Grant-in-Aid for Scientific Research (S)

Real Estate Markets, Financial Crisis, and Economic Growth

: An Integrated Economic Approach

Working Paper Series No.25

Bank Entry Mode, Labor Market Flexibility and Economic Activity

Teng Wang

June, 2015

HIT-REFINED PROJECT
Institute of Economic Research, Hitotsubashi University
Naka 2-1, Kunitachi-city, Tokyo 186-8603, JAPAN
Tel: +81-42-580-9145
E-mail: hit-tdb-sec@ier.hit-u.ac.jp
http://www.ier.hit-u.ac.jp/ifn/

Bank Entry Mode, Labor Market Flexibility and Economic Activity[*]

Teng Wang[†]

Abstract

In this paper, I investigate whether information accessibility in the target market influences the mode in which out-of-state banks enter the new market following the U.S. interstate banking deregulation and consequently affects local economic activity. I exploit heterogeneity in legal enforcement of non-compete covenants across states and over time as exogenous variations in the key channel through which an out-of-state bank could gain access to local information: the mobility of local incumbent bank employees. The findings show that banks enter new markets by establishing new branches after the relaxation of non-compete enforcement in the target market, while they enter by acquiring incumbent banks' branches after the enforcement becomes restrictive in the target market. Interestingly, only bank entries via new branches significantly increase bank competition, improve the availability of credit to small businesses, and facilitate economic growth. The findings highlight the critical role of labor market flexibility in influencing financial development and economic growth.

Key words: Bank entry, Economic activity, Labor market flexibility

JEL classification numbers: G21, J24, O16

[*] This paper benefits tremendously from very helpful discussions with, among many others, Franklin Allen, Taylor Begley, Allen Berger, Dion Bongaerts, Matthieu Chavaz, Jarrad Harford, Karl Lins, Robert Marquez, Lars Norden, Marcus Opp, Buhui Qiu, Peter Roosenboom, Rui Shen, Fabrizio Spargoli, Greg Udell, Jim Wilcox, and participants at the PhD brownbag seminar at Erasmus University. Part of this study was conducted during my research visit to UC Berkeley. The author gratefully acknowledges financial support from the National Science Foundation of the Netherlands (NWO) under Mosaic grant.

[†] Teng Wang is affiliated with Rotterdam School of Management, Erasmus University and to Erasmus Research Institute of Management. Address: PO Box 1738, 3000 DR Rotterdam, the Netherlands. Phone: +31 64 136 28 50. Email: tengwang@rsm.nl.

Since Schumpeter (1912) who first pointed out the importance of banking system in economic progress, the link between financial development and economic growth has been a subject of debate. Over the past three decades, the banking sector has been progressively deregulated around the globe. Looking at the interstate banking expansions in the United States, recent studies highlight the positive impact on local economic activity as a result of an increase in bank competition and financial integration (Jayaratne and Strahan 1996; Huang 2008). In bank expansions, knowledge about the local market can act as an important barrier for potential entrants to compete with incumbent banks (Dell'Ariccia and Marquez 2004). Studies show the lack of the direct access to local information is a disadvantage for banks seeking to enter a new market (Dell'Ariccia et al. 1999). How can banks get local information when they plan to expand across state borders? In the banking industry, employees (e.g., loan officers) are the ones who collect and update information about local clients (Petersen and Rajan 1994). To this end, I focus on the key channel through which an out-of-market bank could gain access to local information: the mobility of incumbent bank employees with critical knowledge of local markets.

Entrant banks gain access to important local information by hiring incumbent banks employees to work for their new branches. However, if local labor market frictions restrict this inter-organizational labor mobility, entrant banks cannot gain access to local information through hiring; they will have to acquire existing incumbent branches instead. This potential entrance scenario indicates that the modes of bank entry may be affected by local labor market flexibility.

In this paper, I investigate whether the accessibility of local information through labor mobility influences entrant banks' strategy on how to enter into the local market following the U.S. interstate branching deregulation. The main challenge in establishing the causal effect is to identify exogenous variation in the local labor market. In order to do this, I focus on the changes in jurisdictional enforcement of the non-compete covenants. Such a regulation introduces frictions

into the labor market and imposes significant constraints on the mobility of the labor force in the same industry. The enforcement on the non-compete covenants reduces local employee turnover, and restricts entry banks' access to local information. As the former chief of the antitrust division of the U.S. Department of Justice stated, "the branch manager and loan officers are critical in local small business and retail lending and that tying up good branch managers or loan officers with non-compete agreements can be detrimental to new entrant banks' ability to attract or retain customers" (Kramer 1999, p323). I exploit the heterogeneity in enforcement of non-compete agreements across different states and over time, and use it to explain the dynamics of banks' entry modes during the post- interstate banking deregulation era in the U.S. from 1994 to 2010. A difference-in-differences approach is used to identify the causal relationship between local labor market flexibility and out-of-state banks' mode of market entry.

Banks use two different approaches when they enter a new market. Are there different economic consequences associated with each approach? In the first approach, new branches established by out-of-market banks increase the total number of credit providers in the market, and lead to a more competitive credit market. In the second approach, the number of credit providers remains constant when local branches are acquired by entrant banks. An increase in bank competition after interstate bank branching deregulation ultimately contributed to improvement in local bank service, credit availability, economic growth, and job creation (Black and Strahan 2002; Dick 2006; Rice and Strahan 2010; Chodorow-Reich 2014), whereas it is less clear if banks enter local market using the second approach. This indicates that the local economy will benefit more from new market entrants who establish new branches. To test the prediction, I compare the real consequence on local credit market and economic activity after banks enter a new market by establishing branches versus through mergers and acquisitions (M&As) of existing branches.

The main result from the difference-in-differences analysis shows that the relaxation of

enforcement of non-compete agreements causes an average 37.3 percentage point increase in the proportion of out-of-state banks entering the market by establishing branches (in contrast to acquisitions). To mitigate the concerns about unobserved heterogeneity, I build on Huang (2008) and test the impact of non-compete enforcement on banks' entry modes only using contiguous counties bordering the law-change states. The result shows that the positive impact of labor market flexibility on the likelihood that a bank expands by establishing branches in new markets remains robust. I then differentiate the real consequences on credit market and local economic activity after out-of-state banks enter a new market by establishing a branch rather than acquiring a branch through an M&A. I find that establishment of a new branch increases local credit market competition, leads to an increase in small business lending, more economic activity, and faster per capita income growth. For instance, adding one new branch in the county increases the amount of loans to small businesses by 0.591 percentage points. The effect is also economically significant – as it is equivalent to a 5.2% increase compared to the average changes in the amount of loans to small businesses across counties and over time. Interestingly no significant effect could be observed on the local credit market or economy after local branches are acquired by out-of-state banks.

In addition, I conduct various robustness checks including a placebo experiment and alternative measurements, and the results substantiate the validity of the empirical tests and increases confidence in the interpretation of the main finding. Overall, the evidence indicates that the accessibility of local information through labor turnover in the target market matters for banks when they are considering how to enter a new market. Their decisions could ultimately facilitate financial and economic development in the local market.

This study contributes to the literature on the role of local information for the financial industry. Petersen and Rajan (2002) show that local lenders collect information about small firms

through loan contracts, and enjoy an informational advantage over more remote competitors. Empirical evidence shows that lenders also collect information about local borrowers through other financial services such as checking account agreements, which also helps to improve lending decisions (Mester et al. 2007; Norden and Weber 2010). Bird and Knopf (2014) shows that mobility of local knowledge impedes de novo banks creation and affects wage and profitability of commercial banks. Studies show that the local information possessed by incumbent banks including their lending relationships with borrowers serves as an entry barrier for banks looking to enter the market; it also affects the competitive structure of the local banking industry (Dell'Ariccia et al. 1999; Dell'Ariccia and Marquez 2004). Without access to the local information, entrant banks are especially susceptible to the "winner's curse" problem in bank lending (Broecker 1990; Schaffer 1998). Because of their lack of information about the local market, those banks may often "win" some deals from poor quality borrowers that were previously rejected by local banks (Rajan 1992; Ogura 2006), and are more likely to experience higher loan default rates (Bofondi and Gobbi 2006). Berger and Dick (2007) show that banks that entered a market earlier, and make significant investments in building branch networks are able to gain better access to the local borrowers and depositors, thus gradually reducing the information disadvantages. The importance of locally collected information is also reflected in findings from financial institutions of other kinds and in general (e.g., Coval and Moskowitz 1999, 2001). Focusing on labor mobility as the channel for local information to flow across banks; my findings highlight the importance of local information accessibility for banks expanding into new markets. Banks choose different entry modes in response to the flexibility of the local labor market.

This paper is related to the studies on the interplay between law, finance, and growth. It has long been argued that the development of financial systems contributes to economic growth (e.g., Schumpeter 1969; McKinnon 1973). A large amount of recent research strengthened this

view and documents supporting evidence at the country level (King and Levine 1993; Levine and Zervos 1998), as well as at the firm level (Demirgüç-Kunt and Maksimovic 1998; Guiso et al. 2004; Allen et al. 2005). Noticeably, many studies use the U.S. interstate banking reforms to identify the causality among law, finance, and economic growth. In general, studies document that bank expansion after the law was implemented increased local bank competition and financial integration, which ultimately led to the local economic growth (Jayaratne and Strahan 1996; Huang 2008). In particular, credit competition improves bank services (Dick 2006), expands credit availability and lowers interest rates (Zarutskie 2006; Rice and Strahan 2010), limits the access to credit for underperforming firms (Bertrand et al. 2007), and stimulates entrepreneurship and corporate innovation (Black and Strahan 2002; Amore et al. 2013; Chava et al 2013). This paper contributes to this literature by highlighting the economic consequences associated with different modes of bank entry, which I argue are affected by the changes in the levels of labor law enforceability in the target market. This paper also adds new evidence to the classical law and finance literature. Previous studies primarily focus on the role of the enforcement of legal systems in the area of investor protection and show that strong law enforcement, which provides the best legal protections of the investors, also facilitates financial market development (La Porta et al. 2001). By linking the development in the banking sector to law enforcement in the area of labor competition, I show that the flexible labor law enforcement leads to bank entries through establishing branches and facilitating local economic development.

The rest of the paper is organized as follows. In Section 1, I discuss the institutional background, data and measurement for the main variables. The empirical strategy and results are reported in Section 2. The findings from robustness tests and further checks are discussed in Section 3. Concluding remarks are given in Section 4.

1. Institutional Background, Data and the Measurement

1.1. The modes of U.S. banks' interstate expansions

The unique history and regulation of the U.S. banking industry has created a relatively fragmented banking market with currently around 6,000 independent institutions that mainly operate in one specific geographic region. Prior to 1970s, interstate bank branching and acquisition were largely prohibited. The McFadden Act of 1927 together with the Douglas Amendment to the Bank Holding Companies of 1956 effectively forbade bank expansion either in the form of establishing new branches or acquiring banks across state lines. Even intrastate branching was highly constrained as many states maintained a unit banking system, which only allowed banks to have one full-service office.

The process of bank deregulation in the U.S. started around 1970 when many states started to abandon the unit banking system and allowed for bank expansion within state borders. The passage of the Riegle-Neal Interstate Banking and Branching Efficiency Act (IBBEA) in 1994 not only has removed any restrictions left on interstate acquisitions, but also for the permitted banks to establish branches across state borders. The number of out-of-state branches increased dramatically from 308 at the end of 1994 after enactment of IBBEA to 43,201 in June 2013. Figures 1 and 2 show the interstate bank expansion after the enactment of IBBEA. Interstate branching has become increasingly important over the past two decades. Branches owned by out-of-state banks outnumber those of in-state banks in many states (e.g., 61.4% in Michigan, 63.1% in California, and 86.5% in Arizona in June 2013).

