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Spatial competition and market power in banking

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Abstract

Banks in non-metropolitan areas compete in a spatially differentiated environment. Non-metro community banks have been insulated from increasing competition from metro banks due to their reliance on soft information in relationship lending. Proximity to borrowers, therefore, may be an important source of market power for non-metro community banks. This paper estimates a structural model of the supply and demand of banking services in which pricing power is allowed to depend explicitly on the distance between rival banks. A spatial autoregressive econometric model shows that approximately 38.0% of economic surplus earned by firms in non-metropolitan banking in the upper midwest is due to spatial market power.

JEL classification: C21; D43; G21; L13

Keywords: Banking; Market power; Non-metropolitan markets; Spatial econometrics

1. Introduction

In the U.S., small, rural enterprises tend to be financed by bank loans from local financial institutions such as community banks (Yeager, 2004). With the rapid consolidation wave that followed interstate banking deregulation in the 1990s, many feared that the banks that emerged would be “too big” to lend to rural enterprises (Berger, Miller, Petersen, Rajan, & Stein, 2005; Berger, Saunders, Scalise, & Udell, 1998; Calem, 1994; Gilbert, 1997; Keeton, 1996; McNutly, Akhigbe, & Verbrugge, 2001; Meyer & Yeager, 2001) or would do so only at usurious rates. Non-metro community banks, however, have typically been insulated from the new competitive forces encountered by metro community banks due to the importance of soft information in relationship lending (DeYoung & Duffy, 2002; DeYoung, Hunter, & Udell, 2004). Soft information regarding borrower reputation, local economic conditions, or market trends is critically impor-

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tant in evaluating investments in small businesses and farms (McNutly et al., 2001). Proximity to borrowers, therefore, may be an important source of market power for non-metro community banks. While Petersen and Rajan (2002) provide evidence that geographical distance between borrowers and lenders is becoming less important as improvements in communication technology reduce the importance of soft information, Critchfield et al. (2004) argue that the local, community bank model will remain viable for the foreseeable future. Despite this controversy, there is little empirical research into the role of geography as a source of market power in U.S. banking.

Imperfect competition among banks is an important economic problem because loans from community banks to farmers and other rural businesses are necessary to sustain investment and growth (Berger, Hasan, & Klapper, 2004). Insufficient lending may arise from two sources: (1) inefficient banks, whether in the sense of technical, allocative or scale inefficiency, or (2) banks that reduce the amount of lending in order to exploit any real or perceived market power.[1] In fact, banks that are separated by relatively large geographic distances may have an incentive to limit loan output in order to take advantage of market power conferred by their relative spatial isolation or, conversely, to exploit the relative ease of colluding with banks located nearby.[2] In this paper, we empirically test whether U.S. non-metro banks located in the upper midwest region – Minnesota, North Dakota and South Dakota – are able to exercise market power from either spatial or non-spatial sources.

We focus on non-metro banks in the upper midwest for a number of reasons. First, the upper midwest remains one of the most agriculturally intensive regions in the U.S. Because smaller, community banks tend to be particularly important sources of financing for small businesses and farms (Critchfield et al., 2004), higher lending rates are likely to have a disproportionate effect on rural economic welfare. Second, the upper midwest forms a contiguous, relatively isolated market. To the extent that a geographic "market" in banking can be defined, the upper midwest provides perhaps the best example of one in which banks are likely to compete against each other and not against outside influences. Third, much of this region tends to be economically disadvantaged from an historical perspective. For this reason, rural economic welfare is an important topic of study from a public policy perspective. Fourth, because agricultural enterprises are inherently separated from each other and from their lenders by often large distances, there is a high potential for banks to exercise spatial market power. Finally, most of the banks in the upper midwest are headquartered in non-metro locations. In fact, more than 60% (951) of the community banks in our sample that were active in 31 December 2004 were based in rural areas. Therefore, while we cannot exclude non-community banks if our sample is to describe the entire non-metro market, the data nonetheless consists of a high proportion of community lenders.[3]

Simultaneously testing for spatial and non-spatial market power requires an approach that is relatively new to the industrial organization and banking literatures. Although there are many alternative tests in the literature, each suffers from well-documented weaknesses (Shaffer, 2004). Consequently, in this study we test for market power due to spatial separation by synthesizing a traditional non-spatial model of firm conduct (Bresnahan, 1989) with the distance metric (DM) model developed by Pinkse, Slade, and Brett (2002), Pinkse and Slade (2004) and Slade (2004).

[1] The question of inefficiency among rural banks is addressed by Featherstone and Moss (1994), Featherstone (1996) and Marsh, Featherstone, and Garrett (2003).

[2] See Shaffer (2004) for an extensive, recent review of the literature in this area.

[3] The average size of these institution was less than \$85 million and about 19% of these institutions are in a category that includes banks with less than \$25 million in assets.