) in the CRSP database in the year when the deal is announced.

For split 3), we construct two dependent variables, *Acquisition volume high-intangible A buys B* and *Acquisition volume low-intangible A buys B*. *Acquisition volume high- (low-) intangible A buys B* equals the dollar volume of acquisitions where firms residing in state A and having many (few) intangible assets buy firms residing in state B divided by total dollar volume of acquisitions made by firms residing in state A and having many (few) intangible assets. An

acquirer is considered as a firm with many (few) intangible assets if the intangible assets ratio (i.e., 1-ppent/at, averaged over all Compustat firms in the acquirer's three-digit SIC industry) is above (below) the Compustat sample median in the year when the deal is announced. We use industry averages instead of firm level measures because many acquirers are not Compustat firms but do have industry classification from SDC.

[Insert Table VII here.]

For each split, we re-estimate equation (1) using the two dependent variables separately. Panels A, B, and C of Table VII report the results for split 1), 2), and 3) respectively. The effect of targets' comparative advantage in bank financing is significantly stronger, both economically and statistically, for deals with small acquirers and with acquirers that have many intangible assets than for deals with big acquirers and with acquirers that have few intangible assets. The effect associated with private acquirers is also stronger than that associated with public acquirers, but the difference is just shy of conventional statistical significance. Because acquirers tend to be big firms in general, to make sure our small acquirer subsample indeed captures those with greater frictions accessing external finance, we also use the 25^{th} percentile of Compustat firms as the breakpoint, and the results are virtually the same (not reported). On balance, these results confirm that the lure of better access to bank finance is a major driver underlying the acquisition flows into deregulated states.

In our robustness tests (see section 3), we endeavored to tackle omitted variable issues. The concern that the effect we document may be driven by unobserved changes in growth opportunities in target states that correlate with these states' banking deregulations is therefore minimized. An alternative way to distinguish the effect of targets' banking advantage from that of unobserved growth opportunities is to exploit cross-sectional variation in acquirers' growth

potential. Specifically, if targets' unobserved growth opportunities drive our results, then the effect we document should be particularly strong for acquirers with limited growth opportunities, because these acquirers would be more eager to pursue outside opportunities.

To test this hypothesis, we again construct two dependent variables, *Acquisition volume high-growth A buys B* and *Acquisition volume low-growth A buys B. Acquisition volume high-(low-) growth A buys B* equals the dollar volume of acquisitions where firms residing in state A and having many (few) growth opportunities buy firms residing in state B divided by total dollar volume of acquisitions made by firms residing in state A and having many (few) growth opportunities. An acquirer is considered to have many (few) growth opportunities if the market-to-book assets ratio (i.e., (prcc_f*csho+at-ceq-txdb)/at, averaged over all Compustat firms in the acquirer's three-digit SIC industry) is above (below) the Compustat sample median in the year when the deal is announced. Again, we use industry average instead of firm level measures because many acquires are not Compustat firms. We re-estmate equation (1) with these two dependent variables. As reported in Panel D of Table VII, between deals with acquirers that have few growth opportunities and with acquirers that have many growth opportunities, the effects of targets' comparative advantage in bank access are very similar and statistically indistinguishable. These results further confirm that the attractiveness of targets in deregulated states is unlikely driven by unobserved growth opportunities.

4.2. Likelihood of being targeted in cross-state acquisitions

So far our analyses are at the state level. We next explore firm level evidence to gain a clearer understanding of our results. Because firm level data come from Compustat and CRSP, private firms are largely absent from this analysis. The benefit, however, is that we can directly control for firm characteristics that are related to M&A activities. Since targets' comparative

advantage in bank finance is especially attractive to small, private, and high-intangible acquirers, we examine the likelihood of a firm receiving a bid from an out-of-state small (private, or high-intangible) firm in a given year with a probit model. Our independent variable of interest is *Open*, a dummy variable 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 the targets for small, private, or high-intangible bidders are often small firms too, we also control for *Small*, an indicator that the (potential target) firm's total assets are below the annual sample median, as well as the interaction term *Open* × *Small*.

[Insert Table VIII here.]

Table VIII reports the results. *Open* × *Small* is positive and significant in all specifications, indicating that small firms with better access to bank finance receive more cross-state acquisition bids from small, private, or high-intangible acquirers. *Open* itself is insignificant, suggesting that banking advantage does not make a potential target firm more attractive if the firm is big. This is intuitive because big firms are difficult to acquire, and better bank access is unlikely a major motivation to acquire big firms.

The bottom panel of Table VIII also reports the marginal effects on the dependent variable given the potential target firm's size and its home state's banking market openness. For small firms, their likelihood of receiving a cross-state acquisition bid from small (private, high-intangible) acquirers increases from 1.17% (0.74%, 1.29%) to 1.97% (1.28%, 1.85%), or a 68% (73%, 43%) increase, if their home states open up to interstate banking. For large firms, not surprisingly, the likelihood is almost unchanged. In summary, it is precisely those firms valuing access to finance the most that are eager to make cross-state bids to gain such access. Our firm-

level evidence thus confirms the positive role of targets' comparative financial advantage in stimulating cross-state mergers.

4.3. Synergies created by targets' comparative financial advantage

With robust evidence that targets' financial advantage attracts acquirers, we next examine synergies generated in these acquisitions. We start by showing that when acquirers with more financing frictions or growth opportunities merge with targets with better access to finance, the combined firms enjoy significant gains in profitability. Further analysis reveals two sources for such synergy gains: (1) increased capability for high-growth acquirers to borrow more and (2) substantial financing cost savings through targets' relationship banks, especially for acquirers with more financing frictions. The synergy gains are also reflected by superior long-run stock market performance.

4.3.1 Profitability gains for merged firms

We first examine the effect of acquiring targets with better bank access on the post-merger profitability of the combined firms. Following Harford (2005), we regress post-merger profit of the merged firm on its pre-merger counterpart and a set of control variables, as well as our variable of interest, *Open B-A*. The dependent variable, *Post-merger profit*, is equal to the merged firm's industry (three-digit SIC code) median-adjusted income before extraordinary items over lagged total assets [ib/at(t-1)], averaged over the 3 years after merger completion. This approach follows Healy, Palepu, and Ruback (1992). Similarly, we construct the pre-merger counterpart, *Pre-merger profit*, using the 3-year average prior to the bid announcement assuming the acquirer and the target are a pseudo-combined firm.

[Insert Table IX here.]

Panel A of Table IX reports the results. In column 1, *Open B-A* is negative and statistically insignificant, indicating that, on average, profitability gains from targets' comparative financial advantage are not distinguishable from zero. In columns 2, 3, and 4, we further interact *Open B-A* with *Small acquirer*, *High-intangible acquirer*, and *High-growth acquirer*, respectively. *Small acquirer* is an indicator that the acquirer's total assets before the bid announcement are below the annual sample median. *High-intangible acquirer* is an indicator that the acquirer's intangible assets ratio before the bid announcement is above the annual sample median. These two indicators capture acquirers' financing frictions. *High-growth acquirer* is an indicator that the acquirer's market-to-book assets ratio before the bid announcement is above the annual sample median. This variable captures acquirers' growth opportunities. The results show that while *Open B-A* remains negative and statistically insignificant, all three interaction terms are positive and highly significant. The point estimate is equivalent to a 0.40 (0.18, 0.57) standard deviation increase in profitability, if small (high-intangible, high-growth) acquirers merge with targets with better bank access. The evidence suggests that acquirers with financing frictions and growth opportunities achieve substantial synergy gains when they acquire targets with comparative advantage in bank finance.

4.3.2 Leverage increases for merged firms

Are acquirers able to borrow more after they acquire targets with better access to bank finance? Since acquirers already have ample financial resources to purchase other firms, it is unlikely that they need substantial increases in access to capital. However, they may want to borrow more if they have growth opportunities to finance. To test these conjectures, we run similar regressions as above using *Post-merger leverage* as the dependent variable. *Post-merger leverage* is equal to the merged firm's industry (three-digit SIC) median-adjusted leverage ratio

[(dltt+dlc)/at], averaged over the 3 years after merger completion. In addition to examining *Open B-A* as an individual term, we again interact *Open B-A* with the three indicators, *Small acquirer*, *High-intangible acquirer*, and *High-growth acquirer*, respectively. We also control for standard leverage determinants such as profitability, fixed assets, total assets, and Tobin's Q.[13]

Panel B of Table IX reports the results. *Open B-A* does not have a significant impact on merged firms' leverage, either as an individual term or when interacted with *Small acquirer* or *High-intangible acquirer*. However, *Open B-A* does have a significantly positive effect on merged firms' leverage when interacted with *High-growth acquirer*. Specifically, for acquirers with good growth opportunities, their post-merger leverage ratio is 8.2% higher if they acquire targets with better access to bank finance than if their targets do not have such an advantage. The evidence suggests that average acquirers do not exploit targets' comparative advantage in bank finance to borrow more, which is not surprising given that acquirers are generally well off. However, acquirers with good growth opportunities tend to borrow more after acquiring targets with better access to bank finance.