I collect data on U.S. commercial banks' interstate expansion activity after the enactment of IBBEA, and construct measures for bank's entry modes. The data are for the period from 1994 to 2010. Using the summary of deposit data from the Federal Deposit Insurance Company (FDIC), I obtain information on the establishment of bank branches, as well as branches' ownership

changes due to M&As. Based on the information, I aggregate the total number of out-of-state bank entries through new branch establishment and incumbent branch acquisition at the county and year level. I calculate the ratio of total bank entries through established branches in each county for each year over time. County is often considered as a proxy for the local market in banking studies (e.g., Berger et al. 1999; Huang 2008), as valuable local information and bank-firm relationship can only be preserved at a short distance, as suggested by Petersen and Rajan (2002). Also a county-level study minimizes the potential endogeneity problem in this case as the change in state legal enforcement is less likely to be driven by the economic situation in a particular county (Huang 2008).

I also zoom in all events when a bank enters an out-of-state market and analyze the mode of banks' interstate expansion decision at the commercial bank level. I construct a dummy variable equal to one if the bank establishes a new branch and zero if it acquires a local incumbent branch. I collect data from the FDIC Call Report to capture bank characteristics such as bank age, size, liquidity, profitability, and capitalization ratio. In addition, I consider the geographic distance between the target state and the home state where the bank is headquartered as a proxy for the entrant bank's familiarity with the target market.[1] My final dataset includes information on 59,270 events of 698 out-of-state bank entries into 2,309 counties across U.S. from 1994 to 2010. I exclude Delaware as the target market from the analysis since its unique tax regime may influence the local development of the financial industry and outside banks' entry mode.

1.2 The enforceability of non-compete covenants

A non-compete covenant is an employment contract in which an employee pledges not to work for

[1] I extract spatial information on the distance between states from the package developed by Scott Merryman. Source: http://econpapers.repec.org/software/bocbocode/s448405.htm.

a competitive firm for a designated period of time after resigning or being dismissed. Firms spend time and resources to accumulate knowledge, develop a product, and compile a client base. The non-compete covenants are designed to protect such corporate knowledge and confidential information that could otherwise be taken away as employees take jobs with competing firms (Franco and Mitchell 2008). The enforcement of non-compete contracts restrains labor market flexibility and cross-firm information flow (Fallick et al. 2006; Marx et al. 2009). Non-compete contracts are part of standard employment packages for executives, R&D staff, salespeople, and loan officers, among others, who have access to proprietary firm-specific information. Survey evidence suggests that around 90% of these employees have to sign non-compete agreements (Leonard 2001; Kaplan and Stromberg 2003). Recent study also document that the enforcement of non-compete covenant impedes the creation of new banks, and also affects banks' labor costs and profitability (Bird and Knopf 2014). Enforcement of these agreements helps incumbent banks preserve their informational advantage over new competitors (Kramer 1999). In the U.S., firms are free to write any sort of employment contract, but the enforcement of non-compete covenants is left to the states. The nature of what a firm can claim as a legitimate protectable interest depends on the state jurisdiction, and there is great variation across states and over time in the enforcement of the non-compete covenants.

Following Garmaise (2011), I capture the cross-state variations in the labor market flexibility using the noncompetition enforcement index (*NC_score*). This index measures the extent to which the covenant not to compete is enforced at the state level, and it captures several important dimensions of the enforcement documented in Malsberger (2004)[2]. The *NC_score* ranges from zero in California where non-compete covenants are not enforceable to nine in

[2] For a complete overview of the construction of the index of enforcement of the non-compete covenants, see Malsberger (2004) and Garmaise (2011).

Florida where the noncompetition agreement is the most strictly enforced. As the *NC_score* only covers a period from 1994-2004, I collect additional information to identify changes in non-compete enforcements in each state over the whole sample period. I am able to identify five shocks to the non-compete enforcement during the post deregulation period of 1994-2010 based on the analyses from the legal and management literature (Garmaise 2011; Malsberger 2011; Marx and Fleming 2011). To be specific, Idaho (Id. SB1393) strengthened the non-compete law by extending firms' ability to enforce the non-compete in 2008, while New York (Ny. S02393) and Oregon (Or. SB248) have relaxed the enforcement of the non-compete covenants. The enforcement of non-compete covenants was radically relaxed in Louisiana (La. R.S. 23:921) in 2001 after the supreme court's ruling of *SWAT 24 Shreveport Bossier, Inc. v. Bond, 808 So. 2d 294*, and state legislation reversed the change in 2003.

The states' changes in the enforcement of non-compete covenants serve as natural experiments of shocks to local labor market flexibility. They are largely exogenous to the decision-making process of out-of-state banks on how to expand into a local market. The changes in the non-compete enforcement due to a court's judicial decision is largely an idiosyncratic function of the particular case and the character of the justices. Also, there is no obvious reason to believe that the primary intention for state legislation to change non-compete enforcement is to influence the way in which potential out-of-state banks choose to enter a local market. In the empirical setup, I also control the local market condition, political climate, and banking market structure over time to further mitigate the possible endogeneity concerns.

1.3 Economic conditions and political climate

In addition to have the legal enforcement of non-compete covenants as the main explanatory variable to estimate bank's entry mode, I also control for other variables such as local market

conditions and political climate. Extracting data from various sources such as the U.S. Census Bureau, Census County Business Pattern, Bureau of Economic Analysis, and Bureau of Labor Statistics, I construct variables such as market size, growth perspective, and credit market conditions to measure local market conditions. To proxy for the political climate in that state in a particular year, I manually collected archival data from website of the U.S. House of Representatives and calculate the percentage of the House of Representatives that are Democratic Party members for each state.

To measure the economic implication of different modes of bank entries, I look at local bank competition, small business lending and economic activity. I measure the changes in the competitive structure of the local credit market using the Herfindahl index of local branch deposits concentration calculated at the county level. I collect local small business lending data from the Community Recovery Act database from the Federal Financial Institutions Examination Council (FFIEC). I calculate the yearly change in the total volume, as well as the amount of small business lending in the target counties over time. I calculate the yearly change in the local per capital income growth, number of establishments in the private sector, and unemployment rate to proxy for changes in the local economic activity after banks entries through branching and M&As. The final dataset includes 9,553 county-year observations of the U.S. from 1994 to 2010. Table 1 provides an overview of the main variables, as well as the summary statistics.

2. Empirical Results

2.1 Cross-sectional analysis of banks entry mode after IBBEA

As shown in the previous section, there is a wide dispersion of enforcement of non-compete laws across states. Depending on the accessibility to the local information, out-of-state banks choose one of the two ways to penetrate the market: establish new branches or M&As. As a first step, I

look into the cross-sectional heterogeneity in the primary banks entry mode across the U.S. after the IBBEA and link it to various levels of legal enforcement of non-compete covenants across states prior to the passage of IBBEA. In Figure 3, I compare the relative importance of bank entries through establishing new branching in states with flexible labor markets versus in states with less flexible labor markets. I use the intensity of enforcement of non-compete covenants (*NC_score*) and the job turnover in the local commercial banking industry to proxy for the local labor market flexibility. I find that a relatively higher percentage of out-of-state banks enter new markets by establishing new branches in places with relaxed enforcement of non-compete covenants and higher labor turnover in the commercial banking industry, after the interstate banking deregulation took place.

I continue to investigate the link between the heterogeneity of bank entry mode and variation in local legal enforcement of non-compete covenants in a regression setting. I begin with calculating the percentage of out-of-state banks that enter each county in the U.S. through branch establishment during the first one to three years after IBBEA implementation in the state where the county locates. I regress the percentage of bank entries via branching on the non-compete enforcement while controlling for the local market conditions such as market size, bank concentration, growth perspectives, etc. as well as political climate prior to the enactment of the IBBEA in that state. A cross-sectional comparison is suitable in this case as the *NC_score* measure varies largely across states but remains largely stable over the years it convers. The results are shown in Table 2.

Results from the cross-sectional analysis show a negative relationship between the intensity of non-compete enforcement and the ratio of out-of-state banks entering through establishing new branches after banking deregulation. This means that where the local non-compete law is more restrictive, fewer out-of-state banks will enter the market through branching.

The coefficients on the *NC_score* remain consistently negative in columns (1) to (3), regardless of the time window. This indicates that the cross-state difference in the legal enforcement of non-compete covenants continues to affect the entry modes of out-of-state banks into local markets even after the interstate banking reform. The result is robust after controlling for local political, economic, and market situations, which might influence both the non-compete enforcement and banks entry mode. In addition, the result is also economically significant. During the first year after bank deregulation, moving to a county with one point higher in the non-compete enforcement intensity leads to a 1.7 percentage point decrease in the ratio of bank entries through establishing branches. This value is equivalent to a 13.5% decrease compared to the sample mean.

I then use logistic regression to investigate out-of-state banks' entry mode decision each event they enters a local market, I test whether the choice between branching and M&A entry is affected by the intensity of non-compete enforcement. The bank-level entry mode dummy variable equals one if an out-of-state bank enters the local market via setting up branches and zero if this entry is completed via a M&A. I regress the entry mode dummy on the local *NC_score*. I control for county and bank characteristics prior to the deregulation of interstate branching, as well as geographical distance between the expanding bank's home state and target state. I include the year fixed effects to control for the unobservable shocks that affect all counties in certain years.

The results in Table 3 are consistent with the findings from the county-level analysis (Table 2). I find that more restrictive local enforcement of non-compete covenants decreases the likelihood for out-of-state banks to establish new branches as compared to acquiring local branches. The effect appears economically significant; the unconditional probability of bank's entry through establishing branching is 7.7%, the marginal effect of -0.02 for bank entry mode in the first year after IBBEA indicates that a one-point increase in the intensity of non-compete

enforcement decreases the probability of out-of-banks to enter through establishing a branch by 26% (0.02/0.077). In columns 2 and 3, I repeat the analysis using a longer test period after the IBBEA. The sign of the coefficients and the marginal effects are consistent with the results using one year. Overall, the results of both the county-level and bank-level analyses indicate that the intensity of non-compete enforcement is an important factor that affect out-of-state banks' decision of how to enter a local market right after interstate banking deregulation.

2.2 Difference-in-differences analysis of bank entry mode

The cross-sectional regression shows that after IBBEA, out-of-state banks use different modes to enter local markets. Their choice depends upon the intensity of non-compete enforcement. I use a difference-in-differences (DD) approach to examine whether there is a causal relationship between local labor market flexibility and banks' entry mode. I identify changes in the intensity of state legal enforcement of non-compete covenants over the sample period from 1994 to 2010. I construct a DD indicator *relaxation of non-compete enforcement* to capture those changes. In the three cases in which the non-compete enforcement becomes more relaxed, I set the indicator equal to zero for all years preceding the year that the non-compete enforcement was relaxed, as well as the year after. And I set the indicator value reversely in the other two cases in which states strengthened the non-compete enforcement (i.e., set the indicator to one for all years preceding the year that law enforcement was strengthened and zero afterwards). The model specification is:

$$Ratio\ of\ bank\ entries\ through\ branching_{c,t} = \alpha + \beta_1 Relaxation\ of\ noncompete\ enforcement_{s,t-1} + \beta_2 Controls_{s,c,t-1} + \omega_c + \mu_t + \varepsilon_{ct}. \quad (1)$$

Model (1) tests the impact of relaxation of non-compete enforcement on bank entry mode at the target county and year level, where *c* represents county, *s* represents the state, and *t* represents

year. The ratio of bank entries through branching is the measure of county-level bank entry mode, relaxation of non-compete enforcement is the DD indicator, and β_1 is the DD estimate, which captures the effects of the relaxation of the non-compete enforcement on the modes of entry by out-of-state banks. I control for variables that capture the local economic, political, and market characteristics. For instance, I control for the wealth level and business condition of the local market using the local per capita income; local competitive landscape of banking industry using Herfindahl index of banks' deposit size; and the importance of smaller-size firms using the average number of employees hired in local firms. I control the state political climate using the fraction of Democratic congressional members who represent their states in the U.S. House of Representatives. I also include total population and personal income growth rate to capture the size and growth perspectives of the local economy. Including those variables mitigates the concern that local business conditions and political climate may affect both changes in the non-compete enforcement and out-of-state banks entry mode decision. In addition, I include county fixed effect ω_i and year fixed effect μ_t to control for both time-invariant unobservable county factors and nation-wide shocks that happened during a particular year that could possibly affect both changes in the non-compete enforcement and banks entry mode. I cluster the standard error at the state level to address the concern that the residuals might be serially correlated within a state, as well as any serial correlation induced by the small variation in the DD indicator (Bertrand et al. 2004).

