Perspectives On: Banking Concentration

This issue of Economic Perspectives *presents what is planned to be the first in a series of collections of related articles that will be presented under the general heading: "Perspectives On." The current edition contains a collection of articles entitled: "Perspectives On: Banking Concentration."*

The "Perspectives On" series is intended to provide our readership with a more in-depth discussion and analysis of a selected topic. The more detailed analysis is intended to give readers the opportunity to gain added understanding of a particular subject. It is our hope that this format will be of interest and use to our readership.

In this issue the focus of "Perspectives On" is the problem of concentration of economic resources, with special emphasis on concentration in banking markets. Because of the importance of banks as suppliers of credit, their key role in administering the national payments mechanism, and the fact that entry into banking is limited by law and regulation, concentration in banking has often been viewed with even greater concern than concentration in other industries. The purpose of the articles is to give readers a clear statement of why concentration is a matter of concern, an indication of the problems of measuring and interpreting concentration, and a detailed and up-to-date picture of recent developments in the structure of banking markets in Seventh District states.

The first article discusses certain conceptual problems related to the theory and measurement of concentration. The second describes developments over the past decade and a half with respect to concentration and the number of competing banking organizations in local areas within the Seventh District states. The third and final article analyzes in more detailed fashion the nature and causes of structural changes in a number of urban banking centers in Wisconsin.

The significance and measurement of concentration

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The concentration of financial and economic resources in a few hands has been a major concern throughout American economic history. Business consolidations after the Civil War led to public concern over the growth of "trusts" and "monopolies," culminating in the passage of the Sherman Anti-Trust Act of 1890. More recently, concern with corporate control of financial resources led to the passage of the Bank Holding Company Act of 1956 and the Bank Merger Act of 1960.

Two objections have been raised to the concentration of financial and economic power.[1] First, resource concentration is incon-

[1]Joe S. Bain, *Industrial Organization* (John Wiley and Sons, 1959), pp. 98-101.

sistent with our democratic principles of a wide dispersion of economic power among a broad spectrum of the population. Such a concentration of economic power, if translated into political power, would be inimical to the best interests of a democratic society. Second, concentration of economic resources within a particular market implies a reduction in the degree of competitive interaction between firms. Reduced competition gives firms the power to restrain output and raise prices. This leads to a less than optimal allocation of resources and distorts the distribution of income in what is generally considered to be a socially undesirable manner.

Economic theory suggests that, other things being equal, firms having significant market positions in highly concentrated markets will tend to restrain output, charge higher prices, earn higher rates of return, and use their entrenched positions to retard the competitive efforts of other firms. In general, significant resource concentration and large firm size are believed to confer market power on firms, which protects them from all but the most extraordinary competitive advances.

Measures of resource concentration

Market concentration measures generally indicate the number and relative size distribution of buyers and sellers in a market. Markets that consist of numerous firms that control approximately equal market shares are less concentrated than markets which have few sellers controlling a disproportionately large share of total industry or market output.

No single measure adequately describes market concentration. Concentration is frequently measured by the *n*-firm concentration ratio—the combined market share held by the largest, two largest, three largest, four largest, or ten largest firms in the industry or market, with the choice depending partly on the number of firms in the market and partly on the comparisons to be made. One of the drawbacks to these concentration ratios is that they do not adequately account for the total number of firms in the market or the distribution of output among them.[2]

Similar to the *n*-firm concentration ratio is the number of firms required to account for *y* percent (frequently 80 percent) of a market. Its advantage relative to the *n*-firm concentration ratio is that it allows one to distinguish between concentration in markets with *n* or more firms and those with fewer than *n* firms.

One summary measure of concentration that takes into account the total number of firms in a market *and* their market shares is the Herfindahl index. This index is constructed by simply summing the squares of the market shares of all firms in the market. That is:

$$\text{Herfindahl index} = \sum_{i=1}^{N} \left(\frac{x_i}{s}\right)^2$$

where: N = the number of firms;

x_i = the absolute size of each of the firms; and

s = the total size of the market.

For example, suppose that the total dollar amount of deposits held by all commercial banks in a given banking market is $100 million and that three banks compete in the market and hold deposits of $50 million, $30 million, and $20 million, respectively. The Herfindahl index for this market would be 0.38, or the sum of $(.5)^2$ plus $(.3)^2$ plus $(.2)^2$.

Like the *n*-firm concentration ratio, the Herfindahl index varies between zero and 1. When a large number of firms of equal size exist in a market, the index approaches zero; in a monopoly market where only one firm competes, the index would be 1. When there are several firms in a market all of which are of

[2]As one author notes, "Although the limitations of the simple concentration ratio are well known, it is one of the few general measures of structure available to the economist. . . . For all its many shortcomings, the homely concentration ratio is a direct and fairly clear indicator of industry structure." George G. Kaufman, "Bank Market Structure and Performance: The Evidence from Iowa," *Southern Economic Journal*, vol. 32 (April 1966), pp. 429-39.

equal size, the index will be equal to the ratio (1/N), where N is the number of firms in the market. One of the limitations to using the Herfindahl index in the industrial sector is the frequent lack of information on market shares of individual firms. However, the greater availability of banking data makes the Herfindahl index a useful tool in examining concentration in banking markets.

Changes in the static measures of concentration are frequently used to indicate trends in concentration. Thus, changes in the number of firms in a market or changes in the *n*-firm concentration ratio during a given period may be used. Another common measure is the change in the Herfindahl index, sometimes called the dynamic Herfindahl index, which is simply the difference between the final Herfindahl index and the initial Herfindahl index for a market.