



# A safe pair of hands? Bank CEO career experience and acquisition performance

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## ABSTRACT

We use the staggered deregulation of interstate banking in the U.S. to show that CEOs who have gained career experience at multiple banks are more likely to pursue acquisitions when competition intensifies. Acquisitions completed by these CEOs perform better than those led by CEOs whose career experience is confined to a single institution. Analyzing the sources of performance gains, we find that CEOs with greater across-bank experience are more effective at identifying and integrating dissimilar targets. Our findings cannot be explained by other formative CEO experiences or a CEO general ability. The results highlight the importance of externally versus internally acquired experience in explaining how managers respond to a competitive shock.

## 1. Introduction

Banks face a unique mix of federal and state-level regulations, and close scrutiny due to their systemic importance. These constraints make bank mergers and acquisitions (M&A) more politically sensitive and institutionally challenging than in many other sectors (Rice and Strahan, 2010; Delong and Deyoung, 2007). This environment provides a strong foundation for studying how CEO experience influences strategic decision-making.

Prior research shows that CEO background affects financial, investment, and innovation policies (Custódio and Metzger, 2013, 2014; Dittmar and Duchin, 2016; Custódio et al., 2019). This paper builds on that work by asking whether experience gained across different banks helps CEOs make better acquisition decisions in a sector where complexity and competition are shaped by regulation. Specifically, we question whether externally acquired experience gained through senior roles at multiple banks affects the likelihood and performance of bank acquisitions.

We argue that CEOs with professional experience at multiple firms are more likely to pursue external growth options via acquisitions. Our intuition is that managers who change employers are more outward

looking and inherently more risk-tolerant, as job mobility entails professional and personal risks (Vardaman et al., 2008). By leaving their current employment, managers forgo valuable firm-specific knowledge (Klasa et al., 2018) in exchange for relatively less known external career options. Moreover, we argue managers with experience at multiple firms are linked to better-performing acquisitions.

Our intuition is based on the notion that by moving across firms, CEOs accumulate valuable human capital, which could be especially valuable in unfamiliar business environments. For instance, moving CEOs will gain insights about competitors, business models, and geographic markets that are more difficult to obtain for managers whose experience is based on working for a single firm. Becker (1962) emphasizes that some aspects of human capital are general (i.e., not specific to a company) and, thus, transferable across firms. In line with Custódio and Metzger (2013), who show CEOs apply previously acquired expertise to their current role, we argue CEOs with experience at multiple firms will apply their accumulated knowledge and expertise to create value in M&A. These predictions are aligned with the Dynamic Capabilities View (DCV) (Teece et al., 1997) and Resource Dependency Theory (RDT) (Pfeffer and Salancik, 1978; Hillman et al., 2009), according to which, CEOs with external career experience bring

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perspective, networks, and judgment that allow banks to better identify opportunities, navigate uncertainty, and execute successful acquisitions that combine internal capabilities and external resources in ways that are especially valuable after regulatory shifts such as in the post-IBBEA period (Pfeffer and Salancik, 1978; Teece et al., 1997; Custódio et al., 2013; Ishii and Xuan, 2014).

To test our predictions, we employ a rich hand-collected dataset on the employment history of CEOs in senior managerial roles. Our data distinguish between external experience (gained when managers move across firms) and measures of internal (within-firm) experience. We use Principal Component Analysis (PCA) analysis to identify a single common factor that loads positively with our three key indicators of external experience: the number of different banks a CEO has worked at, the total years of external executive experience, and whether the CEO has previously held a CEO position at another firm. CEOs with above-median scores on this factor are classified as *high-breadth CEOs*. High-breadth CEOs are those who have accumulated substantial executive experience across multiple banking institutions prior to their current role. This form of experience reflects not just the number of years spent in senior positions, but also the diversity of organizational contexts in which that experience was gained.

We focus on the banking sector during a period of regulatory transformation. Specifically, we use the Interstate Banking and Branching Efficiency Act (IBBEA) of 1994 that legalizes interstate branching across the United States and markedly increases competitive pressures in some U.S. states (see Rice and Strahan, 2010).

Our identification relies on the staggered deregulation of interstate branching applicable to banks across different U.S. states. IBBEA, therefore, introduces substantial variation in industry competition along both geographical and temporal dimensions. We follow a literature that argues that while the deregulation was to some extent anticipated (Carow and Lee, 1997), the exact timing with which individual states deregulated was not (e.g., Krishnan et al., 2015; Celerier and Matray, 2019). Put simply, we leverage the uncertainty surrounding the timing of state-level deregulation post-IBBEA to identify the causal impact of CEO experience on acquisition outcomes.

For a sample of 823 acquisitions from 1990 up to, and including, 2010, our findings show that CEOs with externally acquired experience are more likely to pursue acquisitions when competition intensifies, and that acquisitions by high-breadth CEOs are associated with higher announcement returns than acquisitions compared to low-breadth CEOs. Following an increase in deregulation, CEOs with above-median loadings on high-breadth pursue value-increasing acquisitions compared to other CEOs. The outperformance of acquisitions by high-breadth CEOs is economically meaningful. We estimate a one standard deviation increase in the value of breadth CEOs results in increasing acquisition CARs by 0.92% compared to the average acquisition CAR of -0.63%. We also distinguish between breadth and depth of experience and demonstrate that breadth rather than internally gained career experience is the more important driver of acquisition performance. Our main findings are robust to a range of alternative experience measures and persist in long-term performance tests.

Finally, we examine whether the results based on announcement returns are consistent with long-term outperformance. We find evidence consistent with this: acquisitions by high-breadth CEOs are associated with higher profitability against an asset-weighted, pro-forma combination of the acquirer and target. This suggests the higher announcement returns realized by breadth CEOs translate into long-term outperformance.

This paper builds on various strands of the literature. First, we contribute to the literature on the impact of CEOs' characteristics on M&A in the banking sector. A growing body of research shows that CEO characteristics play a critical role in shaping bank M&A decisions and outcomes. For example, Malmendier and Tate (2005) find that overconfident CEOs are more likely to pursue acquisitions, often with negative value implications, while Custódio and Metzger (2014) show

that financial expertise among CEOs is associated with more disciplined deal-making. However, the impact of regulatory shifts, more specifically the Riegle-Neal Interstate Banking and Branching Efficiency Act (IBBEA), on the valuation of these characteristics has largely been ignored. We show that the value of CEO external vs. internal career experience is contingent on regulatory change (IBBEA). In doing so, we enrich the scholarship on CEOs and their M&A activities by showing the possibility of contextual factors influencing the impact of CEO experience, thus also advancing the conversation regarding banking deregulation. Our findings can be understood from the perspective of the DCV (Teece et al., 1997) and RDT (Pfeffer and Salancik, 1978; Hillman et al., 2009), according to which high-breadth CEOs utilize their externally sourced career experience and wide networks to optimally leverage firm resources and adapt to the changing external environment.

Second, we complement the literature on the industry-specific segmentation of executive labor markets and the importance of industry-specific skills (e.g., Parrino, 1997; Cremers and Grinstein, 2014; De Angelis and Grinstein, 2020; Na, 2020). Many of the findings in that literature emphasize a negative side to external hires. For example, Cremers and Grinstein (2014) show that CEOs are more likely to receive "pay for luck" in industries where CEOs are more likely to be externally hired. De Angelis and Grinstein (2020) present evidence that CEO pay-performance sensitivity is weaker in settings where external CEO hires are less likely (e.g., in industries and states with greater restrictions on CEO mobility). Similarly, Na (2020) argues that the risk of rent extraction by CEOs increases with higher external job mobility. Our findings contrast with these studies by demonstrating a benefit of managers with across-firm career experience in the context of firm acquisitions.

Finally, we contribute to the literature on the drivers of M&A performance (see Renneboog and Vansteenkiste, 2019, for a review). Despite significant research into the determinants of acquirer returns, standard variables continue to only explain a small share of the variation in acquirer returns (Golubov et al., 2015; Tampakoudis et al., 2022). While some studies point to the role of managers in acquisition performance (e.g., Custódio and Metzger, 2013; Fich and Nguyen, 2020), we identify a new piece to the puzzle as to what explains M&A performance by identifying the hitherto unexplored dimension of external manager experience.