Column 1 of Table 4 reports the DD estimates of the impact of changes in the non-compete enforcement on banks' entry modes. The baseline regression result of column 1 indicates that the relaxation of non-compete enforcement on average leads to 37.3 percentage point increase in the proportion of banks entering a target market by establishing branches. Considering the average ratio of bank entries through establishing branches (25.3%), the

economic significance is sizable.

Next, I repeat the analysis using a logit regression model to investigate the impact of changes in non-compete enforcement on the decision of banks entry mode at the bank level. The regression is conducted using observations for each bank entry. The dependent variable *Bank entry mode* is a dummy variable that equals one if an entrant bank set up a branch in the target market and zero if it acquires a local branch instead. The regression model is:

$$Bank\ entry\ mode_{b,c,t} = \alpha + \beta_1 Relaxation\ of\ noncompete\ enforcement_{s,t-1} + \beta_2 Controls_{b,s,c,t-1} + \mu_t + \varepsilon_{bct}. \quad (2)$$

Similar to the Model (1), I use the relaxation of the non-compete enforcement as the DD indicator for the local information flow. The coefficient of β_1 indicates the impact of the change in the labor law on bank's entry mode decision. I expect to observe a shift in the preference of banks' entry mode from acquiring existing incumbent branches to establishing new branches after non-compete enforcement was relaxed. To control for the heterogeneity in the local market and the entry banks, I include control variables at the county, state, and bank level. I also control for the geographic distance between the entry bank's headquarters and the target state. The further the distance, the less local information the entry bank would have prior to the entry, which makes a M&A likely. I include time fixed effects to control for the shocks that happen to both control and treatment groups in the same year. And I cluster the standard error at both the state and bank level to account for the correlations in the error terms. The result is reported in column 1 of Table 5. The findings are consistent with the result (Table 4, column 1) using the county-level bank entry mode analysis. The relaxation of non-compete enforcement leads to an increase in the probability of bank entries through branching. Considering that the unconditional probability of bank entry via branching is 0.177, the marginal effect of 0.121 for bank entry mode indicates the relaxation

of non-compete enforcement results in a 68.36% increase in the likelihood that out-of-state banks will enter new markets by establishing new branches (0.121/0.177).

To further refine the identification strategy and mitigate concerns about unobserved heterogeneity, I repeat the DD analysis using a sample that consists only of contiguous counties lying on the border of states that experience changes in the non-compete enforcement. Contiguous counties are geographically close, so they are likely to subject to the same unobserved factors, such as trends in economic development or shocks to the local economy (e.g., resource discovery, natural hazards) (Holmes 1998; Huang 2008). The model specification is:

$$Ratio\ of\ bank\ entries\ through\ branching_{c,t} = \alpha + \beta_1 \mathrm{R}elaxation\ of\ noncompetes_{s,t-1} + \beta_2 Controls_{s,c,t-1} + \omega_c + \omega_{cc} + \mu_t + \varepsilon_{ccct}. \quad (3)$$

The test is similar to the regression discontinuity design by Black (1999) and the major difference between Model (3) and Model (1) is that I now include the contiguous county fixed effects, ω_{cc}, that control for the unobserved linear time trend and common shocks that happened to contiguous counties that might influence out-of-state banks' entry mode. Column 2 of Table 4 reports the within-county level response of the ratio of bank entry to the relaxation of non-compete enforcement. The result shows that the percentage of bank entries through branching has significantly risen in counties from states that experience a relaxation of non-compete enforcement. The relaxation of non-compete enforcement on average results in 32.3 percentage point increase in the proportion of banks entering a target market by establishing branches. The economic magnitude of the impact is substantial and comparable to the DD estimates from the full sample regression. This shows that the causal relationship between the relaxation of local non-compete enforcement and the increase of the bank entries through branching remains robust after taking into account the unobservable trends and shocks to the target market. A similar

pattern is documented by applying a bank-level logistic regression on bank entries into contiguous counties (Table 5, column 2). The results again confirm the positive impact of labor market flexibility on bank entries into new markets by establishing new branches.

2.3 Economic implications

Banks choose different modes to expand across state borders depending on the accessibility of local information. In this section, I investigate the economic repercussions on local bank competition, credit availability, and economic activity after banks enter new markets. Dick (2006), Zarutskie (2006) and Rice and Strahan (2010) document the increase in bank competition following the interstate branching deregulation. The deregulation benefited local clients by improving the service level of banks, along with the credit supply. I take a further step and compare the differences in how banking competition changes after out-of-banks enter new markets by establishing new branches and through acquiring local branches. I argue the two modes of entry have different effects on the competitive landscape of the local credit market. I regress the changes in local credit market competition on different modes of bank entries in the preceding year of bank entries. The model specification is:

$$\Delta credit\ market\ competition_{c,t} = \alpha + \beta_1 Nr\ of\ bank\ entries\ through\ branching_{c,t-1} + \beta_2 Nr\ of\ M\&A\ entries_{c,t-1} + \beta_3 Controls_{s,c,t-1} + \omega_c + \mu_t + \varepsilon_{ct}, \quad (4)$$

where β_1 and β_2 capture the impact of two different bank entry modes on the competitive landscape of the local banking market. I control for the local market conditions at the state and county level, and include county and year fixed effects ω_c and μ_t, respectively, to mitigate the omitted variable bias. The results reported in column 1 of Table 6 show that the Herfindahl index

decreases, which means an increase in local banking market competition after bank entries through establishing branches; there is no change in the competitive structure after bank entries via M&As.

Changes in the competitive structure of the local banking market after new out-of-state banks are added is likely to be reflected in the local credit market, especially in the small business lending market. Because of the severe information asymmetry problem between local opaque small businesses and banks, those firms tend to be financially constrained in the pre-deregulation era. As a result, small businesses are likely to gain better access to credit after newly established branches expand the credit base in the lending market. Focusing on the small business lending helps us to understand changes in the credit market. I follow a regression setup similar to model (4) using changes in local small business lending as the dependent variable. The model specification is:

$$\Delta Small\ business\ lending_{c,t} = \alpha + \beta_1 Nr\ of\ bank\ entries\ through\ branching_{c,t-1} + \beta_2 Nr\ of\ M\&A\ entries_{c,t-1} + \beta_3 Controls_{s,c,t-1} + \omega_c + \mu_t + \varepsilon_{ct}. \quad (5)$$

Consistent with my hypothesis, the results in column 2 of Table 6 indicate that newly established branches by out-of-state banks increase the credit supply to small businesses. One newly established branch contributes 0.591 percentage point of additional growth in the amount of small business lending. This is equivalent to a 5.2% increase, considering the average growth rate of local small business lending is 11.39%, which suggests the result is economically meaningful. Next, the results show that the M&As of out-of-state banks do not have a clear impact on the local small business lending market.

In addition, I also look at the changes in the number of loans to local small businesses and

the finding is consistent with the evidence observed using the loan volume. The result show that adding one new branch in the county increases the number of loans to small businesses by 0.441 percentage points, which is equivalent to a 4.9% increase compared to the average increase in the number of loans to small businesses. Also, there does not appear to be a change in number of small business loans after out-of-state bank M&As. I conclude that there is a substantial shift in the local credit market following new branches established by out-of-state banks, which benefit local clients ultimately. This is consistent with research that documents that credit competition expands credit availability for local small businesses (Petersen and Rajan 1994; Beck et al. 2004; Zarutskie 2006; Rice and Strahan 2010), whereas bank consolidation fails to have a positive impact on local small business lending growth (e.g., Berger et al. 1998).

Small businesses are the key to regional job creation and economic growth (Chodorow-Reich 2014). A bank entry through branching increases local bank competition, improves credit availability for small businesses, and should facilitate local economic activity. So I examine changes in three different aspects of the local economic activity: unemployment, number of establishments, and per capita real income growth. The model specification is:

$$\Delta Local\ economic\ activities_{c,t} = \alpha + \beta_1 Nr\ of\ bank\ entries\ through\ branching_{c,t-1} + \beta_2 Nr\ of\ M\&A\ entries_{c,t-1} + \beta_3 Controls_{s,c,t-1} + \omega_c + \mu_t + \varepsilon_{ct}. \quad (6)$$

I find that the establishment of one new bank branch results in 0.056 percentage point increase in the growth rate of per capita real income in that county in the following year, whereas branch M&A does not accelerate the income growth. Also, bank entries through establishing branches are associated with an increase in the number of establishments in private sector in the following year. The growth in the number of establishments indicates that the local economy is expanding

faster after the establishment of one branch. The incremental rate of establishment expansion is 22.3% compared with the average expansion rate of the number of local establishments. This means that on average establishing one branch leads to an increase of 80 establishments in the county. I also find that bank entries through M&As slow down the increase in establishments, although the economic significance is much lower. Finally, I find that branch M&As increases the local unemployment rate, while no significant effect is observed following bank entries through branching. This indicates that the job growth rate is lower than the destruction rate, and more people ended up unemployed. In general, my finding adds to previous research that documents that credit market development stimulates local economic activity and improves employment outcomes (Black and Strahan 2002; Amore et al. 2013; Chava et al 2013; Chodorow-Reich 2014).

Taking the evidence together, I conclude that bank entries through branching increase bank competition, improve credit availability for small business lending, and ultimately stimulates the local economy, whereas there is no clear economic impact on the local credit market after a branch acquisition.

3. Robustness Tests and Further Analysis

3.1 Alternative measure of the local labor market flexibility

In the analysis, I use the intensity of legal enforcement of local non-compete covenants as the main measure for the level of labor market flexibility. I construct an alternative measure for labor market flexibility by directly looking at the labor mobility within the local banking industry. I collect county-level data on the local job turnover in the commercial banking industry (with the first three digits of NAICs codes of 522) from the Census Quarterly Workforce Indicators (QWI) database. I calculate the year-average turnover ratio in the local commercial banking industry in

each target county after the enactment of IBBEA. There is a significant negative correlation between the new local job turnover variable and the *NC_score* at the 1% confidence level. This indicates that a restrictive non-compete enforcement restricts local inter-organizational labor mobility. The negative correlation of -0.05 indicates that the labor mobility variable contains extra information that is not completely explained by the differences in the legal enforcement.

To ensure the comparability of the test results with the earlier analysis using the *NC_score*, I apply a similar set of tests and check for the impact on the bank's entry mode aggregated at county level and at the bank level. I use the job turnover rate prior to the enactment of IBBEA to avoid a potential reverse causality problem. The result of the first test is shown in Appendix Table A1. Consistent with expectations, *local job turnover in the commercial banking industry* has a positive effect on the ratio of out-of-state bank entries through establishing branches. The result is also economically significant. A one percentage point increase in the local inter-organizational job mobility in the commercial banking industry increases the ratio of out-of-state bank entries through establishing branches by 2.38 percentage points during the first year after the IBBEA. I continue to investigate banks' entry mode decision at bank level using a logistic regression. The results are shown in Appendix Table A2 and are consistent with the findings using *NC_score*. I find that the initial difference in local job mobility matters for the mode of bank entry. A higher initial job turnover rate increases the likelihood that out-of-state banks establish branches when entering a new market.

