Analyzing Bank Efficiency: Are “Too-Big-to-Fail” Banks Efficient?

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1 Introduction

The recent financial crisis has given rise to a re-examination by regulators and academics of the conventional wisdom regarding the implications of the spectacular growth of the financial sector of the economy. In the pre-crisis era, there was a widespread common wisdom that “bigger is better.” The arguments underpinning this view ranged from potential economies of scale and scope, to a better competitive stance at the international level. However, in the post-crisis world the common wisdom has been altered somewhat as large banks have come to be viewed as problematic for policy makers and regulators, for various reasons. One reason often given is that economic agents who are insured have the incentive to take on too much ex ante risk; also known as the moral hazard problem. Second, there is the “too-big-to-fail” problem: the fear that large and interconnected financial institutions may become a source of systemic risk if allowed to go out of business, especially in a “disorderly” fashion (Bernanke (2009)). Support for or against large banking institutions turns on the central issue of whether or not efficiencies of scale and scope are economically and statistically significant and are positively associated with bank size. If they are positively associated with bank size then the expected benefits of the cost savings generated by increased efficiencies passed on to consumers in terms of better services or reduced banking service fees are traded off with the expected costs implicit in the moral hazard and systemic risk arguments. In this paper we attempt to shed some light on this question through an empirical analysis that investigates the relationship between measures of the efficiency of a bank’s operation on the one hand, and the size of the institution on the other.

More recently, regulatory features added by the Dodd–Frank Act (DFA)\(^1\) introduced a variety of new policy levers, including capital surcharges, resolution plan requirements, consideration of systemic risk effects in mergers which
specifically increased the emphasis on understanding of economies of scale and scope in large financial firms. That is, DFA requires the review of whether a proposed merger would lead to greater concentrated risks to financial stability. Regulators have encouraged researchers to better understand the social utility of the largest, most complex financial firms (Tarullo (2011)).

Some elaboration on what we mean by “too-big-to-fail” (TBTF) banks is also in order. During times of financial crisis banking supervisors have strong incentives to forestall the failure of large and highly interconnected financial firms due to the damage that such an event could pose to both the financial sector as well as the real economy. Unfortunately, as market participants anticipate that a particular firm may be protected in this way, this has the perverse yet highly rational effect of undermining market discipline and encouraging excessive risk-taking by the firm. Furthermore, it establishes economically unjustified incentives for a bank to become larger in order to reap this benefit. This results in a competitive advantage for such a large bank over its smaller competitors who may be perceived as lacking this implicit government safety net. Public sector bailouts are costly and politically unpopular and this issue has emerged as an enormous problem in the wake of the recent crisis. Therefore, as a tactical matter the state of the financial system has left supervisors with little choice but to use government resources to avoid failures of major financial institutions and accompanying destabilization of the financial sector. However, on a prospective basis supervisors have been directed to better address this issue through improved monitoring of systemically critical firms, with a view to preventing excessive risk-taking, and by strengthening the resilience of the financial system in order to minimize the consequences of a large firm being unwound.

A series of reforms have been proposed to address these problems. They include increasing capital requirements and limits upon leverage (e.g., Basel III), capping the size of banks, limiting the scope of banking activities, subjecting bank mergers and acquisitions to additional scrutiny, prescribing that banks draft “living wills” to plan their orderly unwinding, and requiring the federal government to proactively break up selected banks. These measures are not without their detractors, however. Feldman (2010), for example, casts doubt on the reforms focusing on size² by arguing even if such reforms could address TBTF, reforms that take aim at bank size directly might be bad policy because their costs could exceed their benefits. Moreover, the size of a bank may be positively related to other benefits. Large banks could offer cost advantages that would ultimately benefit society by taking advantage of scale economies in their service production processes. Wheelock and Wilson (2012), for example, concluded that most U.S. banks faced increasing returns to scale using their highly parameterized local linear estimator of banking services.

However, there may be problems with this perceived wisdom that large banks are large because of such scale economies for at least three reasons. First, some