## 2. Research design

Our sample consists of U.S. bank holding companies that engage in acquisitions over the period 1990–2010. We choose this period to allow for sufficient observations around the state-level bank branching deregulation between 1994 and 2005. Consistent with prior literature, we focus on IBBEA's interstate branching provisions rather than earlier deregulations that were largely pre-empted (e.g., Bens et al., 2023).<sup>1</sup>

M&A data is retrieved from SDC Platinum. We exclude M&A deals

<sup>1</sup> While our empirical strategy is based on the staggered implementation of the Interstate Banking and Branching Efficiency Act (IBBEA) of 1994, we acknowledge that this reform was part of a broader evolution in interstate banking. Before IBBEA, many states had adopted regional compacts and bilateral agreements allowing limited interstate banking (Carow and Heron, 1998), leading to some mergers during the 1980s and early 1990s. However, these pre-IBBEA deals were smaller, local, and less complex under fragmented state laws. In such settings, internally sourced experience, deep knowledge of a bank's operations and regulatory environment, was likely sufficient for identifying and integrating targets. By contrast, post-IBBEA banks could establish branches across state lines, reducing entry barriers and enabling national networks. This facilitated risk diversification and efficiency gains, while heightened competition expanded credit access and lowered borrowing costs (Kroszner and Strahan, 1999). Consequently, CEOs required broader strategic vision, external networks, and cross-market knowledge-attributes more likely among those with multi-bank experience.

**Table 1**  
Descriptive statistics.

Panel A: Descriptive Statistics	Mean	25 <sup>th</sup> Percentile	Median	75 <sup>th</sup> Percentile	Std Dev
<b>CEO Career Experience</b>					
External Experience (Years)	5.957	0	0	11	9.357
Banks Previously Worked (#)	0.492	0	0	1	0.786
Previous CEO Experience (0/1)	0.199	0	0	0	0.400
Internal Experience (Years)	11.938	1	11	20	10.298
Internal Positions (#)	3.128	3	3	4	0.903
<b>CEO Breadth of Experience</b>					
Breadth of Experience	0.000	-0.834	-0.334	0.829	1.000
Breadth of Experience Excl. Internal Experience	0.000	-0.742	-0.742	0.792	1.000
Depth of Experience	0.485	0.000	0.000	1.000	0.500
<b>Variables of Interests</b>					
CAR (-2,2) (%)	-0.630	-2.754	-0.756	1.324	3.983
D&R Index	2.543	0.000	3.000	4.000	2.144
<b>Bank Controls</b>					
ROE	0.140	0.117	0.145	0.165	0.042
Bank Size	16.625	15.373	16.396	17.637	1.727
Equity Capital	0.086	0.072	0.081	0.096	0.023
Charter Value	1.142	1.049	1.107	1.187	0.140
Loans	0.627	0.560	0.655	0.706	0.118
Bank Risk	0.020	0.013	0.017	0.022	0.016
Asset Quality	0.006	0.002	0.004	0.007	0.006
<b>CEO Controls</b>					
CEO Tenure	3.959	3.871	3.970	4.060	0.132
CEO Age	6.899	2.000	5.000	11.000	5.982
<b>Deal Controls</b>					
Stock Price Run-up	-0.095	-0.275	-0.088	0.074	0.291
Private Target	0.355	0	0	1	0.479
Cash Deal	0.185	0	0	0	0.388
Relative Deal Size	8.080	1.056	3.211	8.149	13.716
Deal Value (\$ mn)	4.450	3.260	4.290	5.448	1.698
<b>Other Variables</b>					
Acquisition Frequency	7.550	2.000	5.000	11.000	7.478
<b>Target Characteristics</b>					
Total Assets (log)	13.507	12.323	13.277	14.281	1.786
Total Loans	0.628	0.558	0.648	0.719	0.135
Equity Capital (%)	8.686	7.110	8.205	9.913	2.773
Default Risk	8.411	5.237	6.822	9.156	9.714
Loan Quality (%)	0.291	0.056	0.135	0.302	0.617
ROE	0.021	0.025	0.043	0.054	0.228
Distance	-1.538	-2.451	-1.428	-0.723	1.198
Panel B: Factor Loadings on CEO experience variables			"Breadth of Experience"		
External Experience (log years)			0.910		
Banks Previously Worked (#)			0.898		
Previous CEO Experience (0/1)			0.726		
Internal Experience (log years)			-0.646		
Internal Executive Positions (#)			-0.314		
<b>Model Statistics:</b>					
Eigenvalue			2.462		
% Variance Explained			49.20		

This table presents the descriptive statistics. Panel A reports the summary statistics for our sample of 823 bank acquisitions from 1990 to 2010. Panel B presents factor loadings on the first principal component factor derived from factor analysis. We identify a single factor, Breadth of Experience, with an eigenvalue larger than one, which explains 49.2 % of the underlying variation in our CEO career experience variables. *External Experience* is the total external experience (in years) of working in executive roles in other banks in the past. *Banks Previously Worked* is the number of banks where the current CEO worked full-time in the past in executive roles. *Previous CEO Experience (0/1)* is a dummy variable that equals one if the current CEO has worked as a CEO in the past. *Internal Experience* is measured as total internal experience (in years) working in senior managerial roles in the current bank. *Internal Positions* is the number of senior managerial positions held within the current bank (e.g. V.P. and CFO) before being promoted to the role of CEO. *Breadth of Experience* factor extracted by running principal component analysis over five experience variables (*External Experience*, *Banks Previously Worked*, *Previous CEO Experience*, *Internal Experience*, *Internal Positions*). *High Breadth CEOs* have above-median loadings on our estimated Breadth of Experience factor. The alternative CEO breadth variable *Breadth of Experience Excl. Internal Experience* is the factor extracted by running principal component analysis over three external experience variables (*External Experience*, *Banks Previously Worked*, *Previous CEO Experience*). *Depth of Experience = 1* as CEOs with above-median negative loadings on the factor identified using the principal component analyses presented in Panel B. *CAR (-2,2)* is measured as the five-day cumulative abnormal return (in percentage points) relative to the acquisition announcement. *D&R Index* is a state-level deregulation index ranging from one (states placed all branching restrictions to prevent interstate branching deregulation) to six (states that removed all branching restrictions and did not require reciprocity clause), and zero before the passage of IBBEA. *Stock Price Run-up* is the bidder's buy-and-hold abnormal return (BHAR) over the period (-300,-50) where the market index is the CRSP value-weighted return. *ROE* is a measure of profitability and calculated as net income divided by total equity. *Bank Size* is the log of total bank assets. *Equity Capital* is calculated as the ratio of equity to total assets. *Charter Value* is defined as market value of assets to book value of assets. *Loans* is the ratio of bank loans to total assets. *Bank Risk* is measured as the standard deviation of daily bank returns over the previous 12 months. *Asset Quality* is measured as the ratio of loan loss provisions to total loans. CEO characteristics include *CEO tenure* (Years of experience in current CEO role); *CEO Age* (log of age in years). *Private target* is a dummy variable that equals one for private targets and zero otherwise. *Cash Deal* is a dummy that equals one if the deal was financed only by cash and zero otherwise. *Relative Deal Size* is the deal value divided by bidder's market value of assets in the year before the acquisition. *Deal Value* is the log of deal value (in \$ millions). *Acquisition Frequency* captures the total number of acquisitions made by each acquiring bank during the sample period. The target specific control variables includes: *Total assets* is the log of total bank assets in thousand dollars; *Total Loans* is the ratio of target bank's total loans to total assets; *Equity Capital* is the ratio of target equity to total assets; *Default Risk* is the sum of ROE and Equity Capital scaled by standard deviation of ROE, multiplied by minus 1; *Loan Loss Provisions* is the provisions for loan losses scaled by total loans; *ROE* is net income to total equity; and *Distance* is the geographic distance (in log of miles) between the target and acquirer banks.

valued below \$5 million or less than 1 % of the acquirer's market value, buybacks, repurchases, and recapitalizations. We further require that accounting data are available from FR-Y9C call reports and market data from the Centre for Research in Securities Prices (CRSP).

We then hand collect detailed career and experience data on the CEOs of acquiring banks. We extract rich data from DEF 14 A statements, BoardEx, S&P's Capital IQ, Bloomberg, NNDB Mapper, and the online archives of various national and regional newspapers. Following Berger et al. (2016), we define executive roles in banks as senior managerial (non-CEO) positions and mid-level managerial roles, such as vice presidents and department heads.

We capture external career experience using three variables.

- *External Experience* is the number of years a CEO has worked in executive and senior managerial roles in other firms before taking a position in the current bank.
- *Banks Previously Worked* is the number of different firms where the current CEO worked in executive or senior management roles in the past.
- *Previous CEO Experience* is one if the current CEO has worked as a CEO in the past (and zero otherwise).

We capture a CEO's experience at the current firm before assuming the CEO post using two additional experience measures:

- *Internal Experience* is the number of years a CEO has worked in executive or senior managerial roles in the current bank.
- *Internal Positions* is the number of executive and senior management roles before assuming the role of CEO.

Panel A of Table 1 shows the descriptive statistics. On average, bank CEOs have six years of experience outside their current firm and 12 years of internal employment experience within their current bank. Nearly 20 % of CEOs held a CEO position previously, and the average CEO held three senior executive roles before assuming the CEO post.

To identify patterns underlying the internal and external career experience variables and to account for potentially complex interdependencies between individual dimensions of experience, we use PCA to identify an index of CEO work experience. PCA is a statistical technique that reduces the dimensionality of a dataset by transforming a large set of correlated variables into a smaller set of uncorrelated components which are called principal components. Each component is a weighted linear combination of the original variables and accounts for as much variance as possible in the data.<sup>2</sup> Panel B of Table 1 presents the results of the analysis.

