Does Geography Matter?  
A Study of Determinants of Bank Office Size in Illinois

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ABSTRACT

This study investigates the role of geography in shaping the average bank office size in Illinois banking. “Geography” here refers to a host of socioeconomic, demographic, and local community characteristics at the bank market level. The study finds that larger bank markets, higher levels of market concentration, higher percentages of whites within the total population, and less physical fragmentation within a geographical bank market contribute to larger average bank office sizes. The use of technology, represented by higher percentages of physical capital and premises in the total assets, is found to reduce the bank office size. This tendency is further reinforced by a lack of economies of scale at the bank office level. At the same time, the study finds that the greater adoption of internet banking is associated with larger bank offices. These findings provide indirect evidence that market structure has an impact on the adoption of alternative banking technologies. A study of bank office size has practical implications in providing insights into the future branch strategy, as well as the inadequate nature of measures of market power currently used in antitrust regulation.

Keywords: Alternative Banking Technologies, Bank Market, Branch Banking, Illinois, Office Size

INTRODUCTION

This study investigates the role of local socioeconomic, demographic, and community factors as determinants of bank office size, along with the role of technology, economies of scale, and bank market conditions that have long been recognized as factors in shaping bank office size. Over the past thirty years, the U.S. banking industry has undergone significant restructuring. Three areas of restructuring can be identified: banking consolidation and institutional changes, portfolio changes and product and service diversification, and geographical deregulation in the form of nationwide interstate banking and branching. In light of the 2008-2009 financial and banking crisis and current economic difficulties, the merit of these transformations is called into question. Nonetheless, given the changes that have already taken place, studies on characteristics of banking structure can still provide valuable insight into the state of the U.S. banking industry. One particular facet of banking structural change is bank office size. As
banks in the United States become increasingly large, the average size of bank offices becomes increasingly small (Hannan & Hanweck, 2007). In addition to a drastically changed regulatory environment, overall banking consolidation, and adoption of the latest technologies, changes in bank office sizes may have also been associated with locally based conditions, which can be collectively subsumed under “geography”. Important geographical factors include the size of bank geographical markets, market structure, the physical configuration of local communities within a market, local ethnic composition, per capita income, population density, level of urbanization, level of education, characteristics of the local economy and the local banking industry, etc. Although market structure, economies of scale, and bank market conditions have long been recognized as contributing to the bank office size, other factors have yet to be adequately analyzed for their potential roles in shaping bank office size. This paper intends to fill this void, using Illinois banking as a case study.

Focusing on Illinois banking is of particular significance. As a traditional unit banking state where banks were prohibited by law to open branch offices outside their head offices, branch banking in Illinois has undergone dramatic development and the average size of bank offices has experienced constant changes since the banking geographical deregulation, making them one key area of structural change in Illinois banking. To understand structural changes in Illinois banking is in part to understand changes in branch banking and bank office sizes. In contrast, in states such as New York where branch banking was allowed historically, branch development and changes in office size have not been a significant issue since banking deregulation. For example, between 1980 and 2007, while the number of commercial bank offices in New York increased by 4%, the same time span saw an increase of over 180% in bank offices in Illinois. As a result, 64 out of 84 (76%) Illinois banking markets experienced a decline in the average office size, while only 10 out 33 (30%) banking markets in New York did so.

A study of determinants of bank office size has practical implications for the banking industry in general. As bank office size and banking at bank offices experience dynamic changes in part driven by banking technologies, the future branch strategy and the related bank office design have become important issues within the banking community. A study of geographical factors of bank office size may provide additional insight into the issues. In addition, the rising number of bank offices improves customers’ accessibility to bank services and reduces the market power exerted by banks within the spatial market. This calls into question the measures of market power currently used in antitrust regulation, which take into account the firm level market shares but leave out characteristics of branch banking and community configuration within a bank market. Arguments can be made for the need for more inclusive measures.

**THE LITERATURE**

A traditional perspective relates the bank office size to economies of scale at the bank office level. While some find significant economies of scale at the branch level (Longbrake & Haslem, 1975; Zardkoohi & Kolari, 1992), Nelson (1985) finds that branches display constant returns to scale up to the $20 million deposit size level, followed by increasing returns to scale after that. Benston, Hanweck, and Humphrey (1982) observe that average branch size stabilizes at the $25 to $35 million range and that further banking growth is more likely to be accommodated through opening new branches. To a certain extent, the notion of economies of scale is related to the “optimal” level of resource deployment at the bank office, alluded to by Nas, Ray, and Nag (2005). They find that the personnel cost efficiency at the branch office level is in part related to the branch office size, and that the medium-sized offices have lower cost efficiency than small and large-sized offices. That is, the cost curve at the branch office level is reverse U-shaped. They also find that
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