4.3.3 Financing cost savings for merged firms

Given targets' comparative advantage in bank financing, savings in financing costs can be an important source of synergy gains. We test this conjecture by examining the effect of acquiring targets with better bank access on the post-merger interest expense of the combined firms. We run similar regressions as above using *Post-merger interest expense* as the dependent variable. *Post-merger interest expense,* is equal to the merged firm's industry (three-digit SIC) median-adjusted interest expense as a proportion of annual average debt balance [xint×2/(dltt(t)+dltt(t-1)+dlc(t)+dlc(t-1))], averaged over the 3 years after merger completion.

[13] Individual terms of *Small acquirer, High-intangible acquirer*, and *High-growth acquirer* are redundant because we include controls for leverage determinants. Therefore, we do not include them in the regressions.

Panel C of Table IX reports the results. In column 1, *Open B-A* has a significantly negative impact on *Post-merger interest expense*. If the target state has better access to bank finance than the acquirer state, the merged firm enjoys a 41 basis points lower interest expense than if the target and acquirer states' banking accesses are similar. In column 2, *Small acquirer* × *Open B-A* is negative but statistically insignificant. *Open B-A* is still negative and statically significant. That is, small acquirers seem to save even more financing costs if their targets have comparative advantage in bank finance, although the incremental savings are too noisy to be statistically reliable. In column 3, *High-intangible acquirer* × *Open B-A* is negative and statistically significant. The point estimate of the interaction term translates into 124 basis points savings in merged firms' financing costs if acquirers with large intangible assets buy targets with better bank access. In column 4, *High-growth acquirer* × *Open B-A* is negative but statistically insignificant. Given that synergy gains for high-growth acquirers are in the form of more borrowing for growth opportunities, as we find in Panel B, financing cost savings are perhaps not a significant source of synergies being pursued. Overall, the evidence suggests that acquirers, especially those facing more financing frictions, are able to save substantial amounts of financing costs when they acquire targets with comparative advantages in bank finance.

We next use loan-level data to examine whether the financing cost reduction is achieved through targets' relationship banks. We match merged firms with borrowers in the DealScan database using the linkage file of Chava and Roberts (2008). Since DealScan enables us to identify lenders' headquarters states directly, we construct *Open L-A*, which is equal to an indicator of the lender's headquarters state (L) being open to interstate banking minus an indicator of the acquirer's state (A) being open to interstate banking. *Open L-A* thus measures whether lenders to the merged firms are more competitive than local lenders in acquirers'

states.[14] We use *Target lender*, an indicator that equals 1 if the lender is headquartered in the target's state, to capture targets' local relationship banks.[15] We use loan spreads over LIBOR reported in DealScan to measure borrowing costs.

[Insert Table X here.]

As shown in Table X, the interaction *Target lender* × *Open L-A* is negative and statistically significant. The point estimate indicates that loans extended by targets' relationship banks are 25-29 basis points cheaper (depending on the specification) if these lenders are in more competitive banking markets than acquirers' states. Interestingly, *Open L-A* itself is positive and statistically significant. That is, acquirers actually pay higher interest rates if they borrow from lenders that are not their targets' relationship banks, even if these lenders are in more competitive banking markets. This loan-level evidence indicates that the interest savings are mainly achieved through targets' relationship banks, *not* just any banks in a competitive banking market. Furthermore, given that we only have loan-level data on relatively large firms through DealScan, we speculate that financing cost savings could be even greater for small firms and firms that face more external financing frictions.

4.3.4 Long-run stock performance

We further examine the long-run stock performance of acquirers to develop a well-rounded assessment of whether targets' comparative financial advantage creates value. We follow Harford (2005) and track the long-run performance of cross-state acquirers using

[14] Ideally we should use the location of the branch office where the loan is initiated instead of the bank headquarters location. However, such data is not publicly available. A comforting fact is that by year 1997, the end of our sample period, most branches are still located in banks' headquarters states. Branches located outside of banks' headquarters states only account for 12.3% of banks' total deposits. Moreover, measurement errors regarding where loans were initiated will only bias the coefficient towards zero and work against finding any significant result.

[15] Borrowers covered by DealScan tend to be large firms, and meaningful coverage of Compustat firms by DealScan only starts in late 1980's. These data limitations make it impractical to identify targets' relationship banks via loan contracts as many target firms are small or private firms not covered by DealScan and/or Compustat. We therefore use lenders' headquarters location to identify potential relationships with target firms.

calendar-time portfolio returns.[16] 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 three-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 three-factor model.

[Insert Table XI here.]

Panel A of Table XI reports the results. For value-weighted portfolios, portfolio *Open* earns a monthly alpha of 1.21%, which is statistically significant. Portfolio *Closed* earns a monthly alpha of 0.80% and is also statistically significant. Importantly, *Open-Closed* has a monthly alpha of 0.42% and is statistically significant. For equally weighted portfolios, *Open* also earns higher abnormal returns than *Closed*, although the difference is not statistically significant. This evidence indicates that acquirers targeting firms with better access to bank finance exhibit better long-run performance on average, consistent with the view that targets' comparative financial advantage creates value.

Next, we split the sample acquirers according to their financing frictions and growth opportunities. *Small vs. big acquirers* splits the sample according to whether the acquirer's total assets are above/below the sample median in the year before the bid announcement. *High- vs. low-intangible acquirers* splits the sample according to whether the acquirer's intangible assets ratio is above/below the sample median in the year before the bid announcement. *High vs. low-growth acquirers* splits the sample according to whether the acquirer's market-to-book assets ratio is above/below the sample median in the year before the bid announcement. We construct

[16] Mitchell and Stafford (2000) show that the methodology of calculating buy-and-hold returns on event-time portfolios is potentially subject to biased standard errors and therefore contaminated statistical inferences. They advocate using a calendar-time portfolio approach to avoid these problems.

the calendar-time portfolios *Open* and *Closed* based on these split samples. Specifically, in Panel B (C, D) of Table XI, we track the performance of the *Open-Closed* strategy conditional on the subsamples of small vs. big acquirers (high- vs. low-intangible acquirers, high- vs. low-growth acquirers), respectively.

We find that acquirers with more financing frictions (small acquirers and acquirers with more intangible assets) and acquirers with more growth opportunities experience greater long-run abnormal returns on the strategy that longs acquirers targeting firms in deregulated banking markets and shorts acquirers targeting firms in banking markets that remain closed. Using value-weighted portfolios, the difference in alpha between the zero-investment strategy involving acquirers with more financing frictions or growth opportunities and a similar strategy involving acquirers with less financing frictions or growth opportunities ranges from 0.79% to 2.02% per month over a course of 36 months, and is statistically significant. Although the difference in abnormal performance is slightly weaker using equally weighted portfolios, the results are generally consistent with targets' comparative advantage in bank finance adding the most value to acquirers who would benefit the most from it.

Taken together, our evidence regarding profitability gains, leverage increases, financing cost savings, and long-run stock performance all supports the view that targets' comparative financial advantage makes significant contributions to synergy creation.

4.4. Abnormal returns on targets and acquirers

Given that targets' comparative financial advantage is able to create synergies for merged firms, do target shareholders realize this value in the stock market in the event of merger announcements? Following Schwert (2000), we measure the premium earned by a target firm in a cross-state acquisition as the sum of abnormal returns on the firm's stock during trading days

[*D*-63, *D*+126] relative to the bid announcement date, *D*. We compute abnormal returns relative to the market model after estimating parameters using daily returns in the trading year [*D*-316, *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 B-A*, the measure of target comparative advantage in bank finance, as well as its interactions with acquirer characteristics, *Small acquirer* × *Open B-A*, *High-intangible acquirer* × *Open B-A*, and *High-growth acquirer* × *Open B-A*, respectively. Panel A of Table XII reports the results

[Insert Table XII here.]

In column 1, the coefficient on *Open B-A* is negative and insignificant. This non-result reflects the average across all merger deals. In columns 2-4, the coefficients on *Small acquirer* × *Open B-A*, *High-intangible acquirer* × *Open B-A*, and *High-growth acquirer* × *Open B-A* are all positive and significant. That is, targets' comparative financial advantage has a significantly positive impact on target return premium when the target receives bids from acquirers that are particularly interested in better access to finance. This evidence further confirms that targets' attractiveness and value-creation potential indeed come from their comparative advantage in access to finance. However, when we examine targets' cumulative abnormal returns in a short window around bid announcements, [D-1, D+1] or [D-2, D+2], we do not find a significant impact of targets' comparative financial advantage. These results indicate that targets' shareholders are able to realize the potential value associated with targets' comparative financial advantage in the stock market, but only gradually.