The eigenvalues provided indicate that three out of the five factors (all external experience variables) have positive loadings for the first factor. In contrast, the remaining two internal factor variables have negative loadings. This suggests that positive values of the predicted PCA factor indicate the CEO has above-average external experience compared to their peers in the sample, or they have lower internal experience. Similarly, a negative value would indicate higher internal experience or lower external exposure. We define this single factor, as *Breadth of Experience*. In the context of PCA, an eigenvalue greater than 1 indicates that the factor captures more variance than a single observed variable and generally suggests the component is above average in

<sup>2</sup> Using these five dimensions individually together, which are highly correlated in nature, would lead to a multicollinearity problem in a regression setup. However, using PCA by transforming these five factors into a single factor that captures the key pattern in the data bypasses this problem. Also, focusing on components that capture the most variance, PCA filters out components associated with small eigenvalues, which often represent noise in the data. Thus, using PCA reduces noise and increases efficiency in information usage.

explaining a significant portion of the variability in the data. The *Breadth of Experience* factor has an eigenvalue larger than one and explains 49.2 % of the underlying variation in our CEO career experience variables. The extracted factor is a combination of experience variables that generates positive factor loadings (ranging from 0.73 to 0.91) on *External Experience*, *Banks Previously Worked*, and *Previous CEO Experience* – all of which relate to experience gained outside the current bank. We, therefore, interpret the extracted factor as capturing a CEO's breadth of experience, with higher values representing CEOs who have gained significant experience outside their current bank.

Our research design exploits the staggered state-level adoption of bank branching deregulation as a source of plausibly exogenous variation of competitive pressures (as in Rice and Strahan, 2010; Krishnan et al., 2015; Nguyen et al., 2018). Following the approach in Krishnan et al. (2015), we compute a state-level IBBEA deregulation index capturing cross-sectional and time-series variation in bank branching deregulation. We refer to this index as *Deregulation and Reciprocity Index* (henceforth, *D&R Index*). *D&R Index* varies from zero to six. *D&R Index* is zero before the passage of IBBEA and positive in all years following the passage of IBBEA. Post-passage of IBBEA, *D&R Index* lies between one (in states that placed all branching restrictions to prevent interstate branching deregulation) and six (in states that removed all branching restrictions and did not require a reciprocity clause).<sup>3</sup> Therefore, higher values of *D&R Index* indicate greater removal of anti-branching restrictions in a state.

### 3. Results

#### 3.1. Acquisitions in response to heightened competitive pressures

We validate the assumption that staggered state deregulation incentivizes breadth CEOs to engage in acquisitions by examining the influence of deregulation on a bank's likelihood of pursuing an acquisition using the following OLS setup<sup>4</sup>:

$$\text{Acquisition Dummy}_{i,s,t+1} = \beta_0 + \beta_1(\text{Breadth of Experience}_{i,t} * \text{D\&R Index}_{s,t}) + \beta_2(\text{D\&R Index}_{s,t}) + \beta_3(\text{CEO Breadth of Experience}_{i,t}) + \beta_4(\text{Bank Controls}_{i,t}) + \text{Bank Fixed Effects} + \text{State*Year Fixed Effects} + \varepsilon_{i,s,t+1} \quad (1)$$

The dependent variable, *Acquisition Dummy*, equals one if the bank

<sup>3</sup> Despite the passage of the IBBEA, individual states had the authority to impose restrictions primarily in four ways to limit interstate branch expansion. First, states could require banks entering the state to have been in existence for a certain number of years, i.e., an age restriction. Second, states could prohibit de novo interstate branching, preventing out-of-state banks from opening brand-new branches without first acquiring an existing bank. Third, states could require that an out-of-state bank acquire all branches of a local bank rather than acquiring an individual branch. Fourth, states could enforce a cap on the fraction of deposits an out-of-state bank could acquire in that state. In addition, some states implemented these restrictions with reciprocity clauses – allowing an out-of-state bank to only expand into the state if its home state allowed similar access to banks from the host state (see Johnson and Rice, 2008). Following Krishnan et al. (2015), the construction of our Deregulation and Reciprocity Index varies between zero and six. The index takes the value of zero for all years before the passage of the IBBEA in 1994 and one from that year. This index increases by one for the removal of each restriction, out of the five possible regulatory barriers. Specifically, the relaxation of restriction requires that a state has no minimum age requirement for entry in that state, permits de novo branching and acquisition of individual bank branches, imposes a deposit cap that is the same as or larger than the IBBEA default (i.e., 30%), and does not require reciprocity. Table 1 in Krishnan et al. (2015) provides the dates of the interstate bank branching law changes in each state.

<sup>4</sup> In unreported tests, available on request, we reproduce the analyses using the logit model, which results in a significant loss of observations but consistent results.

**Table 2**  
Validating the difference-in-differences approach.

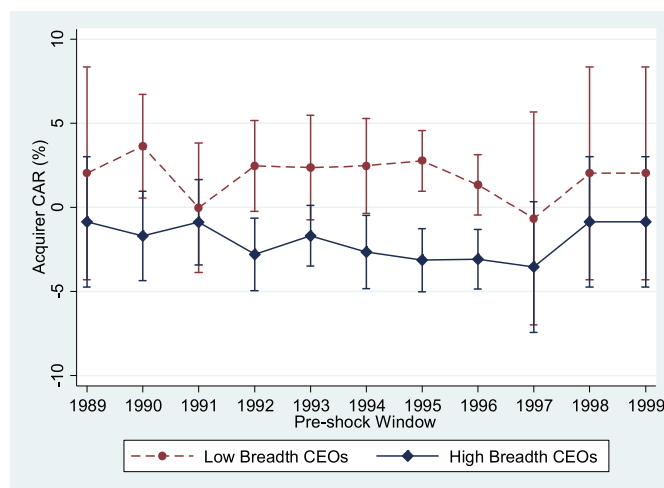
Panel A: Acquisition Likelihood		(1)	
Breadth of Experience * D&R Index		<b>0.044**</b> (0.021)	
Breadth of Experience		-0.221 (0.133)	
Bank Controls		YES	
Bank Fixed Effects		YES	
State*Year Fixed Effects		YES	
Observations		1001	
R-squared		0.556	
Panel B: Difference in Bank Characteristics pre-shock			
	Treatment	Control	Treatment - Control
	Mean	Mean	Difference t-stat
Acquisition CAR	-1.318	-1.009	-0.309 -0.468
Stock Run-up	-0.056	0.031	-0.087 0.995
ROE	0.155	0.139	0.016 1.334
Bank Size	16.7	15.88	0.586 0.946
Equity Capital	8.750	8.490	0.260 0.223
Charter Value	1.258	1.183	0.074 0.819
Asset Quality	0.401	0.202	0.199 1.077
Loans	0.651	0.642	0.009 0.171
Bank Risk	0.019	0.014	0.004 1.603

Panel A of this table presents multivariate analyses (OLS) that explain the variation in acquisition outcome. The dependent variable *Acquisition Dummy* is an indicator that equals one if the bank engaged in an acquisition over the next (calendar) year and zero otherwise. Bank controls include bank size, profitability, charter value, equity capital, asset quality and bank risk. The regression is estimated using a linear probability model. Panel B compares the acquiring bank characteristics of treatment banks (in states with interstate branching deregulation) and control banks (in states not yet deregulated) in the year prior to when the acquisition was announced. The t-stats refer to difference in means between treatment and control banks. Standard errors are clustered by state. \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10% levels.

engaged in an acquisition over the next (calendar) year and zero otherwise. Since this specification compares acquiring banks with non-acquiring banks, we identify a matched control group of banks that are in the same asset quartile as the treatment banks based on key bank characteristics but who did not announce acquisitions in the same year. More specifically, we identify the closest three matching banks with replacement where the match quality is determined by Mahalanobis distance across various bank covariates (size, charter value, and leverage). This results in 484 treatment and 543 control group observations. Our set of bank controls are those as discussed in Section 3.1, with the exclusion of deal-specific controls. Finally, we include bank and state-year fixed effects to control for any secular trends along these dimensions. The definitions of each control variable may be found in Table 1.

Panel A of Table 2 shows the results. Indeed, we find that breadth CEOs are more likely to engage in acquisitions compared to the control group in response to the deregulatory shock. Interestingly, CEOs with more external experience do not show a larger propensity to engage in M&A on average. Overall, this offers support to the validity of the deregulatory shock in the context of our analysis.<sup>5</sup> Furthermore, this result is consistent with our *a priori* expectations that CEOs with greater externally sourced career experience are valuable in the context of M&As in the post-IBBEA period CEOs. During this post-IBBEA period,

<sup>5</sup> In unreported tests, we also examine whether CEO Breadth is related to the choice of establishing a brand-new bank or acquiring an existing bank (i.e., whether banks grow organically through expanding branch networks or inorganically via acquisitions). We find no significant difference in the expansion choices (acquisition vs branch expansion) based on CEO Breadth after experiencing a competitive deregulation shock. Thus, while high-breadth CEOs go for more acquisitions (as shown in Table 2), breadth of experience does not affect a preference for the type of expansion.