Compared with the *NC_score*, an important feature of the local labor mobility variable is that it varies significantly across years and counties. This makes it suitable to use the fixed effects panel data regression model. I use lagged *local job turnover in the commercial banking industry* as the main explanatory variable. I test the impact on the bank entry mode aggregated at the county and bank level. The results are reported in Appendix Tables A3 and A4, respectively. The

significant positive effect of the local job turnover on banks' branching entry remains robust using the new regression specifications. The economic significance remains large: a one percentage point increase in the local job turnover ratio increases the likelihood of bank entries through branching by 7.8 percentage points (1.376%/17.7%). The result confirms my finding using the non-compete enforcement as the measure for labor market flexibility (as shown in Table 2 and 3).

3.2 Placebo tests

I employ a difference-in-differences analysis to establish the causal relationship between the intensity of state legal enforcement of non-compete covenants and out-of-state banks' entry mode. The research design relies on the parallel trend assumption, in which the control and treatment states should share the same common trend and subject to no other idiosyncratic shock that affect one group of states and not the other at the same time. I design a placebo experiment to show that the conditions of applying the DD approach are met in this case. I create fictitious shocks in the non-compete enforcement that happened in years that are different from the actual shocks in the treatment states. I test whether fictitious shocks influence the entry mode of out-of-state banks. If the common trend assumption is true and there are no other shocks affecting either group, there should not be observable significant positive effects on the ratio of branching entry after the "placebo" shocks took place.

To mimic the real effects of the changes in the enforcement of non-compete covenants, I create a placebo relaxation of the non-compete enforcement variable, which is a dummy variable that switches to one after the fictitious shocks to non-compete enforcement take place. I construct two placebo DD indicators that switch to one two years and three years prior to the actual shock and repeat the analysis as shown in models (1). I apply the experiment on the whole sample including all U.S. counties that experience out-of-state bank entries, as well as on the subsample

that includes only contiguous counties on the borders to better control for unobservable heterogeneity. The results are reported in Appendix Tables A5. In all cases, the placebo relaxation in the non-compete enforcement fails to yield any significant positive effects on bank entries through establishing branches. Next, I repeat the placebo experiment using a logit regression model similar to Model(2) to investigate the impact of changes in non-compete enforcement on the decision of banks entry mode at the bank level. Again, the results (not reported here) confirms my findings from the county-level analysis, and the placebo relaxation of non-compete enforcement doesn't have any significant positive impact on bank mode decision. The results show that the parallel trend assumption for the DD method is not violated and the causal effect between changes in the non-compete enforcement and bank entry mode remains robust.

3.3 Longer-term economic implications

In the previous section, I document different implications on the local credit market and economic activity after out-of-state banks enter new markets in the previous year. It is possible that it takes longer for the real effects on bank lending and the local economy to be detected. In this section, I examine the changes in the local credit market and economic activity for a longer period of time after bank entries with different modes.

I conduct panel data regression using models (4) and (5). I calculate the dependent variable of the cumulative percentage changes in the competitive structure of local banks, small business lending growth, and economic activity for a two- and three-year window after bank entry. The results are shown in Panel A and B of Appendix Tables A6. The number of branches established by out-of-state banks increases credit market competition and facilitates the growth of small business lending in the target county. The total amount of loans to small business, along

with the total number of loans increased significantly after out-of-state banks established branches. These results are largely consistent with earlier findings using a one-year window shown in Table 6. A similar positive effect is documented on the expansion rate of the number of local establishment.

Consistent patterns emerge when looking at the longer-period effects of out-of-state banks M&As. Combining earlier results using a one-year window, M&A entries by out-of-state banks do not change the credit market structure for local small businesses. The establishment of new branches by out-of-state banks on the other hand leads to more competition and results in additional growth in the local small business lending market, which is beneficial to the local economy.

4. Conclusion

Interstate deregulations in the U.S. banking industry lifted entry barriers that had protected the local inefficient banks, and ultimately led to faster economic growth. Getting access to local information is important for out-of-market banks seeking to enter new markets (Dell'Ariccia et al. 1999). In this study, I argue that the mobility of incumbent bank employees is the key channel through which out-of-state banks can get access to local information. Banks choose different modes to enter a local market depending on the labor market flexibility. I exploit the heterogeneity in the non-compete enforcement as exogenous variations in labor market flexibility and test whether it affects the way banks enter new markets — through establishment of new branches or through M&As of existing branches — in the process of interstate bank expansion.

The main result shows a positive causal relationship between the relaxation of non-compete enforcement in the local market and the likelihood for out-of-state banks to enter the market via establishing new branches. I further explore the economic implications of different

modes of banks entry. I find an increase in bank competition in the local market and an improvement in credit availability for local small businesses after out-of-state banks' entries through establishing branches, but not when they enter using M&As of incumbent branches. Moreover, when banks enter a new market by establishing local branches, they facilitate local economic activity based on evidence from the growth in the number of establishments and per capita real income. I conduct multiple robustness checks and the main results remain unchanged.

Schumpeter (1912) was the first to question whether financial development could stimulate real economic progress. Along with many others, I add to the discussion by focusing on labor mobility. My findings highlight the importance of local information accessibility for banks expanding into new markets. Banks choose different modes to acquire local information in response to the flexibility of the local labor market. The difference in entry modes has different implications for local economic activity. Bank entries via new branches - but not via acquisition of incumbent banks' branches - significantly increase bank competition, improve the availability of credit to small businesses, and facilitate economic growth. This study has important policy implications. The findings show that policymakers should pay attention to the local labor legislation in order to unleash the full benefit of financial development on real growth.

Appendix Table A1. County-Level Analysis of Bank Entry Modes – Alternative Measure of Labor Market Flexibility

This table presents estimated coefficients from cross-sectional regressions that relate banks entry mode to local labor market flexibility after the enactment of IBBEA. The dependent variable is the number of out-of-state banks entries through establishing new branches as a percentage of total number of out-of-state bank entries (branching plus M&A) in a county. I measure the labor market flexibility using lagged (by one year) actual local job turnover in the commercial banking industry. The analyses are conducted using yearly data. In models (1), (2), and (3), the dependent variables are measured using all out-of-state bank entries over the period of one year, two years, and three years after the implementation of IBBEA, respectively. I control for lagged state and county characteristics. I use robust standard errors. *t*-statistics are shown in parentheses. *, **, and *** denote an estimate that is statistically significantly different from zero at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)
Dep. Var.: **Ratio of bank entries through branching**	in the first year after IBBEA	in the first two years after IBBEA	in the first three years after IBBEA
Labor market flexibility			
Local job turnover in the commercial banking industry prior to the enactment of IBBEA	2.378*** (4.3)	1.644*** (3.73)	1.391*** (3.94)
State controls			
Local market size$_{t-1}$	-0.000*** (-3.35)	-0.000*** (-2.93)	0.000 (0.45)
Local bank competition$_{t-1}$	-0.964 (-1.22)	0.323 (0.71)	0.936*** (2.68)
Local per capita income $_{t-1}$	0.000* (1.92)	0.000** (2.45)	0.000 (0.09)
Average size of local firms $_{t-1}$	-0.051** (-2.11)	-0.025 (-1.26)	0.003 (0.24)
Political Balance $_{t-1}$	0.726*** (3.54)	0.345** (2.32)	0.123 (1.54)
County controls			
Personal income growth rate $_{t-1}$	0.009 (1.52)	0.006 (1.26)	0.001 (0.27)
Total population $_{t-1}$	0.000 (0.27)	0.000 (0.59)	0.000 (0.31)
Adj. R^2	0.214	0.095	0.066
Number of obs.	207	316	413

Appendix Table A2. Bank-Level Analysis of Bank Entry Modes – Alternative Measure of Labor Market Flexibility

This table presents estimated coefficients from logistic regressions that relate banks entry mode to local labor market flexibility. The dependent variable of bank entry dummy equals one if the out-of-state bank enters the county by setting up new branches, and it is zero if the out-of-state bank enters a county through M&A with a local bank branch. I measure the labor market flexibility using the lagged (by one year) actual local job turnover in commercial banking industry. The analyses are conducted using yearly data. Models (1), (2), and (3) are conducted using all out-of-state bank entries over the period of one year, two years, and three years after the implementation of IBBEA, respectively. I control for lagged state and bank characteristics, as well year fixed effects. Marginal effects with associated significance for the job turnover variable are reported in in square brackets. Robust standard errors are clustered at bank and at state level. *t*-statistics are shown in parentheses and *, **, and *** denote an estimate that is statistically significantly different from zero at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)
Dep. Var.: **Bank entry mode dummy**	in the first year after IBBEA	in the first two years after IBBEA	in the first three years after IBBEA
Labor market flexibility			
Local job turnover in the commercial banking industry $_{t-1}$	19.496* (1.84) [0.832*]	13.073*** (2.91) [1.042***]	7.976*** (2.7) [0.632**]
State controls			
Local market size $_{t-1}$	-0.000*** (-2.91)	0.000 (0.37)	0.000 (0.03)
Local bank competition $_{t-1}$	-20.313 (-1.25)	1.208 (0.3)	3.312 (0.84)
Local per capita income $_{t-1}$	0.001*** (2.86)	0.000 (1.4)	0.000** (2.1)
Average size of local firms $_{t-1}$	1.324** (2.08)	-0.402** (-2.14)	-0.264* (-1.92)
Political Balance $_{t-1}$	3.634 (1.21)	0.671 (0.72)	-0.113 (-0.14)
Home-target distance $_{t-1}$	0.002 (1.4)	0.000 (0.72)	0.000 (0.82)
Bank controls			
Bank age $_{t-1}$	0.064 (1.59)	0.013 (0.94)	0.006 (0.57)
Bank size $_{t-1}$	0.000 (0.59)	-0.000 (-1.41)	-0.000 (-0.02)
Bank liquidity $_{t-1}$	6.482 (0.35)	-5.075 (-0.73)	-13.78 (-1.44)
Bank ROA $_{t-1}$	-628.64** (-2.03)	-332.158* (-1.72)	-208.469 (-1.44)
Bank capital ratio $_{t-1}$	11.092 (0.43)	9.801 (0.53)	14.457 (1.18)
Year fixed effects	Yes	Yes	Yes
McFadden Adjusted R^2	0.361	0.133	0.083
Number of obs.	1396	4822	8398

Appendix Table A3. County-Level Panel-Data Analysis of Bank Entry Modes – Alternative Measure of Labor Market Flexibility

This table presents estimated coefficients from panel regression that relate banks entry mode to local labor market flexibility after the enactment of IBBEA. The dependent variable is the number of out-of-state bank entries by establishing new branches as a percentage of total number of out-of-state bank entries (branching plus M&A) in a county. I measure the labor market flexibility using lagged (by one year) actual county-level job turnover in the commercial banking industry. The analyses are conducted using yearly data at county level. I control for lagged state and county characteristics, as well as county and year fixed effects. Robust standard errors are clustered at the state level. *t*-statistics are shown in parentheses and *, **, and *** denote an estimate that is statistically significantly different from zero at the 10%, 5%, and 1% levels, respectively.