For completeness, we also examine acquirers' cumulative abnormal returns during the same event window. Panel B of Table XII reports the results. Acquirers' shareholders also enjoy significantly greater cumulative abnormal returns when small acquirers and acquirers with more

growth opportunities bid for targets with better access to bank finance. The effect for high-intangible acquirers is also positive but statistically insignificant. Thus, even though targets' comparative advantage in bank finance makes targets' shares more expensive, acquirers that would benefit from such an advantage still receive positive feedback from their shareholders in the form of share value increases. It seems the decision to acquire targets' comparative financial advantage is a win-win strategy.

4.5. Acquisition payment method

Lastly, we examine the means of payment in acquisitions to shed further light on financial motivations behind acquisition decisions. If firms make cross-state acquisitions to access better financial resources that they lack, then it seems natural to expect that payments in these transactions are more likely to be in stock and other means rather than cash. We take this question to the data. Using SDC data on the means of payments, we find that among the deals where the acquirer's state allows interstate banking, 38% are paid entirely in cash, 20% are paid entirely in shares, and 9% 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 interstate banking, 28% are paid entirely in cash, 19% are paid entirely in shares, and 39% are paid in a combination of cash and shares. In terms of cash as a proportion of the transaction value, an average transaction has 59% (19%) paid in cash if the acquirer's state allows (does not allow) interstate banking, and this difference is statistically significant ($t = 12.27$). These results suggest that acquirers in states with poorer access to bank finance are less (more) likely to use cash (shares and other means) as the transaction currency than acquirers from states with better access to finance. As such, acquiring better access to finance seems a natural motivation for those with limited financial means.

5. Conclusion

This paper demonstrates that targets' comparative advantage in bank finance is an important attraction for acquirers. This comparative advantage creates financial synergies in the form of financing cost savings, increased credit supply for growth opportunities, and eventually improved profitability for the merged firms. Firms with more frictions in external financing are among the most active pursuers, as well as beneficiaries, of targets with better access to finance. As prior research on financial synergies mostly focuses on how targets benefit from acquirers' resources, our study reveals another important dimension of synergy creation. As the debate continues over corporate tax inversions, where targets' comparative tax advantage lures acquirers overseas, our paper contributes evidence on the incentives and consequences of financially motivated mergers.

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Table I

Mergers and acquisitions: count and volume of all (within-state and cross-state) transactions and cross-state transactions

The sample comprises mergers and acquisitions between U.S. firms in Thomson Reuters' SDC database. The sample period is between 1981 and 1997. The "Acquirer" and "Target" columns report, from acquirers' and targets' perspectives respectively, the total number of transactions (N); the total volume of transactions in millions of dollars (V), the number of cross-state transactions (NC), the volume of cross-state transactions in millions of dollars (VC), and the percentage of cross-state transactions relative to the total number (%NC) and total volume (%VC).

	Acquirer						Target					
State	N	V	NC	VC	%NC	%VC	N	V	NC	VC	%NC	%VC
AK	26	522.45	11	434.10	42%	83%	96	2,029.10	81	1,940.75	84%	96%
AL	420	22,561.16	300	17,501.63	71%	78%	508	23,411.99	388	18,352.46	76%	78%
AR	259	14,103.93	191	8,829.83	74%	63%	278	8,123.51	210	2,849.41	76%	35%
AZ	706	17,400.04	491	11,170.85	70%	64%	786	25,243.79	571	19,014.60	73%	75%
CA	7,599	433,737.60	3,659	240,769.10	48%	56%	8,561	440,998.00	4,621	248,029.50	54%	56%
CO	1,635	98,684.70	1,161	70,040.08	71%	71%	1,430	88,571.53	956	59,926.91	67%	68%
CT	1,689	193,059.20	1,213	117,484.40	72%	61%	1,308	138,642.10	832	63,067.29	64%	45%
DC	331	22,057.71	283	18,541.63	85%	84%	232	77,935.50	184	74,419.42	79%	95%
DE	236	38,384.77	194	10,239.80	82%	27%	235	54,435.47	193	26,290.50	82%	48%
FL	2,712	81,683.14	1,669	55,003.30	62%	67%	2,880	100,284.20	1,837	73,604.40	64%	73%
GA	1,858	105,072.80	1,363	67,391.44	73%	64%	1,506	100,334.50	1,011	62,653.13	67%	62%
HI	48	1,316.25	23	1,029.00	48%	78%	98	1,250.74	73	963.49	74%	77%
IA	232	11,215.41	144	6,236.05	62%	56%	325	14,541.35	237	9,561.99	73%	66%
ID	160	6,901.61	109	3,619.84	68%	52%	143	5,709.83	92	2,428.06	64%	43%
IL	3,085	227,796.00	2,154	105,991.30	70%	47%	2,471	261,036.30	1,540	139,231.60	62%	53%
IN	612	33,157.32	410	24,068.80	67%	73%	717	23,902.80	515	14,814.28	72%	62%
KS	311	4,474.94	234	2,853.34	75%	64%	356	10,801.06	279	9,179.46	78%	85%
KY	385	21,609.58	284	14,380.38	74%	67%	455	18,985.28	354	11,756.08	78%	62%

Table I continued

	Acquirer						Target					
	N	V	NC	VC	%NC	%VC	N	V	NC	VC	%NC	%VC
LA	344	14,946.68	214	10,193.73	62%	68%	602	21,217.78	472	16,464.83	78%	78%
MA	2,290	111,415.70	1,422	71,595.67	62%	64%	2,304	121,313.80	1,436	81,493.73	62%	67%
MD	739	78,086.47	561	69,100.45	76%	88%	757	27,829.29	579	18,843.27	76%	68%
ME	63	617.66	47	353.57	75%	57%	119	1,912.75	103	1,648.66	87%	86%
MI	1,267	105,519.00	764	51,372.12	60%	49%	1,456	95,492.36	953	41,345.50	65%	43%
MN	1,508	47,858.12	962	25,504.84	64%	53%	1,312	62,039.85	766	39,686.57	58%	64%
MO	1,127	83,320.16	819	49,799.26	73%	60%	944	91,059.12	636	57,538.22	67%	63%
MS	178	62,921.33	135	61,931.23	76%	98%	226	6,081.69	183	5,091.59	81%	84%
MT	41	980.15	29	696.93	71%	71%	84	1,184.95	72	901.73	86%	76%
NC	842	26,618.88	543	17,578.77	64%	66%	1,061	27,884.77	762	18,844.66	72%	68%
ND	22	22.95	12	18.18	55%	79%	46	1,550.19	36	1,545.42	78%	100%
NE	240	17,483.15	183	14,409.72	76%	82%	226	21,309.44	169	18,236.01	75%	86%
NH	239	7,143.44	169	5,090.32	71%	71%	260	9,183.58	190	7,130.46	73%	78%
NJ	2,508	184,098.50	1,717	97,783.68	68%	53%	2,250	178,485.60	1,459	92,170.79	65%	52%
NM	149	2,998.53	125	2,875.28	84%	96%	217	11,411.94	193	11,288.69	89%	99%
NV	369	11,163.56	207	4,885.77	56%	44%	464	9,575.82	302	3,298.03	65%	34%
NY	5,825	593,069.40	3,730	282,908.80	64%	48%	4,528	548,580.10	2,433	238,419.40	54%	43%
OH	2,422	122,528.70	1,630	75,850.32	67%	62%	2,049	144,434.80	1,257	97,756.42	61%	68%
OK	619	24,559.66	417	13,699.14	67%	56%	617	35,963.23	415	25,102.71	67%	70%
OR	389	15,310.78	287	11,540.32	74%	75%	484	13,711.37	382	9,940.91	79%	73%
PA	2,830	180,559.80	2,008	129,222.30	71%	72%	2,202	163,830.80	1,380	112,493.30	63%	69%
RI	214	13,260.51	160	10,984.77	75%	83%	216	17,425.19	162	15,149.45	75%	87%
SC	290	10,884.93	201	7,754.37	69%	71%	380	15,323.69	291	12,193.13	77%	80%
SD	34	425.02	24	48.92	71%	12%	67	735.57	57	359.47	85%	49%
TN	959	61,289.72	760	36,626.57	79%	60%	803	55,197.84	604	30,534.69	75%	55%
TX	5,408	316,361.00	3,118	188,754.30	58%	60%	4,748	253,003.60	2,458	125,397.00	52%	50%

Table I continued

	Acquirer						Target					
	N	V	NC	VC	%NC	%VC	N	V	NC	VC	%NC	%VC
UT	469	15,452.70	308	11,068.22	66%	72%	502	17,906.95	341	13,522.47	68%	76%
VA	1,187	79,042.40	872	66,407.93	73%	84%	1,010	67,813.05	695	55,178.58	69%	81%
VT	37	409.63	35	400.63	95%	98%	64	621.72	62	600.72	97%	97%
WA	721	52,454.16	479	26,638.13	66%	51%	850	77,337.10	608	51,521.07	72%	67%
WI	713	22,376.67	491	14,739.62	69%	66%	787	33,786.41	565	26,149.36	72%	77%
WV	74	1,949.22	49	1,250.71	66%	64%	145	5,876.72	120	5,178.21	83%	88%
WY	34	313.25	22	118.87	65%	38%	97	2,306.85	85	2,112.47	88%	92%

Table II
States' banking deregulation years
This table reports the years in which each state started to allow interstate banking and intrastate branching, respectively.