**Fig. 1.** Acquisition announcement returns in pre-shock window: high vs low breadth CEOs. The figure shows merger announcement returns (CAR  $-2,2$ ) regressed on year indicators through 2000. The 1994–1997 period captures states' initial interstate branching decisions under IBBEA. States exit the sample after adopting any deregulation. High (Low) breadth CEOs have above (below) median loadings on the Breadth of Experience factor from Table 1, Panel B. Bands display 95% confidence intervals.

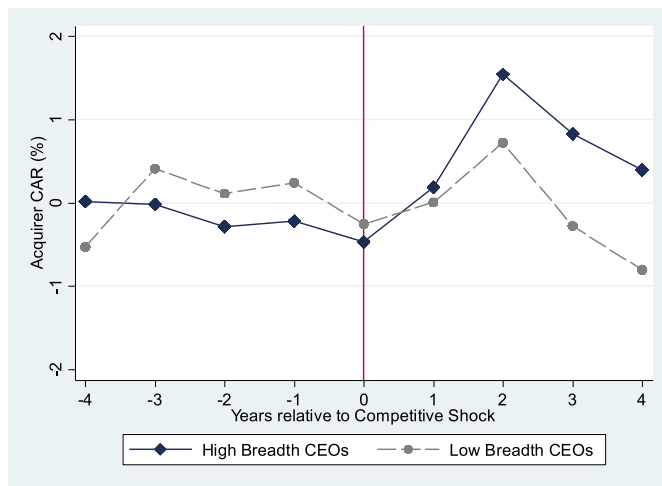
high-breadth CEOs wider perspectives, networks and skills help banks identify opportunities, manage uncertainty, and execute successful acquisitions by better leveraging internal capabilities and external resources (Teecce et al., 1997; Custódio et al., 2013; Pfeffer and Salancik, 1978; Ishii and Xuan, 2014).

### 3.2. Econometric validity: parallel trends

We next assess the validity of our difference-in-differences approach by testing pre-treatment differences between banks in the treatment group (located in deregulated states) and the control group (states that have not yet deregulated). Panel B of Table 2 confirms there are no statistically significant differences in key acquiring bank characteristics between treatment banks and control banks in the year prior to when an acquisition was announced. This confirms bank characteristics pre-deregulation do not determine which states open to competition.

In Fig. 1, we add pre-shock time window dummies for high-breadth CEOs and low-breadth CEOs. We regress our outcome variable (CAR  $-2,2$ ) on binary year dummies from the beginning of the sample period up until the year 2000. The period of 1994–1997 is of particular importance because in these years states were required to make an initial decision whether to initially allow interstate branching or otherwise. Moreover, we include the additional years up to 2000 because the year 2000 was the last year in which a state (Kentucky) first relaxed restrictions in our sample. We therefore refer to this period as the pre-shock window. We adopt dynamic rebalancing where the states exit our sample as soon as they get treated. The figure suggests that acquisitions completed by low- and high-breadth CEOs follow similar trends in the years prior to treatment.

Finally, Fig. 2 plots trends in bank CARs around interstate bank deregulation (*Competitive Shock*) for acquisitions pursued by CEOs with high and low Breadth career experience. Year 0 represents the year a state implemented its first interstate deregulation. There are no discernible trends in announcement returns across control and treated banks before the deregulation (i.e., the first effective date of the state deregulation). After the deregulation, by contrast, there is a clear difference in announcement returns between high-breadth and low-breadth CEOs. We further explore this in our multivariate regression specification below.



**Fig. 2.** Acquisition announcements returns around competitive shocks. The figure plots the median cumulative abnormal return CAR(-2, 2) of acquiring banks relative to the state-level adoption of bank branching deregulation under the Riegle-Neal Interstate Banking and Branching Efficiency Act (IBBEA). Year 0 corresponds to the year a state started interstate deregulation. CAR(-2,2) is measured over a five-day window from two days before to two days after the acquisition announcement and has been adjusted for yearly trends by subtracting the median CAR(-2, 2) of all M&A announcements in that calendar year. High Breadth CEOs have above-median loadings on the Breadth of Experience factor estimated in Panel B of Table 1 (other CEOs are classified as Low Breadth CEOs). The factor captures CEO experience gathered outside the present bank.

### 3.3. Multivariate results: baseline regressions

Our main econometric framework adopts a difference-in-differences approach that assesses the impact of CEO experience on cumulative abnormal returns around acquisitions, following shocks to bank competition. The regression specification is as follows:

$$CAR(-2,2)_{i,s,k,t} = \beta_0 + \beta_1(\text{Breadth of Experience}_{i,t-1} * D\&R \text{ Index}_{s,t-1}) + \beta_2(D\&R \text{ Index}_{s,t-1}) + \beta_3(\text{CEO Breadth of Experience}_{i,t-1}) + \beta_4(\text{Bank Controls}_{i,t-1}) + \beta_5(\text{Deal Controls}_{k,t}) + \text{State*Year Fixed Effects} + \epsilon_{i,s,k,t} \quad (2)$$

where Cumulative Abnormal Returns ( $CAR_{i,s,k,t+1}$ ) is the five-day sum of abnormal stock returns for acquirer  $i$ , headquartered in state  $s$ , when it acquires target  $k$ . To calculate abnormal returns, we estimate a market model over a period of -300 to -50 trading days relative to the M&A announcement date reported by SDC using CRSP value-weighted market return as a proxy for the market index. The estimated parameters from the market model are then used to calculate the daily abnormal returns around the announcement date.

*Breadth of Experience* is the factor extracted by running principal component analysis over five experience variables (*External Experience, Banks Previously Worked, Previous CEO Experience, Internal Experience, Internal Positions*) described in Panel B of Table 1. *D&R Index* is an index

**Table 3**  
Breadth of CEO experience and acquirer’s CAR.

	(1)	(2)	(3)	Excl. Internal Experience (4)
Breadth of Experience * D&R Index	<b>0.182*</b>	<b>0.196*</b>	<b>0.288**</b>	<b>0.409***</b>
	(0.107)	(0.111)	(0.120)	(0.130)
Breadth of Experience	-0.453	-0.325	-0.594	-1.075
	(0.445)	(0.497)	(0.511)	(0.798)
Stock Performance		-1.527	-1.854	-1.859
		(1.214)	(1.163)	(1.118)
Size		0.0100	0.296	0.311
		(0.426)	(0.538)	(0.532)
Charter Value		5.369	3.117	3.424
		(3.413)	(4.555)	(4.549)
Equity Capital		-7.596	-3.124	-5.082
		(13.805)	(16.830)	(16.381)
ROE		-10.42**	-7.878	-7.982
		(4.824)	(7.120)	(7.157)
Loans		4.821*	5.981*	6.684*
		(2.815)	(3.391)	(3.334)
Bank Risk		-1.469*	1.163	1.095
		(0.754)	(1.014)	(1.009)
Asset Quality		-0.361	-0.681	-0.606
		(0.897)	(1.123)	(1.113)
Private Target (0/1)		0.767*	0.677	0.692
		(0.452)	(0.518)	(0.526)
Relative Deal Size		-0.0546*	-0.054*	-0.054*
		(0.031)	(0.031)	(0.032)
Deal Value		-0.140	-0.054	-0.042
		(0.197)	(0.276)	(0.274)
Cash Acquisition (0/1)		0.827*	0.959*	0.983*
		(0.438)	(0.470)	(0.565)
CEO Age			-1.455	-1.609
			(3.855)	(3.878)
CEO Tenure			0.073	0.081
			(0.052)	(0.054)
State*Year Fixed Effects	YES	YES	YES	YES
Observations	823	823	823	823
R-squared	0.487	0.533	0.499	0.501

This table presents multivariate analyses using *Breadth of Experience* factor obtained from Panel B of Table 1. The dependent variable is acquirer CAR (-2,2). Columns (1) – (3) use the *Breadth of Experience* factor extracted by running principal component analysis over five experience variables (*External Experience, Banks Previously Worked, Previous CEO Experience, Internal Experience, Internal Positions*). Columns (4) use an alternative *Breadth of Experience* factor extracted by running principal component analysis over three external experience variables (*External Experience, Banks Previously Worked, Previous CEO Experience*). All other variables are as defined in Table 1. Standard errors clustered at state level are in parentheses. \*\*\*, \*\*, and \* indicate statistical significance at the 1 %, 5 %, and 10 % levels.

of deregulation with higher values indicating that the state in which the acquirer is headquartered is more deregulated. *CEO Breadth of Experience\*D&R Index* is our primary variable of interest, which indicates how CEO experience influences acquisition performance in response to deregulation. The vector of Bank and Deal Controls consists of various bank- and deal-related controls listed in Table 1. We control for time-varying geography-specific variation in local competition by controlling for State\*Year fixed effects, which is computed by multiplying the

state fixed effect series by the year fixed effects.<sup>6</sup>

In Table 3, we present results for our baseline model (Eq. (1)). Of specific interest is the interaction *Breadth of Experience*\**D&R Index* which estimates the effect of *Breadth of Experience* on acquisition CAR following deregulation. We first introduce the interaction without controls before introducing bank and deal level variables in column (2) and CEO-level controls in column (3).<sup>7</sup>

We find that *Breadth of Experience*\**D&R Index* enters positively and significantly across the specifications. CEOs with high-breadth experience pursue acquisitions that create value for acquiring bank shareholders. After removing restrictions on domestic branching markets (i.e. increasing the value of deregulation index from 0 to the least restrictive state), a one standard deviation shift in the value of breadth-CEOs results in increasing acquisition CARs by 0.92 %. This is substantial out-performance compared with the -0.63 % return linked to the average bank merger.