Dep. Var.:	**Ratio of bank entries through branching**
Labor market flexibility	
Local job turnover in the commercial banking industry $_{t-1}$	0.647**
	(2.04)
State controls	
Local market size $_{t-1}$	-0.000
	(-1.43)
Local bank competition $_{t-1}$	0.537
	(1.11)
Local per capita income $_{t-1}$	-0.000
	(-0.92)
Average size of local firms $_{t-1}$	0.112**
	(2.16)
Political Balance $_{t-1}$	0.056
	(0.57)
County controls	
Personal income growth rate $_{t-1}$	-0.001
	(-0.54)
Total population $_{t-1}$	-0.000
	(-0.98)
County fixed effects	Yes
Year fixed effects	Yes
McFadden Adj. R^2	0.091
Number of obs.	7810

Appendix Table A4. Bank-Level Panel-Data Analysis of Bank Entry Modes – Alternative Measure of Labor Market Flexibility

This table presents estimated coefficients from logistic regression that relate banks entry mode to local market flexibility. The dependent variable of bank entry dummy equals one if the out-of-state bank enters the county by setting up branches, and it is zero if the out-of-state bank enters a county through M&A with a local bank branch. I measure the labor market flexibility using the lagged (by one year) actual local job turnover in the commercial banking industry. The analyses are conducted using yearly data at the commercial bank level. I control for lagged state and bank characteristics, as well as year fixed effects. Marginal effects with associated significance for the local job turnover variable are reported in square brackets. Robust standard errors are clustered at the bank and state levels. *t*-statistics are shown in parentheses. *, **, and *** denote an estimate that is statistically significantly different from zero at the 10%, 5%, and 1% levels, respectively.

Dep. Var.:	**Bank entry mode dummy**
Labor market flexibility	
Local job turnover in the commercial banking industry $_{t-1}$	9.763***
	(6.85)
	[1.376***]
State controls	
Local market size $_{t-1}$	0.000
	(1.43)
Local bank competition $_{t-1}$	1.602
	(1.63)
Local per capita income $_{t-1}$	0.000
	(0.06)
Average size of local firms $_{t-1}$	0.038
	(0.76)
Political Balance $_{t-1}$	-0.039
	(-0.2)
Home-target distance $_{t-1}$	0.000
	(0.85)
Bank controls	
Bank age $_{t-1}$	-0.007**
	(-2.1)
Bank size $_{t-1}$	-0.000
	(-0.66)
Bank liquidity $_{t-1}$	-0.419
	(-1.02)
Bank ROA $_{t-1}$	65.864
	(1.5)
Bank capital ratio $_{t-1}$	3.307
	(0.78)
Year fixed effects	Yes
McFadden Adj. R^2	0.084
Number of obs.	51267

Appendix Table A5. Placebo Experiment of the Relaxation of Non-compete Enforcement and Bank Entry Mode – County-level Analysis

This table presents estimated coefficients from difference-in-differences (DD) analyses of the impact of fictitious changes in non-compete enforcement on the mode of out-of-state bank entry into counties after the enactment of IBBEA using OLS regressions. I run placebo experiments in which I create fictitious changes in non-compete enforcement that have taken place two and three years before the real changes in the four states, and test their effects on bank entry mode in Panels A and B, respectively. The dependent variable is the number of out-of-state banks entries by establishing new branches as a percentage of total number of out-of-state bank entries (branching plus M&A) in a county. The coefficients on *Placebo relaxation of non-compete enforcement* capture the DD estimate of the impact of the fictitious relaxation of the non-compete enforcement on out-of-state banks' interstate entry mode. Model (1) is conducted using all counties in the U.S. Model (2) is conducted using only contiguous counties on the border of law-changed states and neighboring states in order to control for the unobserved variable bias. I control for lagged state and county characteristics, county fixed effects, and year fixed effects in both regressions and also contiguous county paired fixed effects in model (2). The analyses are conducted using yearly data covering the period from January 1994 to December 2010. Robust standard errors are clustered at state level. *t*-statistics are shown in parentheses. *, **, and *** denote an estimate that is statistically significantly different from zero at the 10%, 5%, and 1% levels, respectively.

Panel A. Placebo Relaxation of Non-compete Enforcement Assumed to Have Taken Place Two Years Earlier

	(1)	(2)
Dep. Var.: **Ratio of bank entries through branching**	All counties in the U.S.	Contiguous counties on the border of the law-change states and neighboring states
Fictitious changes in labor law		
Placebo relaxation of non-compete enforcement $_{t-1}$	-0.025	-0.049
	(-0.36)	(-0.54)
State controls		
Local market size $_{t-1}$	-0.000	-0.000
	(-1.51)	(-0.59)
Local bank competition $_{t-1}$	0.664*	0.615
	(1.75)	(0.9)
Local per capita income $_{t-1}$	-0.000	-0.000
	(-1.47)	(-0.85)
Average size of local firms $_{t-1}$	0.102**	-0.099
	(2.22)	(-0.99)
Political Balance $_{t-1}$	0.092	0.276
	(1.08)	(1.68)
County controls		
Personal income growth rate $_{t-1}$	-0.000	0.002
	(-0.02)	(0.27)
Total population $_{t-1}$	0.000	0.000
	(0.12)	(0.71)
County fixed effects	yes	Yes
Neighboring county paired fixed effects	no	Yes
Year fixed effects	yes	Yes
Within-sample R^2	0.086	0.300
Number of counties	2309	129
Number of obs.	9553	1407

Panel B. Placebo Relaxation of Non-compete Enforcement Assumed to Have Taken Place Three Years Earlier

	(1)	(2)
Dep. Var.: **Ratio of bank entries through branching**	All counties in the U.S.	Counties on the border of the law-change states and neighboring states
Fictitious Changes in labor law		
Placebo relaxation of non-compete enforcement $_{t-1}$	-0.025	-0.146*
	(-0.42)	(-1.75)
State controls		
Local market size $_{t-1}$	-0.000	-0.000
	(-1.5)	(-0.42)
Local bank competition $_{t-1}$	0.662*	0.667
	(1.76)	(0.95)
Local per capita income $_{t-1}$	-0.000	-0.000
	(-1.47)	(-0.65)
Average size of local firms $_{t-1}$	0.102**	-0.129
	(2.23)	(-1.24)
Political Balance $_{t-1}$	0.092	0.288*
	(1.08)	(1.77)
County controls		
Personal income growth rate $_{t-1}$	-0.000	0.001
	(-0.02)	(0.23)
Total population $_{t-1}$	0.000	0.000
	(0.12)	(0.88)
County fixed effects	yes	yes
Neighboring county paired fixed effects	no	yes
Year fixed effects	yes	yes
Within-sample R^2	0.086	0.308
Number of counties	2309	129
Number of obs.	9553	1407

Appendix Table A6. Longer-Period Economic Implications of Bank Entries Modes

This table presents estimated coefficients from panel data regressions of the impact of different modes of interstate bank entries on the local bank credit market and the economy. I measure the dependent variables using the average percentage change in the small business credit market and local economy in a two-year and three-year period of time following bank entries. The results are reported in Panel A and Panel B, respectively. Dependent variables in model (1) capture the changes in the bank competition of the local market, dependents in models (2)-(3) capture the changes in the local small business lending, and dependents in models (4)-(6) capture the changes on the local economic activity. The analyses are conducted using yearly data covering the period from January 1994 to December 2010. I control for lagged state and county characteristics, as well as county fixed effects and year fixed effects. Robust standard errors are clustered at the state level. *t*-statistics are shown in parentheses. *, **, and *** denote an estimate that is statistically significantly different from zero at the 10%, 5%, and 1% levels, respectively.

Panel A. Changes in Economic Situation Two Years after Bank Entries

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.:	%Δ Herfindahl index of bank competition$_{t,t+2}$	%Δ volume of small business loans$_{t,t+2}$	%Δ number of small business loans$_{t,t+2}$	%Δ per capita personal income$_{t,t+2}$	%Δ nr of establish-ment $_{t,t+2}$	%Δ local unemploy-ment rate$_{t,t+2}$
Bank entries						
Nr of bank entries via branching$_{t-1}$	-0.002	0.380***	0.387***	0.027	0.052***	-0.137
	(-1.41)	(4.34)	(4.26)	(1.61)	(3.8)	(-1.5)
Nr of bank entries via M&A$_{t-1}$	0.000	-0.001	-0.003	-0.001	-0.004	0.014
	(0.44)	(-0.03)	(-0.12)	(-0.15)	(-1.22)	(0.64)
State controls						
Local market size $_{t-1}$	-0.000	-0.000**	-0.000	-0.000	-0.000	0.000***
	(-1.45)	(-2.32)	(-1.5)	(-0.48)	(-1.29)	(2.58)
Herfindahl Index of banks $_{t-1}$	-0.035	17.021	14.943	-0.463	1.169	-19.148**
	(-1.05)	(1.53)	(1.62)	(-0.37)	(0.74)	(-2.11)
Local per capita income $_{t-1}$	-0.000	0.000	-0.000	-0.000***	-0.000	0.001***
	(-1.27)	(0.19)	(-0.52)	(-3.98)	(-0.85)	(2.91)
Average size of local firms $_{t-1}$	0.000	-2.17	-4.074***	0.472	1.022***	-2.182
	(0.05)	(-1.59)	(-2.81)	(1.61)	(3.94)	(-1.09)
Political Balance $_{t-1}$	-0.008	-8.546*	-4.412	0.005	0.062	2.321
	(-0.68)	(-1.74)	(-1.14)	(0.01)	(0.16)	(0.7)
County controls						
Personal income growth rate $_{t-1}$	0.000	-0.011	-0.049*		0.016***	0.067***
	(1.02)	(-0.26)	(-1.93)		(5.6)	(2.55)
Total population $_{t-1}$	0.000	0.000***	0.000*	-0.000***	-0.000***	-0.000
	(0.49)	(2.86)	(1.83)	(-3.98)	(-4.07)	(-1.11)
County fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Within-sample R^2	0.002	0.263	0.754	0.318	0.163	0.664
Number of obs.	33102	36170	36170	36174	36164	36145

Panel B. Changes in Economic Situation Three Years after Bank Entries

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.:	%Δ Herfindahl index of bank competition$_{t,t+3}$	%Δ volume of small business loans$_{t,t+3}$	%Δ number of small business loans$_{t,t+3}$	%Δ per capita personal income$_{t,t+3}$	%Δ nr of establish-ment$_{t,t+3}$	%Δ local unemploy-ment rate$_{t,t+3}$
Bank entries						
Nr of bank entries via branching$_{t-1}$	-0.003*	0.26***	0.306***	0.012	0.052***	-0.062
	(-1.95)	(4.12)	(4.53)	(0.73)	(3.32)	(-0.81)
Nr of bank entries via M&A$_{t-1}$	0.000	-0.009	-0.036**	0.001	-0.002	0.005
	(0.51)	(-0.48)	(-2.44)	(0.28)	(-0.52)	(0.23)
State controls						
Local market size $_{t-1}$	-0.000	-0.000**	-0.000	-0.000	-0.000	0.000***
	(-1.26)	(-2.17)	(-1.57)	(-1.08)	(-1.41)	(3.13)
Herfindahl Index of banks $_{t-1}$	-0.045	21.555**	18.096**	2.571	1.146	-16.956**
	(-1.18)	(2.1)	(2.26)	(1.29)	(0.91)	(-2.11)
Local per capita income $_{t-1}$	-0.000	-0.000	-0.000	-0.000***	-0.000	0.001***
	(-1)	(-0.18)	(-1.4)	(-4.27)	(-1.52)	(3.07)
Average size of local firms $_{t-1}$	0.004	-1.06	-2.336**	0.582*	0.979***	-1.428
	(0.69)	(-0.95)	(-2.18)	(1.83)	(3.65)	(-0.87)
Political Balance $_{t-1}$	-0.013	-7.148	-3.147	-0.257	0.131	2.098
	(-0.69)	(-1.62)	(-0.87)	(-0.35)	(0.34)	(0.82)
County controls						
Personal income growth rate $_{t-1}$	0.000**	0.054	0.001		0.005	0.077***
	(2.01)	(1.15)	(0.03)		(1.1)	(3.21)
Total population $_{t-1}$	0.000	0.000**	0.000	-0.000***	-0.000***	-0.000**
	(0.39)	(2.33)	(0.97)	(-3.61)	(-3.76)	(-2.01)
County fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Within-sample R^2	0.002	0.341	0.815	0.195	0.206	0.689
Number of obs.	30042	36170	36170	33118	33108	36145

References

Allen, F., Qian, J., and Qian, M. (2005). Law, finance, and economic growth in China. *Journal of Financial Economics*, 77(1), 57-116.