State	Interstate banking	Intrastate branching	State	Interstate banking	Intrastate branching
AK	1982	Before 1970	MT	1993	1990
AL	1987	1981	NC	1985	Before 1970
AR	1989	1994	ND	1991	1987
AZ	1986	Before 1970	NE	1990	1985
CA	1987	Before 1970	NH	1987	1987
CO	1988	1991	NJ	1986	1977
CT	1983	1980	NM	1989	1991
DC	1985	Before 1970	NV	1985	Before 1970
DE	1988	Before 1970	NY	1982	1976
FL	1985	1988	OH	1985	1979
GA	1985	1983	OK	1987	1988
HI	1995	1986	OR	1986	1985
IA	1991	1997	PA	1986	1982
ID	1985	Before 1970	RI	1984	Before 1970
IL	1986	1988	SC	1986	Before 1970
IN	1986	1989	SD	1988	Before 1970
KS	1992	1987	TN	1985	1985
KY	1984	1990	TX	1987	1988
LA	1987	1988	UT	1984	1981
MA	1983	1984	VA	1985	1978
MD	1985	Before 1970	VT	1988	1970
ME	1978	1975	WA	1987	1985
MI	1986	1987	WI	1987	1990
MN	1986	1993	WV	1988	1987
MO	1986	1990	WY	1987	1988
MS	1988	1986			

Table III
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. Panel A reports the state-pair level variables used in our main analysis. *Acquisition volume A buys B* is the dollar volume of acquisitions where firms residing in state A buy firms residing in state B divided by total dollar volume of acquisitions made by firms residing in state A. *Acquisition number A buys B* is the number of acquisitions where firms residing in state A buy firms residing in state B divided by total number of acquisitions made by firms residing in state A. *Open B-A* is equal to an indicator of the target state (B) being open to interstate banking minus an indicator of the acquirer state (A) being open to interstate banking. *Tobin's Q B-A* is the average market-to-book assets ratio, i.e., (prcc_f*csho+at-ceq-txdb)/at, of Compustat firms residing in the target state (B) minus that of the acquirer state (A). *Stock return B-A* is the average 12-month cumulative stock return of CRSP firms residing in the target state (B) minus that of the acquirer state (A). *GDP growth B-A* is the real GDP growth of the target state (B) minus that of the acquirer state (A). *GDP per capita B-A* is the real GDP per capita of the target state (B) minus that of the acquirer state (A). *Unemployment B-A* is the unemployment rate of the target state (B) minus that of the acquirer state (A). *Corporate tax B-A* is the median corporate tax rate of the target state (B) minus that of the acquirer state (A). *Anti-combination B-A* is equal to an indicator of the target state (B) having anti-business combination laws minus an indicator of the acquirer state (A) having anti-business combination laws. *Industry dissimilarity A&B* is the 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 A&B* is the correlation between the coincident indexes of the acquirer and the target states. Panel B reports the state-level variables used to construct the state-pair level variables. *Open A (B)* is an indicator of the acquirer (target) state being open to interstate banking. *Within-state acquisition growth A (B)* is equal to the annual growth of within-state acquisition volume in the acquirer (target) state. *Tobin's Q A (B)* is the average market-to-book assets ratio of firms residing in the acquirer (target) state. *Stock return A (B)* is the average 12-month cumulative stock return of firms residing in the acquirer (target) state. *GDP growth A (B)* is the real GDP growth of the acquirer (target) state. *GDP per capita A (B)* is the real GDP per capita of the acquirer (target) state. *Unemployment A (B)* is the unemployment rate of the acquirer (target) state. *Corporate tax A (B)* is the median corporate tax rate of the acquirer (target) state. *Anti-combination A (B)* is equal to an indicator of the acquirer (target) state having anti-business combination laws. Panel C reports acquirer firm level variables that are used to subset the original sample for subsample analysis of cross-state acquisition activities. *Acquirer size* is the acquirer's total assets. *Acquirer intangible assets* is one minus net property, plant and equipment as a percentage of total assets, i.e., 1-ppenat/at, averaged over all Compustat firms in the acquirer's three-digit SIC industry. *Acquirer Tobin's Q* is the market-to-book assets ratio averaged over all Compustat firms in the acquirer's three-digit SIC industry.

Variable	N	Mean	Std. Dev.	Min	25th Pctl	Median	75th Pctl	Max
Panel A: State-pair level variables in the state-pair-year sample								
Acquisition volume A buys B	31097	0.014	0.072	0.000	0.000	0.000	0.000	1.000
Acquisition number A buys B	31097	0.009	0.032	0.000	0.000	0.000	0.000	1.000
Open B-A	31097	-0.022	0.401	-1.000	0.000	0.000	0.000	1.000
Tobin's Q B-A	31097	0.004	0.411	-1.691	-0.203	-0.002	0.200	1.691
Stock return B-A	31097	-0.006	0.194	-0.638	-0.105	-0.004	0.098	0.638
GDP growth B-A	31097	-0.002	0.040	-0.120	-0.025	-0.001	0.022	0.120
GDP per capita B-A	31097	0.001	0.013	-0.078	-0.005	0.000	0.005	0.078
Unemployment B-A	31097	-0.061	2.302	-5.567	-1.533	-0.058	1.400	5.567
Corporate tax B-A	31097	-0.147	3.628	-9.000	-2.500	0.000	2.050	9.000
Anti-combination B-A	31097	-0.019	0.577	-1.000	0.000	0.000	0.000	1.000
Industry dissimilarity A&B	31097	0.124	0.063	0.024	0.083	0.105	0.150	0.500
Economic correlation A&B	31097	0.641	0.599	-0.952	0.585	0.972	0.993	1.000
Panel B: State level variables in the state-pair-year sample								
Open A	31097	0.732	0.443	0.000	0.000	1.000	1.000	1.000
Open B	31097	0.714	0.452	0.000	0.000	1.000	1.000	1.000
Within-state acquisition growth A	31097	11.389	41.369	-0.993	-0.548	0.195	2.898	321.103
Within-state acquisition growth B	31097	10.077	39.248	-0.993	-0.501	0.000	2.263	321.103
Tobin's Q A	31097	1.423	0.313	0.859	1.221	1.364	1.557	3.305
Tobin's Q B	31097	1.427	0.336	0.859	1.213	1.364	1.576	3.305
Stock return A	31097	0.161	0.269	-0.288	0.001	0.114	0.258	1.159
Stock return B	31097	0.157	0.271	-0.288	-0.005	0.111	0.254	1.159
GDP growth A	31097	0.035	0.033	-0.075	0.014	0.035	0.058	0.110
GDP growth B	31097	0.033	0.035	-0.075	0.013	0.034	0.057	0.110
GDP per capita A	31097	0.030	0.010	0.008	0.025	0.029	0.033	0.098
GDP per capita B	31097	0.030	0.010	0.008	0.025	0.029	0.033	0.098
Unemployment A	31097	6.284	2.050	2.625	4.892	6.017	7.392	12.025
Unemployment B	31097	6.253	2.036	2.625	4.842	5.967	7.358	12.025
Corporate tax A	31097	6.318	2.556	0.000	5.000	6.200	8.000	11.500
Corporate tax B	31097	6.238	2.563	0.000	5.000	6.200	7.900	11.500
Anti-combination A	31097	0.388	0.487	0.000	0.000	0.000	1.000	1.000
Anti-combination B	31097	0.373	0.484	0.000	0.000	0.000	1.000	1.000
Panel C: Firm level variables in the acquirer-year sample								
Acquirer size	16084	1110.437	3102.092	1.536	33.737	134.790	615.804	22162.600
Acquirer intangible ratio	15727	0.660	0.176	0.244	0.558	0.719	0.789	0.919
Acquirer Tobin's Q	15718	2.062	0.836	0.887	1.437	1.874	2.496	5.276

Table IV

Cross-state acquisition activities: baseline regressions

The sample is a panel of state-pair-year observations from 1981 to 1997. Each state-pair is a combination of two different states in the U.S. The table reports results from OLS regressions. The dependent variable in column 1 is *Acquisition volume A buys B* (V). The dependent variable in column 2 is *Acquisition number A buys B* (N). The variables are defined in Table III. Standard errors are clustered by acquirer states, with corresponding t-statistics reported in parentheses. ***, **, and * indicates statistical significance at 1%, 5%, and 10% respectively.