In column (4), we repeat the principal component analysis using an alternative index of external experience that excludes all internal experience variables. As before, we extract the first factor (eigenvalue = 2.150). The resulting factor loadings are 0.915 on *External Experience*, 0.908 on *Number of Banks Worked*, and 0.699 on *Previous CEO Experience*. We find our results continue to hold, mitigating concerns that our results are caused by internal experience dimensions (and possibly manager entrenchment effects). In unreported analyses, we show the impact of each component of the *External Experience* construct. We find that two out of the three variables (*Number of Banks Worked* and *Previous CEO Experience*) have a meaningful impact on our outcome variable, providing further support for the validity of our Breadth of experience index.

### 3.4. Endogenous CEO-firm matching

While our main methodology addresses key sources of endogeneity that may affect the results we document, banks could still strategically appoint high-breadth CEOs in response to industry deregulation. While boards appointing breadth managers because they believe externally acquired experience to be relevant is consistent with our interpretation that such experience is relevant,<sup>8</sup> we further alleviate CEO-firm matching concerns in this section. We do so by demonstrating our findings continue to hold in settings when CEO-firm matching concerns are less pressing.

Specifically, we utilize the fact that CEO-firm matching concerns are less pressing under labor market frictions attributable to the recognition of the Inevitable Disclosure Doctrine (IDD) by U.S. state courts. IDD

<sup>6</sup> The inclusion of state\*year fixed effects is important for credible identification of the effect of breadth of career of experience on acquisition CARs in our empirical setting. Importantly, the D&R Index varies at the state-year level. If state\*year fixed effects are not included, the estimated coefficient on the key interaction term between breadth of career experience and the D&R index is likely to be confounded by unobserved shocks at the state-year level, such as local macroeconomic conditions, contemporaneous regulatory initiatives, or state-specific business cycles; all of which can affect all banks in a state at the same time. Therefore state\*year fixed effects are important for credible identification in our setting to control for such omitted factors (e.g., Rice and Strahan, 2010).

<sup>7</sup> The exclusion of controls for CEO age and CEO tenure from our main regression in Column 2 also mitigates a potential concern that CEO age and tenure may be correlated with breadth of career experience. Moreover, it is important to note that correlations between breadth of career experience and CEO age and tenure are low (0.1449 with CEO tenure and -0.0996 with CEO tenure).

<sup>8</sup> Using the *Deregulation Dummy*, which takes the value 1 after the state-level first implementation of IBBEA and 0 otherwise, as an explanatory variable, we find some direct evidence that externally acquired experience matters more in the appointments of our sample CEOs during the post-deregulation period.

**Table 4**

Breadth CEOs and endogenous CEO-firm matching.

Panel A: Sub-sample	Change in IDD	No Change in IDD
Breadth of Experience*D&R Index	0.379** (0.126)	0.584* (0.288)
Breadth of Experience	-0.881 (0.515)	-0.147 (0.769)
Bank Controls	YES	YES
Deal Controls	YES	YES
CEO Controls	YES	YES
State*Year fixed effects	YES	YES
Observations	386	437
R-squared	0.518	0.533
Panel B: IDD interaction		
Breadth of Experience*D&R Index*IDD	(1) 0.106 (0.303)	
Breadth of Experience*D&R Index	0.212 (0.190)	
Breadth of Experience*IDD	-0.506 (1.205)	
Breadth of Experience	-0.244 (0.763)	
Bank Controls	YES	
Deal Controls	YES	
CEO Controls	YES	
State*Year Fixed Effects	YES	
Observations	822	
R-squared	0.536	

The dependent variable is Acquirer CAR (-2,2). Columns (1) and (2) use the Inevitable Disclosure Doctrine that equals one when the state adopts IDD over our sample period and zero otherwise, following Klasa et al. (2018). States with IDD in effect have more restrictions on the movement of executives and therefore reduce the managerial labor pool. All independent variables are as described in Table 1. Standard errors clustered at state level are in parentheses. \*\*\*, \*\*, and \* indicate statistical significance at the 1 %, 5 %, and 10 % levels.

restrictions prevent workers with knowledge of a firm's trade secrets from joining a competitor firm, independently of non-disclosure or non-compete agreements that may also apply. This reduces the mobility of knowledge-workers, including CEOs (Klasa et al., 2018). By reducing the depth of executive talent pools, states that have adopted IDD make firm-CEO matching less likely.

We follow Klasa et al. (2018) and construct Inevitable Disclosure Doctrine (IDD), which equals one when a state has IDD in effect and zero otherwise. Over our sample period, 12 states adopted IDD that we allocate to an "Adopted IDD" subsample. By contrast the remaining 22 states in our sample do not change their status quo over our sample period and these are classified as "No Change in IDD" (and are subject to greater concerns over endogenous CEO-firm matching).

Columns 1 and 2 of Table 4 present the results of these tests for each subsample. We find that the coefficient for the interaction term *Breadth of Experience*\**D&R Index* is positive and significant (p-val < 5 %) for states with restrictions on the labor market mobility, i.e. *Adopted IDD* subsample (in column 1), but also positive, albeit weakly significant (p-val < 10 %), for the other subsample (in column 2). Thus, our main results remain robust to this test. Furthermore, we supplement our analysis by including IDD as an interaction term along with *Breadth of Experience* and *D&R Index*. The results in Panel B of Table 4 show that the coefficient for the interaction term *Breadth of Experience*\**D&R Index*\**IDD* is positive but statistically insignificant, which further supports the notion that our results are not influenced by the restriction on labour market movement, i.e., firm-CEO matching does not influence the outcome.

## 4. Two channels behind CEO breadth of experience and acquirer returns

The previous section shows high-breadth CEOs pursue acquisitions that outperform. In this section, we explore two potential channels

behind this finding.

#### 4.1. Dissimilarity in business models between the target and acquirer

The first channel is based on the argument that working for multiple employers confers the CEO with more knowledge about competitors, types of business models and market structures. This may prove particularly valuable in exploiting investment opportunities during industry shocks (Yonker, 2017). We posit this experience should be valuable in overcoming the difficulties of integrating less similar targets. Thus, we argue that breadth CEOs may leverage their broader experiences to better estimate the value of potential targets and integrate the target's assets if targets are different to their firm. Broader experience may translate into information advantages during the ex-ante and ex-post acquisition phases.

In the ex-ante stage, breadth CEO may be better positioned to identify potential targets and derive more accurate estimations of value when targets are dissimilar and potential synergies more complex to assess (Jiang et al., 2019). Ex-post, they may be better at integrating more dissimilar assets. The information processing advantages of Breadth CEOs may be especially salient in bank mergers that diversify by activity. These deals are particularly complex as shown by a large body of evidence that reports that this type of deal is rarely associated with value creation (e.g., DeLong, 1999, DeLong, 2001).

Comparable arguments apply to similarity between targets and acquirers when measured by geographic distance. The existing literature on the determinants of CEO's acquisitiveness argues that CEOs prefer geographically closer and more familiar targets and struggle with integrating less familiar targets. For example, CEOs exhibit a preference for acquiring targets in the state of their childhood home (Jiang et al., 2019) or where they attended university (Wang and Yin, 2018). Ishii and Xuan (2014) explore another dimension of a CEO's familiarity in the form of social ties between acquirers and targets and find that they positively influence acquisition likelihood. Ding et al. (2021) find that while a CEO's experience of working or studying in a target's home country has no effect on M&A performance on average, it has a significant positive effect in risky environments, whereby 'familiarity' equips CEOs with an improved ability to identify, and willingness to pursue, M&A opportunities. Finally, Pan et al. (2020) find that CEOs with a greater aversion to uncertainty prefer targets in industries in which they have previously worked.

