

A SIZE-BASED EXAMINATION OF PROFITABILITY IN THE U.S. BANKING INDUSTRY AROUND THE FINANCIAL CRISIS

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ABSTRACT

This study uses a new dataset to extend analysis of the change in profitability for banks following the 2007-2009 financial crisis. The new dataset provides a longer post-crisis view of profitability which allows segmentation of post-event performance. This study also modifies earlier analyses to include data from recessionary periods. The results show that the profitability of the smallest banks is significantly lower than that of the largest banks in both the pre- and post-crisis periods. However, any relative post-crisis deterioration in profitability for small banks appears to be concentrated in the early post-crisis period.

Keywords: bank profitability, financial crisis, bank size

1. INTRODUCTION

The financial services industry in the U.S has undergone a significant transformation over the past several decades. Data from the FDIC indicates that consolidation has reduced the number of banking institutions from over 14,000 in the 1970's to under 4500 in 2023. The result has been a marked increase in the average size of banks with average assets growing from around \$325 million in 1992 to over \$5 billion in 2023. However, the average size is skewed by the magnitude of the largest banks. In 1992 there were almost 14,000 banks but only 59 banks reported assets greater than \$10 billion, and no banks reported more than \$250 billion in assets. These 59 banks held about 40% of the total assets in the banking sector. By 2023, there were 158 banks with assets exceeding \$10 billion with 14 of those banks holding more than \$250 billion in assets. Banks with over \$250 billion in assets held over 58% of the total bank sector assets and over 80% of assets were controlled by banks exceeding \$10 billion in assets.

Numerous studies examine the reasons for consolidation within the banking industry with much attention focused on bank profitability. Berger, Demsetz, and Strahan (1999) suggest that larger banks gain improvements in profit efficiency and diversification of risks. Likewise, Hughes, Lang, Mester, and Moon (1999) indicate banks that engaged in interstate expansion and diversified their macroeconomic risk experienced clear gains in their financial performance. O'Hara and Shaw (1990) showed that when banks were deemed too-big-to-fail (TBTF), the TBTF banks experienced positive wealth effects, while non-TBTF banks had negative wealth effects. Brewer and Jagtiani (2013) report that banks were willing to pay premiums to facilitate mergers that brought them to the TBTF threshold.

The financial crisis of 2007-2009 tremendously impacted the banking industry and placed increased attention on TBTF. During the crisis period banks reported much lower profits and nearly 400 banks failed. Government intervention provided support for the industry during the crisis through programs such as the Troubled Assets Relief Program (TARP), but the crisis also led to increased regulatory attention. The Dodd-Frank Act aimed to increase accountability and transparency and end TBTF. Interestingly, Allen, Cyree, Whitley, and Winters (2018) indicate that following the enactment of the Dodd-Frank Act there was a negative market reaction for the industry, but it was spread across all groups of banks. They further state that the reaction unexpectedly "leans toward smaller banks." Hogan (2019) indicates that the Dodd-Frank Act resulted in an approximate doubling of banking regulations and estimates that compliance cost increased by up to \$50 billion per year. The author also argues that small banks "experienced disproportionate increases in salary expenses" and they also saw "significant increases in auditing, consulting, data processing, and legal fees."

In the pre-crisis era, Hein, Koch, and MacDonald (2005) reported that community banks performed as well as if not better than their larger counterparts. However, a recent study by Nippani and Ling (2021) that