	(1) V	(2) N
Open B-A	0.00314***	0.00296***
	(3.132)	(4.591)
Within-state acquisition growth B	-0.174**	-0.212***
	(-2.103)	(-3.916)
Within-state acquisition growth A	-0.0372	0.186***
	(-0.444)	(3.211)
Tobin's Q B-A	0.000650	0.00112
	(0.469)	(0.992)
Stock return B-A	-0.00714***	-0.00708***
	(-3.806)	(-4.533)
GDP growth B-A	0.0283**	0.0367***
	(2.680)	(4.967)
GDP per capita B-A	0.169*	0.130*
	(1.796)	(1.742)
Unemployment B-A	0.00163***	0.00126***
	(4.348)	(4.323)
Corporate tax B-A	0.000696***	0.000720***
	(2.925)	(3.918)
Anti-combination B-A	0.000332	-0.00137
	(0.236)	(-1.135)
Industry dissimilarity A&B	-0.00192	-0.00361
	(-0.112)	(-0.396)
Economic correlation A&B	-0.000261	-0.000485
	(-0.294)	(-0.793)
Constant	0.0151***	0.0137***
	(5.037)	(7.892)
State-pair fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
N	31,097	37,058
R-sqr	0.085	0.130

Table V

Cross-state acquisition volume: robustness tests

The sample is a panel of state-pair-year observations from 1981 to 1997. Each state-pair is a combination of two different states in the U.S. The dependent variable is *Acquisition volume A buys B*. Column 1 further controls for *Intrastate B-A,* which is equal to an indicator of the target state (B) allowing intrastate branching minus an indicator of the acquirer state (A) allowing intrastate branching. Column 2 further controls for *Open AB*, an indicator that equals 1 if state A allows banks in state B to enter or state B allows banks in state A to enter. Column 3 further controls for *Patents per capita B-A,* which equals the patent output per capita of the target state (B) minus that of the acquirer state (A). Column 4 examines the dynamic effects of banking deregulation using *Before 1 B-A, Before 0 B-A, After 1 B-A,* and *After 2 B-A*. *Before 1 B-A* is equal to an indicator of the target state (B) to start opening to interstate banking next year minus an indicator of the acquirer state (A) to start opening to interstate banking next year. *Before 0 B-A* is equal to an indicator of the target state (B) starting opening to interstate banking this year minus an indicator of the acquirer state (A) starting opening to interstate banking this year. *After 1 B-A* is equal to an indicator of the target state (B) having started opening to interstate banking last year minus an indicator of the acquirer state (A) having started opening to interstate banking last year. *After 2 B-A* is equal to an indicator of the target state (B) having started opening to interstate banking at least two years ago minus an indicator of the acquirer state (A) having started opening to interstate banking at least two years ago. Column 5 further controls for quadratic time trends for each state-pair. Column 6 uses placebo deregulation years for each state. Other control variables are the same as in Table IV. Standard errors are clustered by acquirer states, with corresponding t-statistics reported in parentheses. ***, **, and * indicates statistical significance at 1%, 5%, and 10% respectively.

	(1) Control for intrastate banking	(2) Control for bank information	(3) Control for difference in patent output	(4) Control for pre-exiting trends	(5) Control for quadratic time trends within state-pair	(6) Placebo test
Open B-A	0.00277**	0.00315***	0.00317***		0.00305***	-0.000167
	(2.641)	(3.139)	(3.177)		(2.916)	(-0.133)
Intrastate B-A	0.00146					
	(1.384)					
Open AB		-0.00109				
		(-0.835)				
Patents per capita B-A			0.000901			
			(0.497)			
Before 1 B-A				-0.000566		
				(-0.522)		
Before 0 B-A				0.00153		
				(1.099)		
After 1 B-A				0.00231*		
				(1.991)		
After 2 B-A				0.00488***		
				(3.749)		
Within-state acquisition growth B	-0.179**	-0.174**	-0.182**	-0.129	-0.216**	-0.168**
	(-2.152)	(-2.109)	(-2.191)	(-1.561)	(-2.580)	(-2.030)
Within-state acquisition growth A	-0.0325	-0.0381	-0.0306	-0.0562	-0.0631	-0.0422
	(-0.381)	(-0.453)	(-0.361)	(-0.649)	(-0.708)	(-0.487)
Tobin's Q B-A	0.000495	0.000654	0.000703	0.000324	0.00104	0.000484
	(0.368)	(0.472)	(0.509)	(0.215)	(0.704)	(0.357)
Stock return B-A	-0.00720***	-0.00714***	-0.00708***	-0.00592***	-0.00720***	-0.00732***
	(-3.823)	(-3.801)	(-3.806)	(-3.241)	(-3.837)	(-3.966)
GDP growth B-A	0.0250**	0.0283**	0.0272**	0.0243**	0.0274**	0.0344***
	(2.304)	(2.674)	(2.610)	(2.208)	(2.607)	(3.382)
GDP per capita B-A	0.165*	0.169*	0.165*	0.162*	0.184*	0.165*
	(1.788)	(1.796)	(1.762)	(1.774)	(1.885)	(1.749)
Unemployment B-A	0.00166***	0.00163***	0.00163***	0.00162***	0.00165***	0.00167***
	(4.367)	(4.354)	(4.354)	(4.024)	(4.494)	(4.403)
Corporate tax B-A	0.000693***	0.000696***	0.000659***	0.000685***	0.000691***	0.000720***
	(2.950)	(2.925)	(2.687)	(2.756)	(2.730)	(3.006)
Anti-combination B-A	0.000311	0.000330	0.000237	0.000121	0.000149	0.000617
	(0.220)	(0.235)	(0.166)	(0.0880)	(0.108)	(0.436)
Industry dissimilarity A&B	-0.00131	-0.00231	-0.00193	-0.0107	-0.0566	-0.00120
	(-0.0752)	(-0.134)	(-0.113)	(-0.624)	(-1.405)	(-0.0701)
Economic correlation A&B	-0.000286	-0.000257	-0.000257	-0.000527	-0.000152	-0.000244
	(-0.320)	(-0.290)	(-0.290)	(-0.541)	(-0.135)	(-0.276)
Constant	0.0151***	0.0152***	0.0152***	0.0161***	0.0216***	0.0151***
	(5.047)	(5.035)	(5.041)	(5.075)	(3.656)	(5.037)
State-pair fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
N	31,097	31,097	31,097	29,374	31,097	31,097
R-sqr	0.085	0.085	0.085	0.088	0.164	0.085

Table VI

Cross-state acquisition activities: pulling and pushing effects

The sample is a panel of state-pair-year observations from 1981 to 1997. Each state-pair is a combination of two different states in the U.S. The table reports results from OLS regressions. The dependent variable in column 1 is *Acquisition volume A buys B* (V). The dependent variable in column 2 is *Acquisition number A buys B* (N). The variables are defined in Table III. Standard errors are clustered by acquirer states, with corresponding t-statistics reported in parentheses. ***, **, and * indicates statistical significance at 1%, 5%, and 10% respectively.

	(1) V	(2) N
Open B	0.00269*	0.00361***
	(1.764)	(4.302)
Open A	-0.00360**	-0.00230**
	(-1.965)	(-2.162)
Within-state acquisition growth B	-0.173**	-0.214***
	(-2.060)	(-4.551)
Within-state acquisition growth A	-0.0362	0.184***
	(-0.440)	(3.822)
Tobin's Q B-A	0.000645	0.00112
	(0.563)	(1.304)
Stock return B-A	-0.00713***	-0.00708***
	(-3.295)	(-5.103)
GDP growth B-A	0.0284**	0.0366***
	(2.504)	(5.024)
GDP per capita B-A	0.169***	0.130***
	(3.636)	(4.427)
Unemployment B-A	0.00163***	0.00125***
	(6.226)	(8.198)
Corporate tax B-A	0.000696***	0.000720***
	(4.144)	(7.158)
Anti-combination B-A	0.000332	-0.00137**
	(0.382)	(-2.386)
Industry dissimilarity A&B	-0.00200	-0.00357
	(-0.105)	(-0.336)
Economic correlation A&B	-0.000248	-0.000505
	(-0.306)	(-0.960)
Constant	0.0152***	0.0136***
	(4.526)	(7.379)
State-pair fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
N	31,097	37,058
R-sqr	0.085	0.130

Table VII

Cross-state acquisition volume: bank access channel and growth opportunities channel

