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## Geographic deregulation and commercial bank performance in U.S. state banking markets

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#### ABSTRACT

This paper examines the effects of geographical deregulation on commercial bank performance across states. We reach several general conclusions. First, the process of deregulation on an intrastate basis generally improves bank profitability and performance with higher returns and reduced riskiness. Deregulation of interstate banking produces mixed findings. For small banks, interstate banking deregulation leads to reduced riskiness. For medium-sized banks, it leads to increased riskiness. And for large banks, it leads to increased and decreased riskiness depending on the risk variable considered. Second, macroeconomic variables – the unemployment rate, real personal income per capita, and the growth rate of real personal income – and the average interest rate affect bank performance as much, or more, than the process of deregulation, especially for the small and medium-sized banks. The large banks, however, generally do not respond significantly to state-level macroeconomic variables or the average interest rate. Finally, while some analysts argue that deregulation toward full interstate banking and branching produced more efficient banks and a healthier banking system, we find mixed results on this issue.

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#### 1. Introduction

This paper examines the effects of geographical deregulation of banking and branching activity on commercial bank performance across states. The state-by-state lifting of geographic restrictions on bank operations led to the passage of the Riegle-Neal Interstate Banking and Branching Efficiency (IBBEA) of 1994, allowing nationwide branching in the United States and facilitating bank consolidation. The long process of geographic deregulation that culminated in the passage of the IBBEA overturned the prohibitions of interstate banking of the 1927 McFadden Act and 1956 Douglas Amendment. The emergence of interstate banking and branching generated a significant increase in mergers and acquisitions. Conventional wisdom suggests that these mergers and acquisitions would improve bank performance and increase bank efficiency.<sup>1</sup>

Market pressures led banks to seek ways around geographic restrictions on bank operations prior to passage of IBBEA. For example, technological innovations such as the automated teller machine loosened regulatory constraints. In addition, two types of deregulation occurred at the state level prior to IBBEA. First, multibank holding companies (MBHCs) received permission to own separate banks within some states (e.g., Texas). Thus, a network of banks within a MBHC achieved something similar to a branch network, although the state still restricted branch banking. Second, some states allowed MBHCs from other states to operate within their borders with reciprocity. Reciprocity arrangements at times covered a regional group of states and at other times the whole nation. Yet other states did not even require reciprocity.

State restrictions on bank branch location, partly intended to prevent freewheeling banks from choosing inaccessible sites to deter customers from redeeming their circulating banknotes (Kane, 1996, p. 142), began in the nineteenth century. The McFadden Act of 1927 and the later Douglas Amendment of 1956 effectively prohibited banks from branching across state lines and forced all national banks to conform to the branching regulation in the state of their location, thus placing national banks and state banks on an equal footing. The large number of commercial banks in the United States reflects these restrictions on bank branching. Moreover, the Great Depression and financial panic of the 1930s left the American public with a hostile attitude toward large banks and

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<sup>&</sup>lt;sup>1</sup> For example, Jayaratne and Strahan (1997) show that bank loan losses and operating costs fell sharply when states allowed interstate branching between 1978 and 1992. But these state-enacted deregulations could not exploit economies of scale and scope to the full extents allowed by IBBEA.

led the U.S. government to enact heavy regulation on the financial industry. In 1933, the Glass–Steagall Act prohibited commercial banks from dealing in corporate securities and prohibited investment banks from engaging in commercial banking activities. To rebuild financial credibility, the Federal Deposit Insurance Corporation (FDIC) was established in 1934, providing federal insurance on bank deposits and FDIC oversight of insured institutions.

In recent decades, the U.S. commercial banking industry has experienced a dramatic relaxation of regulatory constraints.<sup>2</sup> With the passage in 1994 of the Riegle-Neal IBBEA, bank holding companies could acquire banks in any state after September 30, 1995. The laws of some states that allowed interstate banking only on a regional or reciprocal basis became irrelevant. With the possibilities of economies of scale and scope, banking analysts anticipated that mergers and acquisitions within the banking industry would increase substantially and that the number of commercial banks would decline.

In this paper, we test whether Riegle-Neal and the process of deregulation that preceded its passage allowed banks to achieve greater efficiency and profitability. As noted above, many states already allowed interstate banking on regional or national, reciprocal or non-reciprocal bases before the passage of IBBEA. Thus, the IBBEA culminated a process of deregulation in the U.S. banking industry. We examine the effects of deregulation on bank profitability and risk on a state-by-state basis, controlling for the effect of state economic conditions and interest rate variation on bank performance and profitability. We use Call Report data, posted on the website of the Federal Reserve of Chicago as the Report of Condition of Income. The rest of the paper is organized follows. Section 2 provides a literature review. Section 3 describes the data and methodology. Section 4 reports the mean values for the performance measures in the pre- and post-IBBEA periods and discusses differences. Section 5 presents and discusses regression results. Section 6 concludes.