Based on these arguments, we conjecture that breadth CEOs could possess a particular advantage in addressing the more substantial informational asymmetries that exist when targets and acquirers exhibit greater product and geographic dissimilarities and when geographical distance between targets and acquirers is greater (Chen et al., 2018).

We first test for the possibility that breadth CEOs possess an advantage in overcoming informational asymmetries related to differences in asset structures between target and acquirer by introducing the triple interaction term *Breadth\*D&R Index\*Target Dissimilarity*. Our measure of *Total Target Dissimilarity* is calculated as the Euclidean distance between the target and acquirer's asset mix. Specifically, we compute the sum of the squared difference between target and acquirer's total loans and the squared difference between target and acquirer's other earning assets (computed as the sum of securities, federal funds and repos).<sup>9</sup>

The results (Panel A of Table 5) indicate that breadth CEOs realize greater returns from acquisitions in which targets exhibit higher total

<sup>9</sup> To add greater assurance of the statistical significance of the models we estimate in this section, we find that the average Variance Inflation Factor (VIF) for each estimated model is between 4.53 and 5.21, which are well below the commonly accepted threshold of 10. In addition, we use mean-centred target characteristics to interact with the Breadth of Experience\*D&R Index to reduce collinearity among variables.

**Table 5**

Do acquirer returns to acquisitions by breadth-CEOs vary based on Target Characteristics?.

Panel A: Dissimilarity	Total assets	Other assets	Total loans	Geographic Distance
Breadth of Experience* D&R Index*Target Characteristics	<b>1.709**</b>	<b>2.046**</b>	<b>1.378</b>	<b>0.0845</b>
	<b>(0.789)</b>	<b>(0.823)</b>	<b>(1.038)</b>	<b>(0.117)</b>
Breadth of Experience* D&R Index	0.603***	0.629***	0.519***	0.317
	(0.202)	(0.201)	(0.180)	(0.286)
Breadth of Experience* Target Characteristics	-3.813	-2.099	-4.121	-0.436
	(3.164)	(2.601)	(2.800)	(0.297)
Breadth of Experience	-1.604**	-1.576**	-1.666**	-1.427
	(0.737)	(0.749)	(0.676)	(1.303)
Bank Characteristics	-3.264	-6.435*	-3.052	-0.172
	(2.373)	(3.272)	(2.429)	(0.459)
Bank Controls	YES	YES	YES	YES
Deal Controls	YES	YES	YES	YES
CEO Controls	YES	YES	YES	YES
State*Year Fixed Effects	YES	YES	YES	YES
Observations	333	333	333	313
R-squared	0.783	0.783	0.779	0.784
Panel B: Target Characteristics	Equity Capital	Default Risk	Loan Quality	ROE
Breadth of Experience* D&R Index*Target Characteristics	<b>0.0887</b>	<b>0.0623*</b>	<b>-1.598*</b>	<b>0.172</b>
	<b>(0.067)</b>	<b>(0.035)</b>	<b>(0.898)</b>	<b>(4.195)</b>
Breadth of Experience* D&R Index	0.399*	0.440*	0.123	0.511**
	(0.197)	(0.257)	(0.257)	(0.229)
Breadth of Experience* Target Characteristics	-0.224	-0.252	1.339**	1.923
	(0.217)	(0.189)	(0.634)	(1.755)
Breadth of Experience	-1.715***	-1.988**	-1.207**	-1.981***
	(0.549)	(0.856)	(0.568)	(0.587)
Bank Characteristics	-0.0938	-0.0954	1.186*	1.680
	(0.249)	(0.164)	(0.610)	(3.506)
Bank Controls	YES	YES	YES	YES
Deal Controls	YES	YES	YES	YES
CEO Controls	YES	YES	YES	YES
State*Year Fixed Effects	YES	YES	YES	YES
Observations	331	324	333	331
R-squared	0.773	0.775	0.779	0.771

This table shows how the impact of CEO Breadth of Experience on acquirer returns is influenced by target characteristics. The dependent variable is acquirer CAR (-2,2). Panel A employs measures of target dissimilarity: *Asset Dissimilarity*, which represents the Euclidean distance between the target's and acquirer's asset variables: Total Assets, Other Earning Assets (Securities, Federal Funds and Repos), and Total Loans; and *Geographic Distance*, which is the distance between target and acquirer H.Q. Panel B uses different measures of target characteristics: *Equity Capital* is the ratio of target equity to total assets. *Default Risk* is the sum of ROE and Equity Capital scaled by standard deviation of ROE, multiplied by minus 1; *Loan Quality* is Loan Loss Provisions scaled by Total Loans; and *ROE* is net income to total equity. The set of controls is as used in our baseline regression in Table 3. Standard errors clustered at state level are in parentheses. \*\*\*, \*\*, and \* indicate statistical significance at the 1 %, 5 %, and 10 % levels.

asset dissimilarity. Focusing on the components of total asset dissimilarity, these findings are concentrated amongst targets that are more dissimilar in terms of their mix of other earnings assets (composed of securities, federal funds and repos) but not loans. This implies that CEOs who have previously worked with diverse set of employers are more skilled at creating value from target firms that are dissimilar to the bank they lead in terms of non-traditional banking activities.

Next, we consider another measure of dissimilarity based on the

geographic distance (in miles) between target and acquirer banks, calculated using the Haversine formula based on internal points in each county.<sup>10</sup> We posit that a CEOs' experience in a target's state may prove valuable given that greater familiarity with a state infers stronger ties to institutions, and knowledge of local customers and regulations than in less familiar states. However, as shown in column (4) of Table 4, the results are not significant when using a geography-based measure, and therefore not simply capturing a distance related effect. This implies breadth CEOs create value by integrating targets with dissimilar business models but not geographically distant targets.

#### 4.2. Do high-breadth CEOs create more value by acquiring higher quality and lower risk target assets?

As a second channel, we test whether breadth CEOs create value when they acquire higher quality and lower risk target assets. The relationship between the quality and risk of targets and merger gains is not clear ex ante. Carrow and Heron (1998) argue that IBBEA should lead to more efficiently managed acquirers purchasing under-performing targets and improve these targets. Based on this rationale, targets should be lower quality and riskier than acquirers.

On the other hand, higher quality and lower risk targets may be valuable to acquirers. For instance, highly capitalized targets offer an opportunity to realize value gains for acquirers, because they provide a post-acquisition opportunity for acquirers to reduce capital levels and increase ROE. Similarly, lower risk targets offer an opportunity to increase value by pursuing riskier and potentially more profitable business activities post-merger. Since lower risk targets are also likely to attract less regulatory scrutiny, acquisitions of lower risk targets should give acquirers more scope to implement risk-increasing and other value-enhancing strategies post-merger. While we do not argue that high-breadth CEOs will select targets based on these characteristics, we expect that the market positively considers that breadth CEOs leverage their broader experiences and information processing advantages to make more value-creating decisions. We therefore test which target characteristics are associated with greater value creation by high-breadth CEOs.

In Panel B of Table 5, we consider the target's *Equity capital* (the ratio of target equity to total assets), *Default risk* (computed as an inverse Z-score as the sum of ROE and Equity Capital scaled by standard deviation of ROE, and multiplied by minus 1), *Loan quality* (ratio of Loan Loss Provisions to Total Loans), and *ROE* (measured as net income to total equity). The negative coefficient for *Loan quality* infers that the market believes high-breadth CEOs create value by selecting banks with higher loan quality. That is, high-breadth CEOs create most value by selecting targets that boast higher quality loans (as indicated by lower provisions for future write downs of loan values).

However, the positive coefficient for the *Default risk* regression implies that as states open to competition, banks acquisitions led by high-breadth CEOs are more likely to generate positive returns to acquirers when they purchase banks with slightly higher default risk. This is broadly consistent with Carrow and Heron (1998) who argue that IBBEA should lead to acquirers purchasing under-performing targets. Taken together, the results for *Default risk* and *Loan Loss Provisions* are consistent with the idea that breadth-CEO are thought better able to accurately evaluate targets in the uncertain and unfamiliar deregulatory environment – especially when risk is mispriced. More specifically, they suggest that high-breadth CEOs are particularly effective at recognizing fundamentally strong targets, even when measured default risk is slightly elevated. In other words, by acquiring banks with solid loan quality, high-breadth CEOs can mitigate potential downside while leveraging their experience to capture undervalued opportunities, ultimately enhancing shareholder value in the deregulated post-IBBEA