The sample is a panel of state-pair-year observations from 1981 to 1997. The table reports results from OLS regressions. In Panel A, the dependent variables in columns 1 and 2 are *Acquisition volume small A buys B* and *Acquisition volume big A buys B*, respectively. *Acquisition volume small (big) A buys B* equals the dollar volume of acquisitions where small (big) firms residing in state A buy firms residing in state B divided by total dollar volume of acquisitions made by small (big) firms residing in state A. An acquirer is considered as small (big) if its total assets are below (above) the Compustat sample median in the year when the deal is announced. In panel B, the dependent variables in columns 1 and 2 are *Acquisition volume private A buys B* and *Acquisition volume public A buys B*, respectively. *Acquisition volume private (public) A buys B* equals the dollar volume of acquisitions where private (public) firms residing in state A buy firms residing in state B divided by total dollar volume of acquisitions made by private (public) firms residing in state A. An acquirer is considered as private (public) if it is not (is) in the CRSP database in the year when the deal is announced. In Panel C, the dependent variables in columns 1 and 2 are *Acquisition volume high-intangible A buys B* and *Acquisition volume low-intangible A buys B*, respectively. *Acquisition volume high- (low-) intangible A buys B* equals the dollar volume of acquisitions where firms residing in state A and having many (few) intangible assets buy firms residing in state B divided by total dollar volume of acquisitions made by firms residing in state A and having many (few) intangible assets. An acquirer is considered as a firm with many (few) intangible assets if the intangible assets ratio, i.e., 1-ppent/at, averaged over all Compustat firms in the acquirer's three-digit SIC industry is above (below) the Compustat sample median in the year when the deal is announced. In Panel D, the dependent variables in columns 1 and 2 are *Acquisition volume high-growth A buys B* and *Acquisition volume low-growth A buys B*, respectively. *Acquisition volume high- (low-) growth A buys B* equals the dollar volume of acquisitions where firms residing in state A and having many (few) growth opportunities buy firms residing in state B divided by total dollar volume of acquisitions made by firms residing in state A and having many (few) growth opportunities. An acquirer is considered as a firm with many (few) growth opportunities if the market-to-book assets ratio, i.e., (prcc_f*csho+at-ceq-txdb)/at, averaged over all Compustat firms in the acquirer's three-digit SIC industry is above (below) the Compustat sample median in the year when the deal is announced. The other variables are defined in Table III. Standard errors are clustered by acquirer states, with corresponding t-statistics reported in parentheses. ***, **, and * indicates statistical significance at 1%, 5%, and 10% respectively.

	(1)	(2)	(3)
Panel A	Acquisitions by small acquirers	Acquisitions by big acquirers	Difference
Open B-A	0.00491***	0.00129	0.00362**
	(5.056)	(0.779)	(4.870)
Other controls	Yes	Yes	
State-Pair Fixed Effects	Yes	Yes	
Year Fixed Effects	Yes	Yes	
N	30,719	23,196	
R-Sqr	0.083	0.085	
Panel B	Acquisitions by private acquirers	Acquisitions by public acquirers	Difference
Open B-A	0.00453***	0.00283**	0.00170
	(4.601)	(2.219)	(1.630)
Other controls	Yes	Yes	
State-Pair Fixed Effects	Yes	Yes	
Year Fixed Effects	Yes	Yes	
N	29,180	27,468	
R-Sqr	0.078	0.084	
Panel C	Acquisitions by acquirers with many intangibles	Acquisitions by acquirers with few intangibles	Difference
Open B-A	0.00650***	0.00200*	0.00450***
	(4.708)	(1.699)	(7.110)
Other controls	Yes	Yes	
State-Pair Fixed Effects	Yes	Yes	
Year Fixed Effects	Yes	Yes	
N	26,809	28,707	
R-Sqr	0.087	0.078	
Panel D	Acquisitions by high-growth acquirers	Acquisitions by low-growth acquirers	Difference
Open B-A	0.00350***	0.00386***	-0.00036
	(3.327)	(3.758)	(0.090)
Other controls	Yes	Yes	
State-pair fixed effects	Yes	Yes	
Year fixed effects	Yes	Yes	
N	28,892	27,003	
R-sqr	0.084	0.075	

Table VIII
Likelihood of being targeted in cross-state acquisitions

The sample is a panel of firm-year observations from 1981 to 1997. The table reports results from probit regressions. The dependent variable for each column is shown in the column header. *Targeted by small (private, high-intangible) acquirers* is an indicator that equals 1 if the firm is targeted by a small (private, high-intangible) firm outside of the target firm's home state in the forecasting year. The definitions of small, private, and high-intangible acquirers follow those in Table VII. *Open* is an indicator that equals 1 if the firm's home state is open to interstate banking. *Small* is an indicator that equals 1 if the firm's total assets are below the annual Compustat sample median. *Asset liquidity* is the 4-year average of the ratio of net liquid assets to total assets [(act-lct)/at] prior to the forecasting year. *Debt-to-equity* is the 4-year average of the ratio of debt to equity [dltt/ceq] prior to the forecasting year. *Market-to-Book* is the 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 forecasting year. *P/E* is the 4-year average of the ratio of the year-end stock price to earnings per share [prcc_f/epspx] prior to the forecasting year. *Sales growth* is the sales growth over 4 years prior to the forecasting year. *ROE* is the 4-year average of the ratio of earnings to equity [2×ibadj(t)/(ceq(t)+ceq(t-1))] prior to the forecasting year. *Abnormal return* is the 4-year average of daily abnormal return based on the market model prior to the forecasting year, where the market model parameters are estimated in the 5th year before the forecasting year. *State controls* include *State stock return*, *State GDP growth*, *State GDP per capita*, *State correlation with US*, *State unemployment*, *State corporate tax*, and *State anti-combination*. *State stock return* is the equally weighted 12-month cumulative stock return of firms residing in the firm's home state. *State GDP growth* is the real GDP growth of the firm's home state. *State GDP per capita* is the real GDP per capita of the firm's home state. *State correlation with US* is the correlation between the coincident index of the firm's home state and that of the US. *State unemployment* is the unemployment rate of the firm's home state. *State corporate tax* is the median corporate tax rate of the firm's home state. *State anti-combination* is an indicator that equals 1 if the firm's home state has anti-business combination laws. Standard errors are clustered by firm, with corresponding t-statistics reported in parentheses. ***, **, and * indicates statistical significance at 1%, 5%, and 10% respectively. In the "Marginal effects" panel, Y | closed (open) & small (big) is the predicted probability from the probit model conditional on the firm is small (big) and its home state is closed (open) to interstate banking. ** indicates statistical significance at 5% for the difference between Y | closed & small and Y | open & small.

	(1) Targeted by small acquirers	(2) Targeted by private acquirers	(3) Targeted by high-intangible acquirers
Open	-0.00590	-0.0385	0.0260
	(-0.0800)	(-0.477)	(0.386)
Open × Small	0.213***	0.242***	0.118*
	(3.178)	(3.164)	(1.793)
Small	-0.0847	-0.226***	-0.200***
	(-1.456)	(-3.357)	(-3.464)
Asset liquidity	0.0414	-0.179**	0.124*
	(0.536)	(-2.131)	(1.743)
Debt-to-equity	0.0147	0.00924	-0.00315
	(1.261)	(0.769)	(-0.279)
Market-to-book	-0.0177***	-0.0116**	-0.00317
	(-3.316)	(-2.202)	(-0.775)
P/E	0.000125	0.000344	0.000484
	(0.244)	(0.664)	(1.065)
Sales growth	0.0117	0.0110	0.0131*
	(1.409)	(1.294)	(1.696)
ROE	-0.121***	-0.118***	-0.0863***
	(-4.561)	(-4.354)	(-3.237)
Abnormal return	3.156	1.258	-2.154
	(0.536)	(0.196)	(-0.406)
State stock return	0.00666	-0.0759	-0.0733
	(0.0396)	(-0.403)	(-0.468)
State GDP growth	1.013	2.094*	1.504
	(0.985)	(1.774)	(1.586)
State GDP per capita	10.76	-0.00459	10.16
	(0.870)	(-0.000321)	(0.878)
State correlation with US	0.0747	0.0111	0.0898*
	(1.448)	(0.198)	(1.911)
State unemployment	0.0494**	0.0593**	0.0405**
	(2.356)	(2.518)	(2.002)
State corporate tax	-0.00723	0.0145	0.0305
	(-0.219)	(0.389)	(1.011)
State anti-combination	0.0294	0.135*	0.0410
	(0.461)	(1.940)	(0.706)
Constant	-2.740***	-2.311***	-2.582***
	(-4.917)	(-3.839)	(-4.809)
State-pair fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
N	44,183	44,063	44,135
Pseudo R-sqr	0.036	0.031	0.033
Marginal effects			
Y | closed & small	0.0117	0.0074	0.0129
Y | open & small	0.0197**	0.0128**	0.0185
Y | closed & big	0.0146	0.0136	0.0212
Y | open & big	0.0144	0.0123	0.0225