Amore, M., Schneider, C., and Žaldokas, A. (2013). Credit supply and corporate innovation. *Journal of Financial Economics*, 109(3), 835-855.

Beck, T., Demirgüç-Kunt, A., and Maksimovic, V. (2004). Bank competition and access to finance: International evidence. *Journal of Money, Credit, and Banking*, 36(3), 627-648.

Berger, A., and Dick, A. (2007). Entry into banking markets and the early-mover advantage. *Journal of Money, Credit and Banking*, 39(4), 775-807.

Berger, A., Demsetz, R., and Strahan, P. (1999). The consolidation of the financial services industry: Causes, consequences, and implications for the future. *Journal of Banking & Finance*, 23(2), 135-194.

Berger, A., Saunders, A., Scalise, J., and Udell, G. (1998). The effects of bank mergers and acquisitions on small business lending. *Journal of Financial Economics*, 50(2), 187-229.

Bertrand, M., Schoar, A., and Thesmar, D. (2007). Banking deregulation and industry structure: Evidence from the French banking reforms of 1985. *Journal of Finance*, 62(2), 597-628.

Bird, R. C., & Knopf, J. D. (2014). The Impact of Local Knowledge on Banking. *Journal of Financial Services Research*, 1-20.

Black, S. (1999). Do better schools matter? Parental valuation of elementary education. *Quarterly Journal of Economics*, 114(2), 577-599.

Black, S., and Strahan, P. (2002). Entrepreneurship and bank credit availability. *Journal of Finance*, 57(6), 2807-2833.

Bofondi, M., and Gobbi, G. (2006). Informational barriers to entry into credit markets. *Review of Finance*, 10(1), 39-67.

Broecker, T. (1990). Credit-worthiness tests and interbank competition. *Econometrica: Journal of the Econometric Society*, 58(2), 429-452.

Chava, S., Oettl, A., Subramanian, A., and Subramanian, K. (2013). Banking deregulation and innovation. *Journal of Financial Economics*, 109(3), 759-774.

Chodorow-Reich, G. (2014). The employment effects of credit market disruptions: firm-level evidence from the 2008–9 financial crisis. *Quarterly Journal of Economics*, 129(1), 1-59.

Coval, J. and Moskowitz, T. (1999). Home bias at home: Local equity preference in domestic portfolios. *Journal of Finance*, 54(6), 2045-2073.

Coval, J., and Moskowitz, T. (2001). The geography of investment: Informed trading and asset prices. *Journal of Political Economy*, 109(4), 811-841.

Dell'Ariccia, G., Friedman, E., and Marquez, R. (1999). Adverse selection as a barrier to entry in the banking industry. *RAND Journal of Economics*, 30(3), 515-534.

Dell'Ariccia, G., and Marquez, R. (2004). Information and bank credit allocation. *Journal of Financial Economics*, 72(1), 185-214.

Demirgüç-Kunt, A., and Maksimovic, V. (1998). Law, finance, and firm growth. *Journal of Finance*, 53(6), 2107-2137.

Dick, A. (2006). Nationwide branching and its impact on market structure, quality, and cank performance. *Journal of Business*, 79(2), 567-592.

Fallick, B., Fleischman, C., and Rebitzer, J. (2006). Job-hopping in Silicon Valley: some evidence concerning the microfoundations of a high-technology cluster. *Review of Economics and Statistics*, 88(3), 472-481.

Franco, A., and Mitchell, M. (2008). Covenants not to compete, labor mobility, and industry dynamics. *Journal of Economics and Management Strategy*, 17(3), 581-606.

Garmaise, M. (2011). Ties that truly bind: Noncompetition agreements, executive compensation,

and firm investment. *Journal of Law, Economics, and Organization*, 27(2), 376-425.

Guiso, L., Sapienza, P., and Zingales, L. (2004). Does local financial development matter?. *Quarterly Journal of Economics*, 119(3), 929-969.

Holmes, T. (1998). The effect of state policies on the location of manufacturing: evidence from state borders. *Journal of Political Economy*, 106(4), 667–705.

Huang, R. (2008). Evaluating the real effect of bank branching deregulation: Comparing contiguous counties across U.S. state borders. *Journal of Financial Economics*, 87(3), 678-705.

Jayaratne, J., and Strahan, P. (1996). The finance-growth nexus: evidence from bank branch deregulation. *Quarterly Journal of Economics*, 111(3), 639–670.

Kaplan, S., and Stromberg, P. (2003). Financial contracting theory meets the real world: An empirical analysis of venture capital contracts. *Review of Economic Studies*, 70(2):281-315

King, R., and Levine, R. (1993). Finance and growth: Schumpeter might be right. *Quarterly Journal of Economics*, 108(3), 717–738.

Kramer, R. (1999). "Mega-mergers" in the banking industry, Antitrust Division, U.S. Department of Justice, Washington D.C.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and Vishny, R. (2001). *Law and Finance*. 26-68. Springer Berlin Heidelberg.

Leonard, B. (2001). Recruiting from the competition. *HR Magazine* 46(2), 78-83.

Levine, R., and Zervos, S. (1998). Stock markets, banks, and economic growth. *American Economic Review*, 88(3), 537-558.

Malsberger, B. M. (2004, 2009). *Covenants not to compete: a state-by-state survey*. Bloomberg BNA, 4th edition, 9th edition

Marx, M., Strumsky, D., and Fleming, L. (2009). Mobility, skills, and the Michigan non-compete experiment. *Management Science*, 55(6), 875-889.

Marx, M., and Fleming, L. (2011). Non-compete agreements: barriers to entry… and exit?. In *Innovation Policy and the Economy,* 12, 39-64. University of Chicago Press.

McKinnon, R. (1973). Money and capital in economic development. Brookings Institution Press.

Mester, L., Nakamura, L., and Renault, M. (2007). Transactions accounts and loan monitoring. *Review of Financial Studies*, 20(3), 529-556.

Norden, L., and Weber, M. (2010). Credit line usage, checking account activity, and default risk of bank borrowers. *Review of Financial Studies*, 23(10), 3665-3699.

Ogura, Y. (2006). Learning from a rival bank and lending boom. *Journal of Financial Intermediation*, 15(4), 535-555.

Petersen, M., and Rajan, R. (1994). The benefits of lending relationships: Evidence from small business data. *Journal of Finance*, 49(1), 3-37.

Petersen, M., and Rajan, R. (2002). Does distance still matter? The information revolution in small business lending. *Journal of Finance*, 57(6), 2533-2570.

Rajan, R. (1992). Insiders and outsiders: The choice between informed and arm's-length debt. *Journal of Finance*, 47(4), 1367-1400.

Rice, T., and Strahan, P. (2010). Does credit competition affect small-firm finance? *Journal of Finance,* 65(3), 861-889.

Schumpeter, J. (1912). *Theorie der wirtschaftlichen Entwicklung*. Duncker and Humblot.

Schumpeter, J.(1961). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle. Translated by Redvers Opie*. Oxford University Press.

Shaffer, S. (1998). The winner's curse in banking. *Journal of Financial Intermediation*, 7(4), 359-392.

Zarutskie, R. (2006). Evidence on the effects of bank competition on firm borrowing and investment. *Journal of Financial Economics*, 81(3), 503-537.

Figure 1. The Number of Interstate Branches Operated by FDIC-insured Commercial Banks during 1994-2010

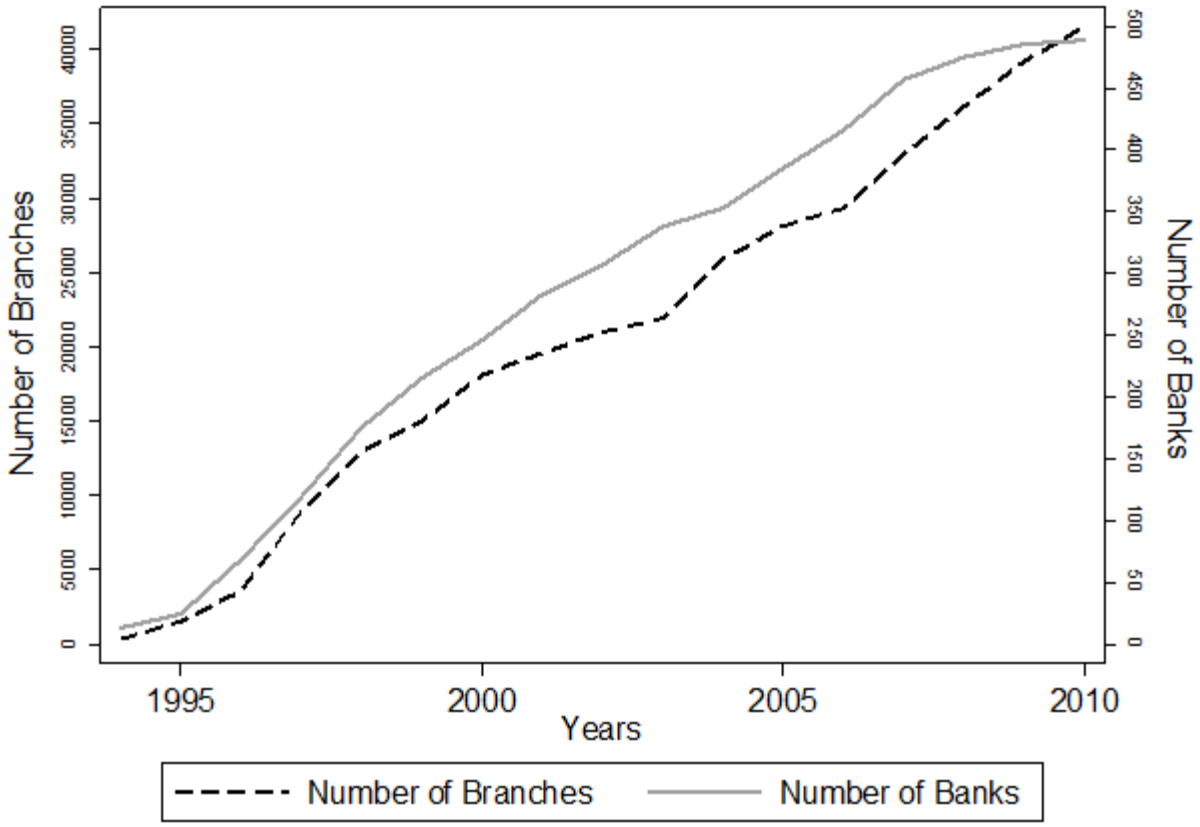
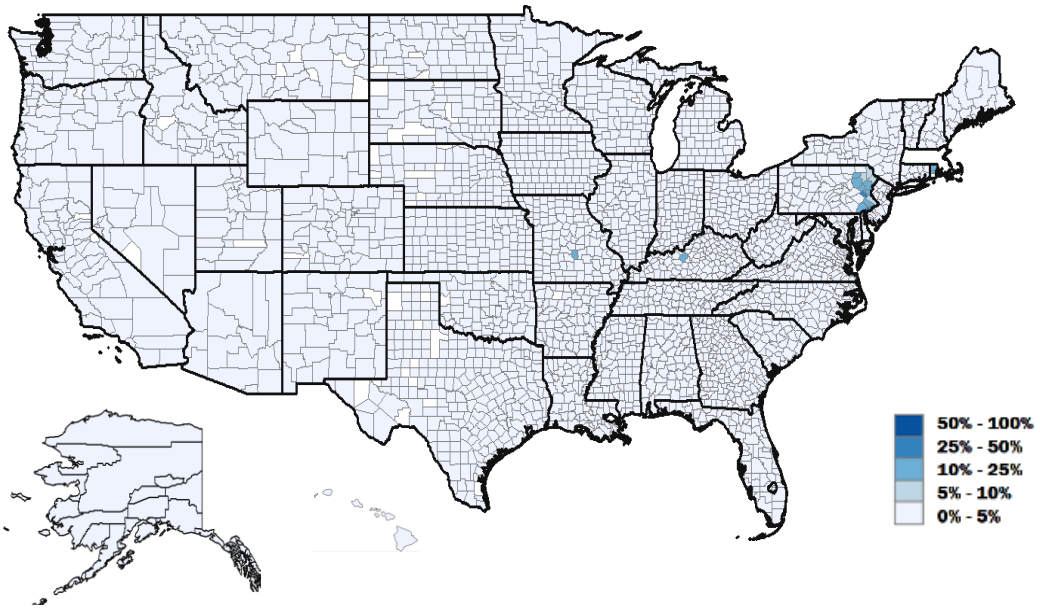