**Table 6**  
CEO breadth of experience and bank risk: shaped by past career experiences?.

	Dittmar and Duchin's (2016) Professional Experience measured using		
	Bank Risk	Stock Performance	Asset Growth
Breadth of Experience* D&R Index	1.210** (0.572)	1.179** (0.499)	1.461** (0.682)
Breadth of Experience	-2.972 (2.015)	-3.259* (1.879)	-3.744* (2.124)
Professional Experience [Positive] * D&R Index	-2.840 (1.817)	-0.989 (1.198)	-0.895 (0.903)
Professional Experience [Positive]	8.078 (6.763)	1.607 (2.725)	0.883 (3.496)
Professional Experience [Negative] * D&R Index	-1.646 (1.851)	-1.391 (1.205)	-2.047* (1.189)
Professional Experience [Negative]	5.895 (5.952)	4.825 (4.347)	5.835 (4.536)
Bank Controls	YES	YES	YES
Deal Controls	YES	YES	YES
CEO Controls	YES	YES	YES
State*Year Fixed Effects	YES	YES	YES
Observations	475	446	418
R-squared	0.591	0.614	0.619

This table shows the impact of Breadth of Experience on acquirer returns after controlling for CEOs' positive/negative career experiences in previous firms. The dependent variable is acquirer CAR (-2,2). *Negative (Positive) Professional Experience* is a dummy variable equal to one if the CEO was employed in a firm that experienced negative (positive) outcomes during their tenure. Negative Outcomes are defined as adverse annual shocks to firm outcomes wherein the firm was ranked in the lowest quintile based on market returns in the banking industry. Positive Outcomes correspond to the highest quintile for market returns. All independent variables have been described in Table 1. Standard errors clustered at state level are in parentheses. \*\*\*, \*\*, and \* indicate statistical significance at the 1 %, 5 %, and 10 % levels.

environment. Our findings complement Custódio and Metzger (2013) by showing that CEOs with broader, externally gained career experience generate higher acquirer returns by leveraging superior knowledge and negotiation skills. In the post-IBBEA deregulated environment, high-breadth CEOs are particularly effective at identifying and acquiring targets with better loan quality, even when default risk is slightly elevated, enabling them to capture undervalued opportunities and enhance shareholder value.

## 5. Is our high-breadth measure distinct from existing experience measures?

In this section, we demonstrate that the effects of our breadth of experience measure are different from other CEO experience variables previously identified in the literature.

### 5.1. Dittmar and Duchin's (2016) professional experience

Dittmar and Duchin (2016) show that CEOs who have experienced negative shocks while employed at other firms pursue more conservative firm policies. Inspired by Dittmar and Duchin (2016), we re-examine the announcement CARs while controlling for extreme experiences of CEOs in previous manager roles. *Negative Experience (Positive Experience)* is a dummy variable equal to one if a CEO was previously employed in senior executive roles by a firm that experienced extreme negative (positive) shocks as indicated by their firm being in the lowest (highest) decile in one of the following three indicators: *Bank Risk* (the standard deviation of daily bank returns over the previous 12 months); *Stock Performance* (the buy-and-hold abnormal returns a bank -300,-50 days over a benchmark portfolio of banks in the same quantile based on the market value of equity, charter-value and historical 12-month

<sup>10</sup> This data is extracted from NBER's County Distance Database.

**Table 7**

Breadth CEOs and bank acquisitions: additional tests.

Panel A: Other experiences	(1)	(2)	(3)	
Breadth of Experience * D&R Index	0.253* (0.132)	0.438*** (0.160)	0.514** (0.212)	
Breadth of Experience	-0.206 (0.735)	-1.082 (0.738)	-1.264 (0.911)	
CEO Generalist Experience * D&R Index	-0.117 (0.245)			
CEO Generalist Experience	-0.063 (0.863)			
Target Familiarity * D&R Index		-0.159 (0.205)		
Target Familiarity		0.804 (0.877)		
Acquisitive CEO * D&R Index			0.034* (0.018)	
Acquisitive CEO			-0.104 (0.083)	
Bank Controls	YES	YES	YES	
Deal Controls	YES	YES	YES	
CEO Controls	YES	YES	YES	
State*Year Fixed Effects	YES	YES	YES	
Observations	649	629	589	
R-squared	0.520	0.510	0.571	
Panel B: Breadth and Depth Experience	(1)	(2)	(3)	(4)
Breadth of Experience * D&R Index	0.313* (0.176)	0.386** (0.166)	0.284** (0.120)	0.367*** (0.134)
Breadth of Experience	-0.866 (0.617)	-0.816 (0.626)	-0.603 (0.558)	-0.694 (0.597)
Depth of Experience * D&R Index	-0.320 (0.362)	0.204 (0.142)	0.077 (0.105)	0.228 (0.153)
Depth of Experience	0.920 (1.228)	-0.878 (0.645)	-0.282 (0.636)	-0.893 (0.735)
CEO Age * D&R Index			-0.366 (1.486)	-2.091 (1.412)
CEO Age		-2.724 (4.241)	-0.119 (3.319)	0.594 (2.696)
CEO Tenure * D&R Index			-0.004 (0.024)	-0.008 (0.030)
CEO Tenure		0.077 (0.058)	0.068 (0.091)	0.167 (0.104)
Bank Controls	NO	YES	NO	YES
Deal Controls	NO	YES	NO	YES
CEO Controls	NO	YES	NO	YES
State*Year fixed effects	YES	YES	YES	YES
Observations	822	823	828	823
R-squared	0.488	0.506	0.462	0.522

Panel A controls for other important dimensions of experience, while Panel B further explore the unique benefits of breadth career experience compared to potential benefits and costs of depth of career experience, where both experience factors are obtained from Panel B of Table 1 of the paper. In both panels the dependent variable is acquirer CAR (-2,2). In Panel A, Column (1) controls for CEO Generalist Experience using Custódio et al.'s (2013) general ability index. Column (2) controls for social connections between CEO and the target company using Target Familiarity which is a dummy that equals one if the CEO has had previous career experience in the same state as the target (excluding current bank). Column (3) controls for Acquisitive CEOs that equals the total number of acquisitions completed by the CEO in any senior executive position prior to taking the current position. In Panel B, Column 1 adds the depth of experience factor as well as its interaction with D&R Index, Column (2) adds model controls including those for alternative experience measures CEO age and tenure, Column 3 adds further interactions between CEO age and tenure with D&R Index but does not include controls, finally, Column 4 includes all relevant controls and interactions. In both Panels, all independent variables are as described in Table 1, while standard errors clustered at state level are in parentheses. \*\*\*, \*\*, and \* indicate statistical significance at the 1 %, 5 %, and 10 % levels.

market returns); and Asset Growth (year-on-year growth in bank assets).

The results are reported in Table 6. Across all regression models, we observe insignificant interactions between extreme experience and D&R Index. By contrast, our baseline results continue to show breadth CEOs

are associated with higher acquirer CARs after competition intensifies. Thus, we conclude that career 'shocks', which may imprint on managers risk preferences are not driving our results.

## 5.2. Custódio et al.'s (2013) generalist versus specialist CEO experience

We control for Custódio et al.'s (2013) CEO career experience index, which reflects the general skills acquired across firms and industries. We obtain the index from Claudia Custódio's website. CEOs who score high on this index are considered 'Generalist CEOs' with high general managerial skills (i.e., which should be more transferable across firms), while CEOs who score low are deemed 'Specialist CEOs', who are characterized by greater depth of firm-specific skills.

As shown in column (1) of Panel A in Table 7, we find no evidence of a statistically significant relationship between CEO ability and acquirer returns. In addition, our main breadth-CEO result continues to hold, even after including the General Ability Index. Therefore, we conclude that CEO ability is not driving our main results.

## 5.3. Other experience measures

A CEO's familiarity with a target's local market may also affect their ability to successfully integrate a target. For instance, if CEOs are more familiar with a target's state, this may allow them to exploit local knowledge. To test this, we proxy for the strength of CEOs' experience in targets' banking markets with Target Familiarity, a dummy that equals one if the CEO has had previous career experience in the same state as the target (excluding the current bank), which may capture the likelihood of social ties with the target, and which have been found to influence acquisition outcomes (Ishii and Xuan, 2014). Column (2) of Panel A Table 7 reports the results. We find no evidence that local experience drives our main results, and additionally continue to find positive and highly significant positive coefficients for Breadth \* D&R Index.

Furthermore, we construct Acquisitive CEOs, which equals the total number of acquisitions completed by the CEO in any senior executive position prior to taking up the current CEO position. As shown in column (3) of Panel A, we include Acquisitive CEO as well as the interaction with banking sector deregulation (Acquisitive CEO \* D&R Index) and find some evidence that CEOs' acquisition experience is positively associated with acquirer returns.<sup>11</sup> Importantly, our key results continue to hold, with Breadth of Experience \* D&R Index remaining positive and highly significant, which infers our main findings are not driven by recent task-specific acquisition experience.<sup>12</sup>

## 6. Distinguishing between breadth and depth CEOs

Our main results demonstrate various M&A effects linked to breadth CEOs. In this subsection we seek to further understand whether depth (as well as breadth) measures of a CEO's career affect performance affect acquisition announcement CARs.

In Panel B of Table 7, we conduct these additional analyses. We identify CEOs with Depth of Experience = 1 as CEOs with above-median

<sup>11</sup> We also use an alternative measure of Acquisitive CEOs, which is measured as the log of the total number of acquisitions. The results are similar to those reported here although the key interaction loses statistical significance at conventional levels.