#### 2. Literature review

During the past 30 years, competition in banking and finance and attempts to expand market reach by large institutions exerted much pressure for deregulation. The enactment of Riegle-Neal IBBEA in 1994 encouraged structural changes in the banking industry through bank mergers and acquisitions. This section surveys a selection of the academic research on pre- and post-IBBEA structure and performance of the banking industry.

The 1980s and early 1990s saw severe financial turbulence—the savings and loan debacle followed by the crisis in the commercial banking industry. These crises led to failure rates among financial institutions not seen since the Great Depression and triggered many of the regulatory changes that occurred in the 1980s and 1990s. Conventional wisdom suggests that the lifting of restrictions on interstate banking and branching in these years generated a significant increase in mergers and acquisitions (Rhoades, 2000; Jeon & Miller, 2003). One view of the consolidation process argues that, by and large, it produced positive effects—banks became more efficient (Jayaratne & Strahan, 1997, 1998). Another view sees a possible negative effect of consolidation on the availability of loans to small businesses (Ely & Robinson, 2001).

One strand of the literature on the changing structure of the banking industry focuses on the effects of bank mergers on bank performance. Berger (1995) tests the market-power and efficient-structure hypotheses in the banking industry. The market-power hypothesis argues that mergers reflect a desire to set prices that are less favorable to consumers. The efficient-structure hypothesis argues that mergers reflect efficiency considerations that lower prices, making consumers better off. Berger (1995) concludes that the data do not support the scale-efficiency version of the efficient-structure hypothesis. Scale does not positively relate to either profits or market concentration. The data also do not support the traditional structure-conduct-performance hypothesis version of the market power hypothesis. Controlling for other effects, concentration usually relates negatively, not positively, to profitability. The profit-concentration relationship is spurious, however, tracing to correlations with other variables, particularly market share.

Berger and Mester (2003) and Berger, Demsetz, and Strahan (1999) report evidence on this issue as well. They argue that rising profitability during the 1990s primarily reflects higher revenue. since costs also rise. Moreover, they attribute this rising profitability to merger activity. They contend that the initial providers of better service capture short-run profits, which the industry competes away in the long run. A continual process of innovation sustained the rising profitability during the 1990s. They dismiss the market-power explanation of rising profitability, however, since concentration at the MSA and non-MSA level remained unchanged during the 1990s. Stiroh and Strahan (2003) argue that lifting of geographic restrictions on banking shifted banking assets away from low-profit to high-profit banks, increasing the average profitability of the banking industry. In other words, the competitive dynamics of the industry reshuffled the banking business toward more profitable banks.

Jayaratne and Strahan (1997, 1998) in companion studies consider various aspects of banking industry structure and bank performance. In the first paper, they find that bank efficiency improved greatly after the relaxation of branching restrictions by states. Loan losses and operating costs fell sharply, and the reduction in banks' costs led to lower loan interest rates to bank borrowers. Moreover, the relaxation of state limits on interstate banking also led to improvements in bank performance. These gains were smaller, however, and any causal relationship proved less robust. They suggest that much of the efficiency improvement brought about by banking and branching deregulation reflected a selection process, whereby better performing banks expanded at the expense of poorer performers. While improvements to the banking system helped bank customers directly, they also find important benefits to the rest of the economy. In particular, state economies grew significantly faster after banking and branching deregulation occurred.

In the second paper, Jayaratne and Strahan (1998) consider entry restriction, industry evolution, and dynamic efficiency in commercial banking. They again show that bank performance improves significantly after the lifting of restrictions on bank expansion. They find that operating costs and loan losses decrease sharply after states permit statewide banking and branching and, to a lesser extent, after states allow interstate banking and branching. They again argue that the improvement following banking and branching deregulation occurs because better banks grow at the expense of their less efficient rivals. By retarding the "natural" evolution of the industry, banking and branching restrictions reduce the performance of the average banking asset. They again find that banks pass on most of the reductions in banks' costs to bank borrowers in the form of lower loan rates.

Our analysis directly extends a part of the analysis contained in Jayaratne and Strahan (1998). In that paper, they consider the effects of intrastate and interstate deregulation of banking and branching activity on bank performance. They examine six

<sup>&</sup>lt;sup>2</sup> The most recent financial crisis will probably usher in a new spate of regulatory restrictions.

<sup>&</sup>lt;sup>3</sup> Jeon and Miller (2007) evaluate the causes of those failure rates, as well as merger and new-charter rates, during this turbulent period.

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