Figure 2. The Interstate Branching Expansion of the U.S. Banking Industry

Panel A. Interstate Branches as a Percentage of Total Offices, Dec. 1994



Panel B. Interstate Branches as a Percentage of Total Offices, Dec. 2010

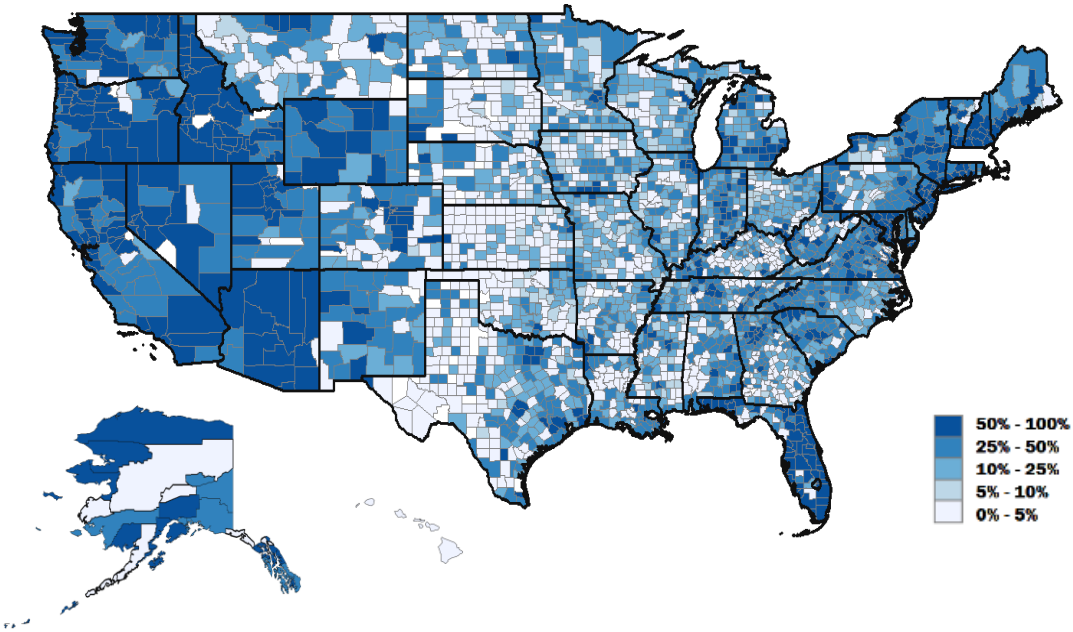
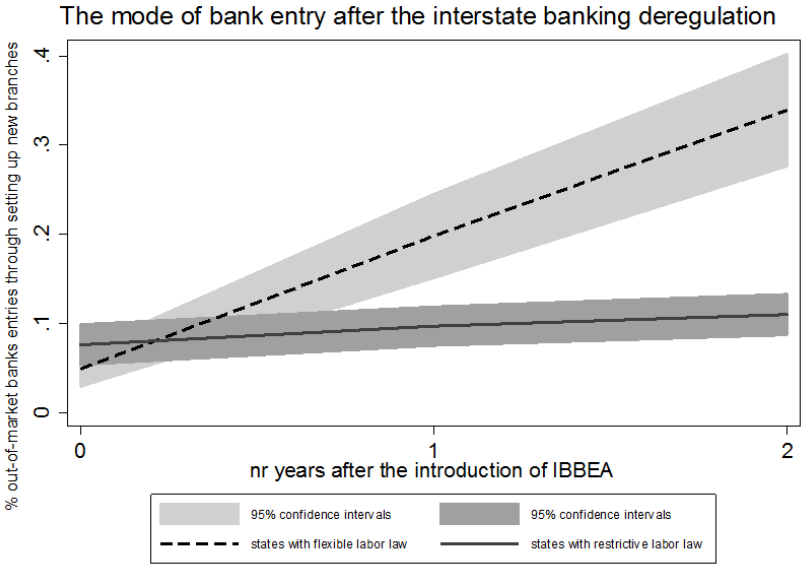


Figure 3. Bank Entry Modes and Labor Market Flexibility

This figure shows the relationship between bank entry modes and the local market flexibility during the first three years after banking deregulation. The broken line shows the average percentage of bank entries through establishing branches bank entries in states with flexible labor laws, and the solid line shows the mean percentage of out-of-market banks entries through establishing new branches in states with restrictive labor laws. And the grey shaded areas illustrate the lower and upper bounds measured at 95% confidence interval. In Panel A, the flexibility/restrictive labor market states are defined using the median split of the *NC_score* prior to the IBBEA; and in Panel B, the two groups of states are defined using the mean split of *local job turnover in the commercial banking industry* prior to IBBEA.

Panel A. Labor Market Flexibility measured by *NC_score*



Panel B: Labor Market Flexibility measured by the Average Job Turnover Ratio in the Commercial Banking Industry

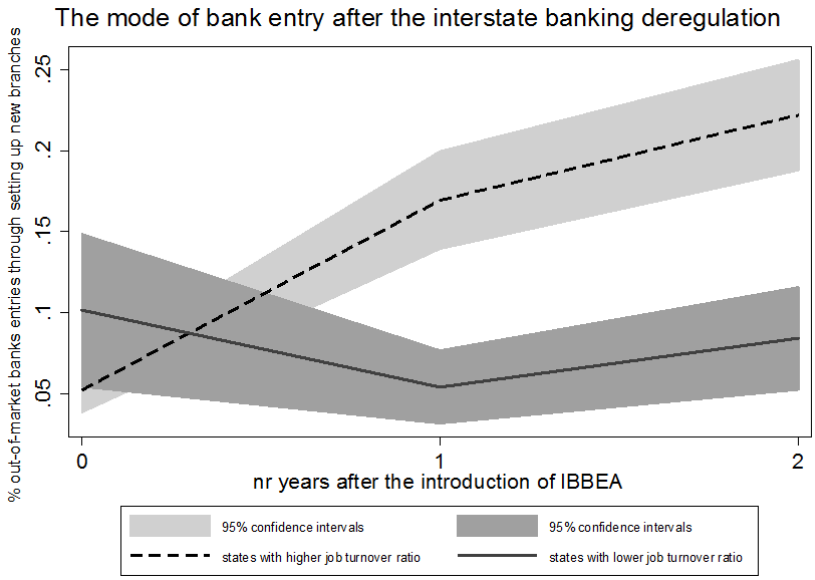


Table 1. Definitions of the Main Variables and Summary Statistics

Variable	Definition	Mean	Median	S.D.
Characteristics of the local market (Sources: U.S. Bureau of Economic Analysis, County Business Patterns database, Bureau of Labor Statistics, FDIC Summary of Deposit, American Bankruptcy Institute, House of Representatives)				
Local market size	Total number of establishment of the target state	190177.7	143949	164619.1
Local bank competition	Herfindahl Index calculated based on the deposit size of the local banks of the target state	0.071	0.059	0.059
Local per capita income	Per capita income of the target state	28987.16	28773	5064.2
Average size of local firms	Average nr of employees a firm has in the target state	15.434	15.859	1.84
personal income growth rate	Percentage change in the personal income of the target county	4.038	3.97	5.367
%Δ local unemployment rate	Percentage change in the local unemployment rate of the target county	4.579	0	21.86
Total population	Total population of the target county	92220.41	25039	301093.8
Political balance	Percentage of U.S. House of Representatives that are members of Democratic Party for a state and in a given year	42.67	44.44	23.97
Bank entry variables (Sources: FDIC Summary of Deposit, Scott Merryman (2005))				
Nr of bank entries via branching	the number of out-of-state bank entries in the target county through establishing new branches	1.067	0	2.971
Nr of bank entries via M&A	the number of out-of-state banks entries in the target county through acquiring existing local branches	4.863	2	11.013
Home-target distance	The geographical distance between bank home state and the target state	763.054	543	602.033
Bank characteristics (Source: FDIC Call report)				
Bank age	Years since the date the bank or the oldest bank owned by the bank holding company was established	101.14	100	38.972
Bank size	Bank total asset	1.64E+08	7.26E+07	2.30E+08
Bank liquidity	The ratio of cash to bank total deposit	0.079	0.074	0.042
Bank ROA	The ratio of annualized net income to total asset	0.008	0.008	0.005
Bank capital ratio	The ratio of the sum of bank tier1and tier2 capital to total assets	0.116	0.111	0.062

Local labor market flexibility (Sources: Garmaise (2011); and Census QWI)				
NC_score	The intensity of non-compete enforcement	4.383	5	1.801
Local job turnover in the commercial banking industry	Yearly average of $\frac{\text{number of hires in quarter } t + \text{ number of separations in quarter } t+1}{\text{the full-quarter employment}}$ in the industry of "credit intermediation and related activity" (with the first three digits of NAICs codes of 522) of the target county	0.04	0.034	0.036
Small business lending data (Source: FFIEC CRA database)				
%Δ volume of SME loans	Percentage change in the volume of SME loans – loans whose original amounts are $1 million or less and that were reported on the institution's Call Report or TFR as either "Loans secured by nonfarm or nonresidential real estate" or "Commercial and industrial loans."	0.188	0.05	0.715
%Δ number of SME loans	Percentage change in the number of SME loans (definition see above)	0.188	0.104	0.393

