## Research Briefs



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## Competition and Bank Opacity

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hen banks manipulate their financial statements, it can increase bank opacity and interfere with the private governance and official regulation of banks. In particular, banks manage their financial statements to smooth earnings, circumvent capital requirements, and reduce taxes (Ahmed et al., 1999, and Beatty et al., 2002). Related research suggests that such manipulations reduce bank stability, the market's valuation of banks, and loan quality (Beatty and Liao, 2011; Bushman and Williams, 2012; and Huizinga and Laeven, 2012). More generally, findings by King and Levine (1993), Jayaratne and Strahan (1996), and Beck et al. (2000) imply that any factor—including bank opacity—that interferes with bank governance can distort capital allocation and slow growth.

Nonetheless, little is known about the impact of bank regulation and competition on bank opacity. While previous research examines the comparative opacity of banks and nonfinancial firms, it does not examine the determinants of bank opacity. Given the importance of banks for economic growth, the scarcity of research on the market and regulatory determinants of bank opacity is surprising and potentially consequential.

In our research, we assess the impact on bank opacity of bank regulatory reforms that spurred bank competition. Theory offers conflicting perspectives on the effect of competition on information disclosure. Scharfstein (1988) and Darrough and Stoughton (1990) argue that competi-

tion can induce incumbent firms to manipulate information to hinder the entry of rivals. Shleifer (2004) maintains that greater competition spurs executives to engage in unethical behavior, including more aggressive accounting practices. Stein (1989) and Kedia and Philippon (2009) show that competition can spur executives to manage financial accounts to extract short-term rents. Other models (e.g., Hart, 1983, and Schmidt, 1997), however, stress that competition enhances firm governance, potentially compelling managers to disclose more reliable information.

To evaluate the impact of competition on bank opacity, we begin by exploiting three sources of variation in the removal of regulatory impediments to bank competition among U.S. banks during the last quarter of the 20th century. First, individual states eliminated restrictions on intrastate branching. Second, interstate bank deregulation eased regulatory impediments to bank holding companies (BHCs) that are headquartered in one state establishing subsidiaries in other states. Third, in response to the Riegle-Neal Act of 1994, which eliminated intrastate branch and interstate bank restrictions, states had leeway in the timing of interstate branch deregulation.

These state-time measures of deregulation-induced competition, however, are not computed at the bank subsidiary or even the BHC level. Although research finds that these regulatory reforms spurred competition among banks within a state, this does not necessarily imply that they influenced bank opacity by intensifying competition.

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Perhaps deregulation produced other changes that influenced the quality of bank financial statements, and these other changes—not increased competition—influenced bank opacity.

Consequently, we construct new, time-varying, bank-specific measures of competition. Our approach is based on the "gravity model" view that distance matters for investment and hence for the degree of competition faced by bank subsidiaries and BHCs. For example, when California deregulates with Arizona, the banks in southern California may face greater competitive pressures from Arizona than banks in northern California. By integrating the gravity model with interstate bank deregulation, we build time-varying, bank-specific measures of deregulation-induced competition.

To do this, we first construct measures of the competitive environment facing each subsidiary. For each subsidiary in each period, we identify those states whose BHCs can enter the subsidiary's state. We then weight each of those states by the inverse of its distance to the subsidiary. This yields an inverse-distance measure of the regulatory-induced competitive environment facing each subsidiary. Second, we calculate the competitive environment facing a consolidated BHC by weighting these subsidiary level measures of competition by the proportion of each subsidiary's assets in the BHC. We also examine other BHC-specific measures of regulatory-induced competition that incorporate information on the economic sizes of different states.

As proxies for bank opacity, we use two measures of the quality of financial statements: the frequency with which banks restate their earnings with the Securities and Exchange Commission (SEC), and the quantity of loan loss provisions (LLPs), the most important bank accrual through which banks manage earnings and regulatory capital (Beatty and Liao, 2014).

We then examine the impact of competition on either a measure of discretionary LLPs for each BHC in each period or, for a subset of the analyses, a measure of financial restatements. Given data availability, we conduct the analyses over the period 1986-2006 using quarterly data.

Our assessments indicate that regulatory reforms that lowered barriers to bank competition materially enhanced disclosure quality and reduced the frequency of financial restatements with the SEC. For each type of regulatory reforms, we find a negative, statistically significant, and economically large impact on discretionary LLPs.

Furthermore, we show that deregulation-induced competition reduced opacity, not the quality of loan portfolios. We do this by examining whether the intensification of competition reduced actual loan charge-offs. If the regulatory-induced intensification of competition only influenced the manipulation of BHC financial accounts but did not alter the actual quality of loan portfolios, then we should find no relationship between bank deregulation and subsequent charge-offs. This is what we find.

Moreover, we discover that both the BHC-specific and the subsidiary-level measures of regulatory-induced competition are strongly and negatively associated with discretionary LLPs. These results are not driven by changes in regulatory policies at the state level; rather, they are driven by the differential impact of interstate banking reforms on BHCs and subsidiaries within a state that arise because of their differential distance to competitors. The findings suggest that interstate bank deregulation reduced discretionary LLPs by intensifying competition.

Our work contributes to the debate on the impact of competition on disclosure quality and earnings management, which has focused on nonfinancial firms. We focus on one industry and offer a new strategy for measuring exogenous variation in competition at the BHC and subsidiary levels, so that we can better identify the impact of competition-enhancing reforms on disclosure quality.

## NOTE

This research brief is based on Laingliang Jian, Ross Levine, and Chen Lin, "Competition and Bank Opacity," December 10, 2014, http://papers.ssrn.com/sol3/papers.cfm?abstract\_id=2536290; all references are provided therein.