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Do we need big banks? Evidence on performance, strategy and market discipline ☆

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ABSTRACT

For an international sample of banks, we construct measures of a bank's absolute size and its systemic size defined as size relative to the national economy. We then examine how a bank's risk and return on equity, its activity mix and funding strategy, and the extent to which it faces market discipline depend on both size measures. We show that bank returns increase with absolute size, yet decline with systemic size, while neither size measure is associated with bank risk as implicit in the *Z*-score. These results are consistent with the view that growing to a size that is systemic is not in the interest of bank shareholders. We also find that systemically large banks are subject to greater market discipline as evidenced by a higher sensitivity of their funding costs to risk proxies, consistent with the view that they can become too large to save. A bank's interest costs, however, are estimated to decline with bank systemic size for all banks apart from those with very low capitalization levels. This suggests that market discipline, exercised through funding costs, does not prevent banks from attaining larger systemic size.

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1. Introduction

In the last several decades, banks have greatly increased in size. Many institutions have become very large in absolute terms and relative to their national economies. During the recent financial crisis, it has become apparent that countries with large banks can run large risks to their public finances. Large bank failures in Iceland in 2008 triggered a national bankruptcy, and large-bank distress forced Ireland to seek EU and IMF financial assistance in 2010. A possible reaction to the public-finance risks posed by banking systems that include large banks is to force these to downsize or split up. In the UK, the Bank of England has been active in a debate on whether major UK banks should be split up to reduce risks to the British treasury.[1] In the US, the Wall Street Reform and Consumer Protection Act (or Dodd-Frank Act) passed in July 2010 prohibits bank mergers that result in a bank with total liabilities exceeding 10% of the aggregate consolidated liabilities of all financial companies to prevent the emergence of an oversized bank.[2]

While the public finance risks of large banks are apparent, it is less clear whether there are other costs or benefits associated with systemic size, i.e. size relative to the national economy that need to be taken into account. To inform the debate about bank size, this paper provides empirical evidence on whether systemically important banks are different in three key areas. First, we examine whether large banks have a different performance in terms of risk and return outcomes. Second, we consider whether large banks have different business models as to their activity mixes and funding strategies. Third, we investigate whether large banks are subject to market discipline to a different degree compared to smaller banks. We consider these issues for a large international sample of banks over the years 1991–2011. This international setting enables us to make a distinction between a bank's absolute size as measured by the logarithm of its total assets, and its systemic size as measured by its liabilities-to-GDP ratio.

Our main results are as follows. A bank's rate of return on assets and its return on equity are shown to increase with its absolute size, but to decline with its systemic size. Neither absolute nor systemic size is significantly associated with bank risk as implicit in the *Z*-score.

Bank systemic size contributes relatively little to explaining the overall variation in the return on assets and the return on equity. This reflects that most banks are not systemically large with liabilities-to-GDP ratios close to zero, and that the number of banks with much higher liabilities-to-GDP ratios is too small to have a major impact on the overall distributions of the return on assets and the return on equity. Our estimation, however, implies that systemically very large banks, with a liabilities-to-GDP ratio of one, have returns on assets and equity that are 0.7% and 2.8% lower compared to systemically smaller banks with a liabilities-to-GDP ratio close to zero. The estimated difference in the return on equity of 2.8%, in particular, is material compared to the overall average return on equity of 11.0% in the sample.

Our finding of a lower return on equity for systemically large banks could reflect that shareholders of such banks expect to experience less negative tail risk, as large banks may be too-big-to-fail (consistent with the finding by Lustig and Gandhi (forthcoming) that large US banks experience lower bank stock returns). However, as noted above, we do not find that a bank's *Z*-score, proxying for bank stability, is significantly related to either absolute or systemic bank size. Any benefits bank shareholders may derive from large systemic size thus are not reflected in the return on equity or the accounting-based *Z*-score. Based on the accounting measures of return and risk analyzed in this paper, one could conclude that increasing a bank's systemic size per se is not in the shareholders' interest. Systemic size, however, is unlikely to change without affecting other drivers of bank risk and return. In a mechanical way, a change in systemic size entails a change in bank absolute size, with an independent impact on bank return. Furthermore, attaining systemic size possibly increases a bank's activity and

[1] See, for instance, a speech by Mervyn King, Governor of the Bank of England, on June 17, 2009 at http://www.bankofengland.co.uk/publications/speeches/2009/speech394.pdf.

[2] A previous proposal of the Obama administration to impose a tax on the non-deposit liabilities of banks with assets in excess of $50 billion failed to be enacted. In the UK, an Independent Commission on Banking chaired by Sir John Vickers considered options for dealing with systemically important banks, with a final report published in September 2011. See Goldstein and Véron (2011) for a discussion of the policy debate in the US and in Europe regarding systemically important banks.