Table 2. Labor Market Flexibility and Bank Entry Modes – County- level Analysis

This table presents estimated coefficients from cross-sectional regressions that relate banks entry mode to local labor market flexibility. The dependent variable is the number of out-of-state banks entries through establishing new branches as a percentage of total number of out-of-state bank entries (branching plus M&A) in a county. The labor market flexibility is measured using *NC_score*, which reflects the intensity of non-compete enforcement prior to the IBBEA. The analyses are conducted using yearly data. In models (1), (2), and (3), the dependent variables are measured using all out-of-state bank entries over the period of one year, two years, and three years after the implementation of IBBEA, respectively. I control for lagged state and county characteristics, and use robust standard errors. *t*-statistics are shown in parentheses. *, **, and *** denote an estimate that is statistically significantly different from zero at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)
Dep. Var.: **Ratio of bank entries through branching**	In the first year after IBBEA	In the first two years after IBBEA	In the first three years after IBBEA
Labor market flexibility			
NC_score prior to the enactment of IBBEA	-0.017**	-0.022***	-0.006**
	(-2.26)	(-4.86)	(-2.05)
State controls			
Local market size	-0.000	-0.000**	-0.000
	(-0.94)	(-2.38)	(-1.34)
Local bank competition	0.222	0.246	0.646***
	(0.88)	(1.28)	(4.21)
Local per capita income	0.000***	0.000***	0.000***
	(5.48)	(5.62)	(3.71)
Average size of local firms	-0.003	-0.004	0.01***
	(-0.42)	(-0.64)	(2.86)
Political Balance	0.098	0.088*	-0.003
	(1.56)	(1.75)	(-0.11)
County controls			
Personal income growth rate	0.002	-0.001	-0.001
	(0.62)	(-0.54)	(-1.27)
Total population	0.000	0.000	0.000*
	(0.7)	(1.38)	(1.86)
Adj. R^2	0.105	0.075	0.036
Number of obs.	744	1055	1463

Table 3. Labor Market Flexibility and Bank Entry Modes –Bank-level Analysis

This table presents estimated coefficients from logistic regressions that relate banks entry mode to local labor market flexibility. Conditional upon each time of an out-of-state bank's entry, the dependent variable of bank entry dummy equals one if the out-of-state bank enters via establishing branches, and it is zero if the bank enters through M&A with a local bank branch. The labor market flexibility is measured using *NC_score*, which reflects the intensity of non-compete enforcement prior to the IBBEA. The analyses are conducted using yearly data. In models (1), (2), and (3), I conduct logistic regression for all out-of-state bank entries over the period of one year, two years, and three years after the implementation of IBBEA, respectively. I control for lagged state and bank characteristics, as well as year fixed effects. Marginal effects with associated significance for the *NC_score* variable are reported in square brackets. Robust standard errors are clustered at bank level and at state level. *t*-statistics are shown in parentheses. *, **, and *** denote an estimate that is statistically significantly different from zero at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)
Dep. Var.: **Bank entry mode dummy**	Banks entry mode in the first year after IBBEA	Banks entry mode in the first three years after IBBEA	Banks entry mode in the first three years after IBBEA
Labor market flexibility			
NC_score_{t-1}	-0.318**	-0.157***	-0.039
	(-2.36)	(-3.24)	(-0.78)
	[-0.020**]	[-0.013***]	[-0.003]
State controls			
Local market $size_{t-1}$	0.000	0.000	0.000
	(0.8)	(0.46)	(0.03)
Local bank $competition_{t-1}$	10.355***	12.884***	10.351***
	(3.08)	(3.99)	(2.83)
Local per capita $income_{t-1}$	0.000***	0.000***	0.000**
	(3.44)	(4.47)	(2.1)
Average size of local $firms_{t-1}$	0.091	-0.031	0.003
	(0.73)	(-0.64)	(0.05)
Political $balance_{t-1}$	-0.988	-0.788	-1.071
	(-0.68)	(-0.83)	(-1.38)
Home-target $distance_{t-1}$	0.000	0.000	0.000
	(0.16)	(0.6)	(0.75)
Bank controls			
Bank age_{t-1}	0.032**	0.012	0.007
	(2.14)	(0.99)	(0.67)
Bank $size_{t-1}$	0.000	-0.000	0.000
	(0.22)	(-1.52)	(0.32)
Bank $liquidity_{t-1}$	-3.579	-1.757	-9.498
	(-0.37)	(-0.34)	(-1.56)
Bank ROA_{t-1}	-326.479*	-291.563**	-176.452
	(-1.7)	(-2.06)	(-1.5)
Bank capital $ratio_{t-1}$	1.097	1.676	10.747
	(0.89)	(0.23)	(1.08)
Year fixed effects	Yes	Yes	Yes
McFadden Adj. R^2	0.146	0.092	0.054
Number of obs.	4684	9138	14183

Table 4. Relaxation of Non-compete Enforcement and Bank Entry Mode

This table presents estimated coefficients from difference-in-differences (DD) analyses of the impact of the change in non-compete enforcement on the mode of out-of-state bank entry into counties after the commencement of IBBEA using OLS regressions. The dependent variable is the number of out-of-state banks entries through establishing new branches as a percentage of total number of out-of-state bank entries (branching plus M&A) in a county. The coefficient on *Relaxation of non-compete enforcement* captures the DD estimate of the impact of the relaxation of non-compete enforcement on out-of-state banks' interstate entry mode. Model (1) is conducted using all counties in the U.S. Model (2) is conducted using only contiguous counties on the border of law-changed states and neighboring states in order to control for the unobserved variable bias. I control for lagged state and county characteristics, county fixed effects, and year fixed effects in both regressions and also contiguous county paired fixed effects in model (2). The analyses are conducted using yearly data covering the period from January 1994 to December 2010. Robust standard errors are clustered at the state level. *t*-statistics are shown in parentheses. *, **, and *** denote an estimate that is statistically significantly different from zero at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)
Dep. Var.: **Ratio of bank entries through branching**	All counties in the U.S.	Contiguous counties on the border of the law-change states and neighboring states
Changes in labor law		
Relaxation of non-compete enforcement$_{t-1}$	0.373***	0.323***
	(3.63)	(2.9)
State controls		
Local market size$_{t-1}$	-0.000*	-0.000
	(-1.71)	(-1.44)
Local bank competition$_{t-1}$	0.635*	0.579
	(1.67)	(1.00)
Local per capita income$_{t-1}$	-0.000*	-0.000
	(-1.94)	(-0.99)
Average size of local firms$_{t-1}$	0.112***	-0.037
	(2.54)	(-0.4)
Political Balance$_{t-1}$	0.098	0.327**
	(1.11)	(2.09)
County controls		
Personal income growth rate$_{t-1}$	0.000	0.001
	(0.03)	(0.11)
Total population$_{t-1}$	0.000	0.000
	(0.29)	(0.41)
County fixed effects	yes	yes
Neighboring county paired fixed effects	no	yes
Year fixed effects	yes	yes
Within-sample R^2	0.091	0.317
Number of counties	2309	129
Number of obs.	9553	1407

Table 5. Relaxation of Non-compete Enforcement and Bank Entry Mode – Bank-level Analysis

This table presents estimated coefficients from difference-in-differences (DD) analyses of the impact of the change in non-compete enforcement on the mode of out-of-state bank entry after the commencement of IBBEA to year 2010 using logistic regressions. Conditional on one out-of-state bank's entry, the dependent variable of bank entry dummy equals one if the out-of-state bank enters via establishing branches, and it is zero if the bank enters through a M&A with a local bank branch. The coefficient on *Relaxation of non-compete enforcement* captures the DD estimate of the impact of the relaxation of the non-compete enforcement on out-of-state banks' interstate entry mode. Model (1) is conducted using all counties in the U.S. Model (2) is conducted using only contiguous counties on the border of law-changed states and neighboring states in order to control for the unobserved variable bias. I control for lagged state and county characteristics, as well as year fixed effects in both regressions. Marginal effects with associated significance for law change in the diff-in-diff variable are reported in square brackets. Robust standard errors are clustered at the bank level and at state level. *t*-statistics are shown in parentheses. *, **, and *** denote an estimate that is statistically significantly different from zero at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)
Dep. Var.: **Bank entry mode dummy**	All counties in the U.S.	Contiguous counties on the border of the law-change states and neighboring states
Changes in labor law		
Relaxation of non-compete enforcement$_{t-1}$	0.893* (1.64) [0.121***]	0.612*** (2.91) [0.069*]
State controls		
Local market size $_{t-1}$	0.000* (1.89)	-0.000 (-1.60)
Local bank competition$_{t-1}$	2.394** (1.96)	10.051*** (5.48)
Local per capita income$_{t-1}$	0.000 (0.4)	0.000 (0.48)
Average size of local firms$_{t-1}$	0.075 (1.27)	-0.000 (0.00)
Political Balance$_{t-1}$	-0.486* (-1.74)	0.794* (1.88)
Home-target distance$_{t-1}$	0.000 (1.22)	-0.000 (-0.59)
Bank controls		
Bank age$_{t-1}$	-0.005 (-1.52)	-0.009 (-1.05)
Bank size$_{t-1}$	-0.000 (-0.73)	-0.000* (-1.92)
Bank liquidity$_{t-1}$	-0.293 (-0.85)	3.12 (0.54)
Bank ROA$_{t-1}$	37.506 (0.83)	-43.71 (-0.89)
Bank capital ratio$_{t-1}$	3.038 (0.89)	2.65 (1.05)
Year fixed effects	yes	Yes
McFadden Adj. R^2	0.076	0.182
Number of obs.	59270	7435

Table 6. Economic Implications of Bank Entries Modes

This table presents estimated coefficients from panel data regressions of the impact of different modes of interstate bank entries on the local bank credit market and economy. I measure the dependent variables using the average percentage change in the small business credit market and local economy one year following bank entries. Dependent variables in model (1) capture the changes in the bank competition of local market, dependents in models (2)-(3) capture the changes in the local small business lending, and dependents in models (4)-(6) capture the changes on the local economic activity. The analyses are conducted using yearly data covering the period from January 1994 to December 2010. I control for lagged state and county characteristics, county fixed effects, and year fixed effects. Robust standard errors are clustered at the state level. *t*-statistics are shown in parentheses. *, **, and *** denote an estimate that is statistically significantly different from zero at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.:	%Δ Herfindahl index of bank competition	%Δ volume of small business loans	%Δ number of small business loans	%Δ per capita personal income	%Δ nr of establish-ment	%Δ local unemploy-ment rate
Bank entries						
Nr of bank entries via branching$_{t-1}$	-0.002**	0.591***	0.441***	0.056**	0.056***	-0.123
	(-2.26)	(4.46)	(3.32)	(2.13)	(3.72)	(-1.11)
Nr of bank entries via M&A$_{t-1}$	0.000	0.039	0.015	-0.005	-0.007**	0.046*
	(0.00)	(0.82)	(0.29)	(-0.75)	(-2.13)	(1.73)
State controls						
Local market size$_{t-1}$	-0.000	-0.000*	-0.000	-0.000	-0.000	0.000*
	(-0.81)	(-1.71)	(-1.48)	(-0.34)	(-0.83)	(1.74)
Herfindahl Index of banks$_{t-1}$	-0.025	12.082	6.4	-0.899	0.355	-25.978***
	(-1.22)	(0.75)	(0.63)	(-0.66)	(0.21)	(-2.7)
Local per capita income$_{t-1}$	-0.000	0.000	0.000	-0.000***	-0.000	0.001**
	(-1.06)	(0.06)	(0.02)	(-3.78)	(-0.87)	(2.18)
Average size of local firms$_{t-1}$	0.000	-5.789**	-5.83***	0.727*	0.946***	-1.919
	(0.1)	(-2.1)	(-3.08)	(1.83)	(4.06)	(-0.85)
Political Balance$_{t-1}$	-0.007	-16.167**	-6.553	0.113	0.24	4.491
	(-1.14)	(-2.32)	(-1.5)	(0.18)	(0.64)	(1.01)
County controls						
Personal income growth rate$_{t-1}$	0.000	-0.035	-0.017		0.025***	-0.009
	(1.3)	(-0.21)	(-0.33)		(3.92)	(-0.25)
Total population$_{t-1}$	0.000	0.000***	0.000**	-0.000***	-0.000***	-0.000
	(0.8)	(3.08)	(2.43)	(-4.07)	(-4.19)	(-0.18)
County fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Within-sample R^2	0.003	0.107	0.577	0.279	0.111	0.589
Number of obs.	36164	36170	36170	36174	36164	36152