<sup>12</sup> We also included interaction terms between dimensions of experience previously identified in the literature with Deregulation and Reciprocity Index to demonstrate the unique advantages of CEO breadth compared to other aspects of experience. In unreported tests, which are available on request, we include interactions between both CEO age and CEO tenure with Deregulation and Reciprocity Index. We also include interactions between all control variables and Deregulation and Reciprocity Index. Our results remain robust to these inclusions.

negative loadings on the factor identified using the principal component analyses presented in Panel B of Table 1. In column 1, we include interactions between both *Depth of Experience* \* *D&R Index* and *Breadth of Experience* \* *D&R Index* as well as their singular effects, which allow us to test the implications of CEOs' depth and breadth of experience outside of deregulated environments. We also include bank and state\*year fixed effects. In column 2 we add model controls including *CEO age* and *CEO tenure*, while column 3 also includes interactions between control variables and *D&R Index*. Finally, column 4 includes model controls as well as interactions between control variables and *D&R Index*.

Throughout these tests our results continue to demonstrate a unique advantage of breadth CEOs in creating value for acquirers in acquisitions in deregulated states but not outside of deregulated (and less competitive) environments. We find no advantages linked to CEOs depth of experience or CEO age or tenure, which can be considered proxies for general experience.

## 7. Breadth CEOs and post-acquisition performance

We next examine the long-term abnormal performance of acquisitions completed by breadth CEOs. Based on Altunbas and Marqués (2008) we define *Long-term abnormal operating performance* as the difference in return on equity between an asset-weighted, pro-forma combination of the acquirer and target one year prior to the acquisition announcement and the performance of the merged firms two years after the acquisition completion using the following equation:

$$OpPerf_{i,d} = \left[ OpPerf_{i,d,t+2} - OpPerf_{b,d,t-1} \right] - \left[ OpPerf_{m,d,t+2} - OpPerf_{m,d,t-1} \right] \quad (3)$$

where,  $OpPerf_{i,d}$  is the long-term abnormal operating performance measured using return on equity (ROE) and return on assets (ROA) for bank  $i$  for acquisition event (i.e., deal)  $d$ . The first term  $\left[ OpPerf_{i,d,t+2} - OpPerf_{b,d,t-1} \right]$  measures the change in the bank's operating performance following the acquisition.  $OpPerf_{i,d,t+2}$  is the acquiring bank  $i$ 's  $OpPerf$  in the year  $(t+2)$  following the acquisition announcement year, where the acquisition announcement year is considered as "Year 0."  $OpPerf_{b,d,t-1}$  is the pre-merger benchmark performance for bank  $i$  and deal  $d$ . The benchmark is calculated as the weighted average of the target and acquiring banks'  $OpPerf$  in the year prior to the acquisition announcement, with each bank's total assets serving as their weight.

The second term  $\left[ OpPerf_{m,d,t+2} - OpPerf_{m,d,t-1} \right]$  is the average change in the  $OpPerf$  for the control groups over the same period. The control group is identified using Barber and Lyon's (1997) matched portfolio-adjusted method. We identify a matched portfolio of control banks that do not engage in any acquisition over a (-3,3) year window for each acquisition event in our sample. Furthermore, we require banks in the control group to be in the same size quintile and closest to the acquiring firm across various other bank characteristics employed in our baseline specification (profitability, asset risk, volatility, market returns, business model, equity capital, and charter value). We match each acquisition event in our sample with up to 5 nearest matches.  $OpPerf_{m,d,t+2}$  is the average  $OpPerf$  of the control group for the acquisition event  $d$  the year  $(t+2)$  and  $OpPerf_{m,d,t-1}$  is the average return on equity of the control banks in the year before the acquisition.

Table 8 shows the results for long-run abnormal returns in ROE in models 1 and 2 and ROA in models 3 and 4. The results indicate that high-breadth CEOs are associated with greater long-term abnormal operating performance. This implies that the higher announcement returns for high-breadth CEOs we document above also translate into long-term performance gains. It also further suggests that CEOs with high-breadth of experience utilize their experience in settings when it

**Table 8**

CEO breadth of experience and long-term performance.

	(1)	(2)	(3)	(4)
Breadth of Experience * D&R Index	0.930*	1.122***	0.0380	0.0498**
	(0.469)	(0.396)	(0.025)	(0.024)
Breadth of Experience	-1.544	-2.616	0.0223	-0.0879
	(3.252)	(2.576)	(0.120)	(0.122)
Bank Controls	NO	YES	NO	YES
Deal Controls	NO	YES	NO	YES
CEO Controls	NO	YES	NO	YES
State*Year Fixed Effects	YES	YES	YES	YES
Observations	345	344	350	349
R-squared	0.780	0.834	0.845	0.887

This table shows the impact of CEO Breadth of Experience on long-run abnormal operating performance. Based on Altunbas and Marqués (2008) we define the dependent variable, *Long-term abnormal operating performance*, as the two-year post acquisition abnormal Return on Equity (ROE), where the control group is identified using Barber and Lyon's (1997) matched portfolio-adjusted method. We identify a matched portfolio of control banks that do not engage in any acquisition over a (-3,3) year window for each acquisition event in our sample. We require banks in the control group to be in the same size quintile and closest to the acquiring firm across various other bank characteristics employed in our baseline specification (profitability, asset risk, volatility, market returns, business model, equity capital, and charter value). We match each acquisition event in our sample with up to 5 nearest matches. Abnormal Operating performance is measured as the difference in portfolio-matched merged firm's performance from two years after the acquisition announcement. Pre-merger operating performance is the weighted average of the acquirer and target ROE, with weights being their total assets in the year prior to the acquisition announcement. All independent variables are as described in Table 1. *Bank controls* contains all variables as defined in Table 1 except the profitability measure ROE. Standard errors clustered at state level are in parentheses. \*\*\*, \*\*, and \* indicate statistical significance at the 1 %, 5 %, and 10 % levels.

matters most - consistent with a priori theoretical predications.<sup>13</sup>

## 8. Conclusion

In this paper, we question whether the breadth of CEOs' externally acquired experience has implications for acquisition outcomes when competitive conditions shift. First, we find that CEOs with cross-bank career experience are more likely to undertake acquisitions following deregulation, extending work on how managerial backgrounds shape strategic decisions (Custódio and Metzger, 2013, 2014; Dittmar and Duchin, 2016). Second, these acquisitions generate superior announcement returns, and we show that this effect is driven specifically by breadth, rather than depth, of experience.

Third, we identify the mechanisms through which these gains arise, thereby adding to the literature on the drivers of acquirer value creation (DeLong, 1999; DeLong, 2001; Golubov et al., 2015; Renneboog and Vansteenkiste, 2019). We find that high-breadth CEOs create more value when acquiring targets that are more dissimilar in business models and when selecting targets with higher loan quality and slightly elevated default risk, consistent with superior information processing and integration capabilities. We further establish that "breadth" experience is distinct from existing measures of general ability (Custódio et al., 2013) or extreme formative shocks (Dittmar and Duchin, 2016), and, in doing so, add to understanding as to how CEO characteristics influence acquisition outcomes (e.g., Custódio et al., 2013; Fich and Nguyen, 2020).

<sup>13</sup> We further test the robustness of our results using the IBBEA indicator variable, *Deregulation Dummy*, which takes the value of one after the state-level first implementation of IBBEA and zero otherwise. The results remain similar to our main finding in Table 8, although the magnitude of the coefficients is larger.

Our findings can be understood from theoretical perspectives which predict that externally gained career experience should be most valuable in the context of a deregulatory shock in the banking sector. They further highlight that the value of CEO experience critically depends on the type of experience as well as the context in which this experience is applied. This has implications for firms' hiring decisions, as well as regulators seeking to understand how firm performance is shaped by managers.

Finally, one key limitation of our study is that we focus only on the banking sector. However, we argue that our main findings have generalizability to other industries. Notably, insurance, telecommunications, and healthcare sectors face similar structural challenges to banking: they are heavily regulated, politically charged, and regionally fragmented. These conditions frequently exacerbate the need for an acquisition strategy to allow firms to expand into new markets, subvert constraints in policy, and achieve scale. We argue that breadth of CEO experience will be similarly valuable in the context of M&A to navigating these challenges in the presence of deregulatory or similar industry shocks. Future research can expand on our findings to analyse the importance of breadth of experience in different industry settings.

### CRedit authorship contribution statement

**Shaker Ahmed:** Writing – review & editing, Methodology, Investigation, Formal analysis. **Jens Hagendorff:** Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Timothy King:** Writing – review & editing, Writing – original draft, Methodology, Data curation, Conceptualization. **Abhishek Srivastav:** Writing – original draft, Formal analysis, Data curation, Conceptualization.

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### Data availability

The authors do not have permission to share data.

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