Table IX
Combined firms' profit, leverage, and interest expense
The sample comprises combined firms in cross-state acquisitions from 1981 to 1997. The table reports results from OLS regressions. In Panel A, B, and C, the dependent variables are *Post-merger profit*, *Post-merger leverage*, and *Post-merger interest expense*, respectively. *Post-merger profit* is equal to the merged firm's three-digit SIC industry median-adjusted income before extraordinary items over lagged total assets [ib/at(t-1)], averaged over the 3 years after merger completion. *Post-merger leverage* is equal to the merged firm's three-digit SIC industry median-adjusted leverage ratio [(dltt+dlc)/at], averaged over the 3 years after merger completion. *Post-merger interest expense* is equal to the merged firm's three-digit SIC industry median-adjusted interest expense over average debt balance [xint×2/(dltt(t)+dltt(t-1)+dlc(t)+dlc(t-1))], averaged over the 3 years after merger completion. *Pre-merger profit*, *Pre-merger leverage*, and *Pre-merger interest expense* are computed similarly using the 3-year average prior to bid announcement and assuming the acquirer and the target are a combined firm. The other control variables, *Leverage*, *Profitability*, *Fixed assets*, *Total assets*, and *Tobin's Q*, are also constructed using the pre-merger 3-year average of their industry-adjusted firm-level measures assuming the acquirer and the target are a combined firm. Those firm-level measures are computed as follows. Leverage is the sum of long-term debt and debt in current liabilities as a percentage of total assets, i.e., (dltt+dlc)/at. Profitability is earnings before interest and taxes (EBIT) scaled by total assets, i.e., oiadp/at. Fixed assets are fixed assets as a proportion of total assets, i.e., ppent/at. Total assets is the natural log of total assets, i.e., ln(at). Tobin's Q is the market-to-book assets ratio, i.e., (prcc_f*csho+at-ceq-txdb)/at. *Small acquirer* is an indicator that the acquirer's total assets before bid announcement are below the annual sample median. *High-intangible acquirer* is an indicator that the acquirer's intangible assets ratio before bid announcement is above the annual sample median. *High-growth acquirer* is an indicator that the acquirer's Tobin's Q before bid announcement is above the annual sample median. Standard errors are clustered by acquirer states, with corresponding t-statistics reported in parentheses. ***, **, and * indicates statistical significance at 1%, 5%, and 10% respectively.

Panel A: profit	(1)	(2)	(3)	(4)
Open B-A	-0.00385	-0.0165	-0.0159	-0.0350
	(-0.222)	(-0.985)	(-0.569)	(-1.383)
Small acquirer × Open B-A		0.0459**		
		(2.045)		
Small acquirer		-0.0314		
		(-1.624)		
High-intangible acquirer × Open B-A			0.0211***	
			(3.212)	
High-intangible acquirer			0.0155	
			(0.911)	
High-growth acquirer × Open B-A				0.0653***
				(3.659)
High-growth acquirer				-0.00480
				(-0.402)
Pre-merge profit	0.613***	0.579***	0.611***	0.604***
	(8.973)	(7.244)	(9.330)	(8.484)
Constant	0.0130	0.0185	0.0000457	0.0228
	(0.262)	(0.340)	(0.000824)	(0.402)
State-pair fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
N	790	790	790	785
R-sqr	0.621	0.629	0.623	0.623

Panel B: leverage	(1)	(2)	(3)	(4)
Open B-A	0.0101	0.00857	-0.00604	-0.0269
	(0.520)	(0.353)	(-0.192)	(-0.922)
Small acquirer × Open B-A		0.0394		
		(0.271)		
High-intangible acquirer × Open B-A			0.0303	
			(0.831)	
High-growth acquirer × Open B-A				0.0818**
				(2.064)
Pre-merge leverage	0.399***	0.399***	0.399***	0.403***
	(3.562)	(3.584)	(3.602)	(3.882)
Profitability	-0.169	-0.169	-0.169	-0.166
	(-1.108)	(-1.116)	(-1.104)	(-1.241)
Fixed assets	0.102	0.103	0.101	0.102
	(0.889)	(0.899)	(0.909)	(1.037)
Total assets	-0.0128	-0.0128	-0.0127*	-0.0125*
	(-1.644)	(-1.630)	(-1.661)	(-1.829)
Tobin's Q	0.0103	0.0107	0.0105	0.0117
	(0.660)	(0.657)	(0.670)	(0.607)
Constant	0.0139	0.0141	0.0165	0.0826**
	(0.152)	(0.153)	(0.182)	(2.190)
State-pair fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
N	759	759	759	759
R-sqr	0.608	0.608	0.609	0.611

Panel C: interest expense	(1)	(2)	(3)	(4)
Open B-A	-0.00411***	-0.00327**	0.000322	-0.000053
	(-8.741)	(-2.271)	(0.0482)	(-0.00524)
Small acquirer × Open B-A		-0.0197		
		(-0.562)		
High-intangible acquirer × Open B-A			-0.0124*	
			(-1.733)	
High-growth acquirer × Open B-A				-0.0111
				(-1.007)
Pre-merge interest expense	0.0513	0.0471	0.0152	0.0151
	(0.624)	(0.584)	(0.164)	(0.171)
Leverage	0.0224	0.0224	0.0121	0.0125
	(0.752)	(0.753)	(0.410)	(0.412)
Profitability	-0.0436	-0.0440	-0.0485	-0.0496
	(-0.836)	(-0.855)	(-0.762)	(-0.811)
Fixed assets	0.0124	0.0123	0.0202	0.0197
	(0.409)	(0.404)	(0.571)	(0.546)
Total assets	-0.00104	-0.00106	-0.00264**	-0.00260
	(-0.627)	(-0.616)	(-2.021)	(-1.396)
Tobin's Q	0.00869	0.00858	0.0119	0.0120
	(1.173)	(1.149)	(1.322)	(0.877)
Constant	0.0228	0.0228	0.00727	0.00137
	(0.521)	(0.522)	(0.265)	(0.133)
State-pair fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
N	727	727	695	695
R-sqr	0.426	0.427	0.462	0.461

Table X

Combined firms' borrowing costs with targets' relationship banks

The sample comprises loan facilities to combined firms in cross-state acquisitions from 1981 to 1997. The table reports results from OLS regressions. The dependent variable is *Loan spread*, which is equal to the merged firm's borrowing cost as a spread over LIBOR (in basis points) for loans taken in the 3 years after merger completion. *Open L-A* is the difference between an indicator of the lender's headquarters state (L) being open to interstate banking and an indicator of the acquirer's state (A) being open to interstate banking. *Target lender* is an indicator that equals 1 if the lender is headquartered in the target's state. *Profitability* is the merged firm's income before extraordinary items over lagged total assets [ib/at(t-1)] at the end of the fiscal year before the loan is taken. *Leverage* is the merged firm's leverage ratio [(dltt+dlc)/at] at the end of the fiscal year before the loan is taken. *Fixed assets* are fixed assets as a proportion of total assets (ppent/at) at the end of the fiscal year before the loan is taken. *Total assets* are the natural log of total assets [ln(at)] at the end of the fiscal year before the loan is taken. *Tobin's Q* is the market-to-book assets ratio [(prcc_f*csho+at-ceq-txdb)/at] at the end of the fiscal year before the loan is taken. Standard errors are clustered by borrowers, with corresponding t-statistics reported in parentheses. ***, **, and * indicates statistical significance at 1%, 5%, and 10% respectively.

	(1)	(2)
Open L-A	12.19**	12.21**
	(2.202)	(2.187)
Target lender	-1.841**	-1.447
	(-2.035)	(-1.601)
Target lender × Open L-A	-24.89**	-29.11**
	(-2.013)	(-2.050)
Profitability	-192.7***	-178.3***
	(-7.313)	(-7.084)
Leverage	32.34***	29.11***
	(3.879)	(3.747)
Fixed assets	57.43***	44.15**
	(2.773)	(2.475)
Total assets	-50.52***	-49.36***
	(-17.88)	(-17.61)
Tobin's Q	-10.20***	-9.440***
	(-4.134)	(-3.657)
Lender fixed effects	No	Yes
Borrower fixed effects	Yes	Yes
State-pair fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
N	52,919	52,844
R-sqr	0.0681	0.0645

Table XI

Long-run performance of calendar-time portfolios of acquirers

The sample comprises acquirers in cross-state acquisitions from 1981 to 1997. In Panel A, we construct two calendar-time portfolios, *Open* and *Closed*. *Open* (*Closed*) consists of acquirers that in the past 36 months made cross-state acquisitions of firms residing in states that are open (closed) to interstate banking. We then fit the monthly returns of the two portfolios as well as a strategy that longs *Open* and shorts *Closed* (*Open-Closed*) to a Fama-French 3-factor model. In Panel B (C, D), we split the sample acquirers into two groups: *Small vs. big acquirers* (*High- vs. low-intangible acquirers*, *High- vs. low-growth* a*cquirers*), and for each group fit the *Open-Closed* strategy to a 3-factor model. *Small vs. big acquirers* splits the sample according to whether the acquirer's total assets are above/below the sample median in the year before the bid announcement. *High- vs. low-intangible acquirers* splits the sample according to whether the acquirer's intangible assets ratio is above/below the sample median in the year before the bid announcement. *High- vs. low-growth acquirers* splits the sample according to whether the acquirer's Tobin's Q is above/below the sample median in the year before the bid announcement. The left and right half of the table uses value weighting (VW) and equal weighting (EW) to construct the calendar-time portfolios, respectively. t-statistics are in parentheses. ***, **, and * indicates statistical significance at 1%, 5%, and 10% respectively.

