

# Competition in Banking

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*The worldwide trend towards consolidation of the financial sector has focused the attention of policy-makers on the potential implications for the economy. This article contributes to the debate by reviewing some of the issues raised in the theoretical and empirical literature on competition in the banking sector.*

**A** well-functioning banking sector is important to any economy. Banks facilitate economic growth by, among other things, providing a means to hold and exchange financial assets and by supplying credit to businesses and consumers. The potential benefits of competition in banking are similar to its benefits for other industries. It can improve allocative, productive, and dynamic efficiencies (e.g., by promoting innovation), with the ultimate benefit being stronger economic growth.

The basic question traditionally asked when assessing the competitiveness of a market appears simple: Can firms exert market power? This article examines the approaches taken in the theoretical and empirical literature to explore this issue in the context of the banking sector. Competition in banking may not be as simple as it first appears.

## Concentration

The traditional approach to assessing competition has been to associate a larger number of firms with more price competition and fewer firms with less-competitive behaviour. This comes from a classic industrial organization argument, which assumes that there is a causal relationship running from the structure of the market (e.g., firm concentration) to the firm's pricing behaviour, to the firm's profits, and to its degree of market power.<sup>1</sup> That is, a higher

number of firms causes firms to price competitively (marginal-cost pricing), which minimizes the degree of market power that any one firm can exert.

Since pricing behaviour is not easily observable, the emphasis in the literature is on establishing a relationship between the structure of the market and market power. Structural variables include measures of concentration, the number of sellers, and entry conditions. Market power is measured using accounting data on profits and costs.

While traditional studies using this approach are based on cross-industry data, there is a large body of literature that applies the paradigm to one particular industry over time. In the case of the banking sector, the majority of the early literature used U.S. data to examine the relationship between bank profitability (or prices) and concentration. These early studies often found a positive relationship between concentration and loan prices (e.g., Hannan 1991). However, the results of studies using more recent data and taking into account other factors, such as differences in efficiency between banks, have been more ambiguous. In addition, recent work using panel data indicates that potential negative effects of concentration can be largely mitigated by efficient legal systems, open entry and the presence of foreign banks, and by high levels of financial and economic development.

There are several difficulties with the traditional approach. For example, from a measurement perspective, accounting data on profits and costs may not provide an accurate measure of economic profits and market power. As well, the measurement of a structural variable such as concentration requires clear definition of the

1. In the literature, this approach is called the Structure-Conduct-Performance (SCP) paradigm.

\* This is an extract of the issues explored by the author in a forthcoming Bank of Canada working paper.

relevant market. All products that are substitutes and all firms that supply substitutable products must be included in the market definition. This can be difficult to assess in practice, especially in a market without homogeneous products, such as banking. A vast range of substitutable products exists—products supplied not just by banks but by other financial and non-financial firms as well.<sup>2</sup>

## Contestability

To address some of these pitfalls, new approaches have been developed that focus on the behaviour of the firm, regardless of the structure of the market.<sup>3</sup> The aim of these approaches is to estimate market power based on firm behaviour. That is, they estimate the “effective competition” or “contestability” of the market.

Two widely used techniques are those developed by Bresnahan (1982) and Lau (1982) and by Panzar and Rosse (1987). Based on theoretical models of oligopoly, each approach attempts to measure the competitive conduct of banks without explicitly using information on the structure of the market. They do this by estimating the deviation from marginal-cost (competitive) pricing. Behaviour is characterized as a continuum between perfectly competitive and monopolistic. This relatively new literature consistently finds that banking markets around the world fall between the two extremes and that the number of banks in the market is not necessarily a good indication of competitive behaviour.

Indeed, a recent study using the Panzar and Rosse technique on cross-country panel data finds a *positive* relationship between concentration and contestability (Claessens and Laevan 2003). In this work, as in other studies, the banking market in the Netherlands is found to be the most contestable despite its high level of concentration, and Canada scores higher than countries such as Germany and the United States, which have a much larger number of banks. This and other empirical studies also confirm that contestability is associated with a

greater presence of foreign banks, open entry and exit, few restrictions on permitted activities, and well-developed legal and financial systems.<sup>4</sup>

## Non-Price Competition

While the contestability literature avoids some of the problems associated with the traditional concentration approach (in that market power is estimated directly, not with accounting data, and a robust definition of the market is not required), a major problem remains. Both approaches assume a homogeneous product market. But firms may also compete by differentiating their products. While differentiation has traditionally been viewed as a way for firms to maintain some degree of market power, it may also have some social benefits.

Banks differ in many ways, such as reputation, product offerings, and the extensiveness and location of their branch network. Indeed, branch networks are a particularly important feature of bank competition.<sup>5</sup> Allen and Gale (2000) exploit this particular characteristic of the banking sector to show how two large banks with branch networks can provide a more competitive outcome than a large number of small banks without branches (a unitary banking system).<sup>6</sup> Other studies show how branch networks can increase the effective size of the market by increasing the geographical scope of competition. In this context, branches can decrease the degree of market power exerted in remote locations relative to a unitary banking model. This can lead to more uniform pricing across urban and remote locations (e.g., Calem and Nakamura 1998). Some theories argue that banks can also compete through innovation: the potential to temporarily gain market power through the introduction of new products provides an incentive to innovate.

2. See Church and Ware (2000) for a more thorough critique of the traditional SCP paradigm.

3. These approaches are loosely called the New Empirical Industrial Organization approach.

4. Activity restrictions refer to the degree to which banks' activities in underwriting securities, insurance, real estate, and in owning shares in non-financial firms are limited. Canada does relatively well by this measure. It is more restrictive than the United Kingdom and Germany but freer than the United States.

5. Branches can be interpreted broadly as any node that allows for the distribution of primary services.

6. Competitiveness in this sense is measured as the sum of the producers' and consumers' surplus.

## Discussion

Because the banking sector does not produce homogeneous products, it may not be possible to completely eliminate market power. But as discussed above, some degree of market power may be consistent with other social benefits. For example, an extensive branch network may mitigate market power in remote areas. Furthermore, some theories suggest that where there is market power, banks are encouraged to engage in relationship lending, which benefits small and risky borrowers.<sup>7</sup> Other theories argue that some degree of market power can decrease a bank's incentives to engage in risky behaviour by increasing the opportunity cost of going bankrupt. Therefore, the overall objective for banking policy may be to facilitate an environment that promotes competitive behaviour while realizing that some residual market power may have certain social benefits.

So, how should competition in banking be assessed? The approaches discussed here indicate that concentration, or the number of banks, may not in itself be a good indicator of competitive behaviour. Market power can be affected by many factors, such as the branching structure of the industry, efficient legal systems, high levels of financial and economic development, low barriers to entry, and openness to foreign banks. At the very least, competition in the banking sector may not be as simple as it first appears to be.

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7. In relationship lending, banks grant credit based on established long-run relationships, rather than solely on the net present value of a particular project (e.g., Petersen and Rajan 1995).