	VW				EW			
	Alpha	Market	SMB	HML	Alpha	Market	SMB	HML
Panel A: 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 Closed	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-Closed	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)
Panel B: small vs. big acquirers								
Open-Closed | 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-Closed | 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)			
Panel C: high- vs. low-intangible acquirers								
Open-Closed | High	0.0219***	-0.126	-0.431	-0.348	0.0175**	-0.235	0.617**	-0.414
	(2.790)	(-0.651)	(-1.600)	(-1.131)	(2.300)	(-1.388)	(2.141)	(-1.448)
Open-Closed | Low	0.00165	0.0124	-0.0154	-0.0777	0.000156	-0.0853	0.323*	-0.134
	(0.515)	(0.167)	(-0.0848)	(-0.574)	(0.0475)	(-1.091)	(1.763)	(-0.957)
Difference	0.0202**				0.0173**			
	(2.390)				(2.090)			
Panel D: high- vs. low-growth acquirers								
Open-Closed | High	0.00783***	0.166**	-0.0224	0.0640	0.00449	-0.0254	0.321**	-0.0896
	(2.791)	(2.458)	(-0.178)	(0.442)	(1.351)	(-0.363)	(2.567)	(-0.604)
Open-Closed | Low	-0.00002	0.0277	-0.121	-0.186	0.00237	-0.0587	0.237	-0.264*
	(-0.010)	(0.376)	(-0.758)	(-1.636)	(0.720)	(-0.748)	(1.366)	(-1.902)
Difference	0.00786*				0.00212			
	(1.912)				(0.454)			

Table XII

Targets' and acquirers' cumulative abnormal returns in cross-state acquisitions

The sample in panel A (B) comprises targets (acquirers) in cross-state acquisitions from 1981 to 1997. The dependent variable is *Target CAR* (*Acquirer CAR*), which is the sum of the abnormal returns of the target (acquirer) 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 acquirer* is an indicator that the acquirer's total assets before bid announcement are below the annual sample median. *High-intangible acquirer* is an indicator that the acquirer's intangible assets ratio before bid announcement is above the annual sample median. *High-growth acquirer* is an indicator that the acquirer's Tobin's Q before bid announcement is above the annual sample median. *Post-bid competition* is an indicator that equals 1 if there is a competing offer for the target in the 6 months after the current bid. *Same industry* is an indicator that equals 1 if the bidder and target are in the same industry (Fama-French 48 industry classification). *Hostile* is an indicator that equals 1 if the bid is hostile. *Tender offer* is an indicator that equals 1 if the bid involves a tender offer. *Toehold* is the fraction of the target's common stock owned by the bidder at the bid announcement date. The other variables are defined in Table VIII. State-pair control variables include *Stock return B-A, GDP growth B-A, GDP per capita B-A, Unemployment B-A, Corporate tax B-A, Anti-combination B-A, Industry similarity A&B,* and *Economic correlation A&B,* which are defined in Table III. t-statistics based on robust standard errors are in parentheses. ***, **, and * indicates statistical significance at 1%, 5%, and 10% respectively.

Panel A: target CAR	(1)	(2)	(3)	(4)
Open B-A	-0.0266	-0.0513	-0.176**	-0.129
	(-0.389)	(-0.734)	(-2.277)	(-1.377)
Small acquirer × Open B-A		0.397**		
		(2.582)		
Small acquirer		-0.232**		
		(-2.149)		
High-intangible acquirer × Open B-A			0.319***	
			(2.644)	
High-intangible acquirer			-0.109*	
			(-1.796)	
High-growth acquirer × Open B-A				0.220*
				(1.676)
High-growth acquirer				-0.00811
				(-0.143)
Post-bid competition	0.0911	0.101	0.0887	0.107
	(1.456)	(1.595)	(1.285)	(1.647)
Same industry	-0.0178	-0.0359	-0.0166	-0.0193
	(-0.307)	(-0.620)	(-0.279)	(-0.323)
Hostile	-0.0596	-0.0643	-0.0641	-0.0432
	(-0.829)	(-0.897)	(-0.835)	(-0.575)
Tender offer	0.249***	0.248***	0.248***	0.242***
	(4.961)	(4.934)	(4.840)	(4.766)
Toehold	-0.00128	-0.00129	-0.000947	-0.00162
	(-0.675)	(-0.688)	(-0.522)	(-0.854)
Asset liquidity	0.303*	0.310*	0.355*	0.307*
	(1.701)	(1.753)	(1.946)	(1.724)
Debt-to-equity	0.0256	0.0256	0.0211	0.0255
	(0.603)	(0.604)	(0.513)	(0.601)
Market-to-book	-0.0294*	-0.0330*	-0.0307*	-0.0276
	(-1.684)	(-1.881)	(-1.763)	(-1.593)
P/E	0.000678	0.000713	0.000644	0.000766
	(1.119)	(1.186)	(1.027)	(1.245)
Sales growth	0.0230	0.0219	0.0132	0.0234
	(1.109)	(1.104)	(0.582)	(1.120)
ROE	-0.104	-0.130	-0.0872	-0.111
	(-0.885)	(-1.114)	(-0.736)	(-0.932)
Abnormal return	-17.29	-15.86	-15.92	-17.47
	(-1.429)	(-1.332)	(-1.294)	(-1.430)
Constant	-0.00668	0.0221	-0.134	-0.0382
	(-0.0205)	(0.0656)	(-0.384)	(-0.124)
State-pair control variables	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
N	360	360	347	353
R-sqr	0.306	0.324	0.332	0.308

Panel B: acquirer CAR	(1)	(2)	(3)	(4)
Open B-A	-0.0334	-0.0536	-0.0659	-0.0846*
	(-0.939)	(-1.371)	(-1.282)	(-1.650)
Small acquirer × Open B-A		0.178**		
		(2.255)		
Small acquirer		-0.0315		
		(-0.667)		
High-intangible acquirer × Open B-A			0.0868	
			(1.291)	
High-intangible acquirer			0.0625*	
			(1.910)	
High-growth acquirer × Open B-A				0.115*
				(1.825)
High-growth acquirer				-0.0238
				(-0.770)
Post-bid competition	-0.000232	0.00535	0.0130	0.00813
	(-0.00654)	(0.151)	(0.364)	(0.224)
Same industry	0.0270	0.0261	0.0313	0.0370
	(0.863)	(0.829)	(0.997)	(1.171)
Hostile	-0.135**	-0.163***	-0.149***	-0.145***
	(-2.508)	(-3.019)	(-2.783)	(-2.734)
Tender offer	0.0144	0.00884	0.0206	0.0223
	(0.443)	(0.266)	(0.633)	(0.677)
Toehold	0.000256	0.000272	0.000237	0.000218
	(0.264)	(0.275)	(0.250)	(0.221)
Asset liquidity	-0.0340	-0.0396	-0.0417	-0.0331
	(-0.360)	(-0.394)	(-0.443)	(-0.348)
Debt-to-equity	-0.00762	-0.00753	-0.00349	-0.00687
	(-0.254)	(-0.251)	(-0.115)	(-0.226)
Market-to-book	-0.0158	-0.0160*	-0.0170*	-0.0158
	(-1.635)	(-1.650)	(-1.738)	(-1.615)
P/E	-0.000269	-0.000261	-0.000226	-0.000168
	(-0.647)	(-0.620)	(-0.545)	(-0.381)
Sales growth	-0.0335	-0.0331	-0.0324	-0.0324
	(-1.504)	(-1.461)	(-1.443)	(-1.442)
ROE	-0.0921	-0.0913	-0.0650	-0.0759
	(-0.504)	(-0.501)	(-0.346)	(-0.410)
Abnormal return	-5.040	-1.296	-1.488	-3.176
	(-0.469)	(-0.119)	(-0.133)	(-0.285)
Constant	0.0556	0.0662	0.0118	0.0548
	(0.463)	(0.542)	(0.0976)	(0.452)
State-pair control variables	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
N	711	704	693	694
R-sqr	0.129	0.138	0.137	0.136