

# Does bank competition and diversification lead to greater stability? Evidence from emerging markets

Mohammed Amidu<sup>a,\*</sup>, Simon Wolfe<sup>b</sup>

<sup>a</sup> University of Ghana Business School, P.O. Box LG 78, Legon, Accra, Ghana

<sup>b</sup> Southampton Management School, University of Southampton, SO17 1BJ, UK

Received 14 August 2013; accepted 14 August 2013

## Abstract

This paper investigates how the level of competition affects diversification and stability using a sample of 978 banks in 55 emerging and developing countries over an eight year period 2000–2007. We shed further light on the competition–stability nexus by examining the complex interaction between three key variables: the degree of bank market power, diversification and stability. The core finding is that competition increases stability as diversification *across* and *within* both interest and non-interest income generating activities of banks increases. Our analysis identifies revenue diversification as a channel through which competition affects bank insolvency risk in emerging countries. The results are robust to an array of controls including alternative methodology, variable specifications and the regulatory environments that banks operate in.

© 2013 Africagrowth Institute. Production and hosting by Elsevier B.V. All rights reserved.

*JEL classification:* G21; G33; G38

*Keywords:* Bank competition; Diversification; Stability

## 1. Introduction

Competition in banking is important for the efficient production of financial services, the quality of financial products and the degree of financial innovation (Claessens and Laeven, 2004). In addition the literature has identified six reasons why competition in the financial sector is important: firstly, for firms and households to access financial services (Beck et al., 2004), secondly, for proper functioning of the financial sector (Claessens and Laeven, 2005), thirdly, for stability of the financial system (Boyd et al., 2004), fourthly, for efficient management of financial intermediaries (Berger and Hannan, 1989), fifthly, for improvement of monetary policy transmission through the inter-bank market rates (Van Leuvensteijn et al., 2008), and finally,

for overall industrial and economic growth (Allen and Gale, 2004).

While the debate on whether competition influences bank stability continues (Berger et al., 2009), the question of why competition should have a soundness-enhancing effect remains a relatively unexplored area. In this paper, we examine the mechanisms through which competition impacts bank stability. Vives (2011) reveals two basic channels through which competition affects stability. The first of these channels is that competition increases instability by exacerbating the coordination problem of depositors on the liability side and fostering bank runs which may be systemic in nature. The second is by increasing the incentive to take on more risk on either side of the balance sheet and thereby raising probabilities of failure. The 2007 financial crisis has also identified bank funding structure and financial innovation in bank activities as potential sources through which competition may affect stability (OECD, 2010). Equally, financial instruments such as loans sales, credit default swaps and derivatives have turned out to be important sources of instability in the financial sector.

Both Turk-Ariss (2010) and Schaeck and Cihak (2010b) focus on bank efficiency as a possible conduit through which competition influences bank soundness. Tabak et al. (2012) argue that bank size and capitalization are the essential factors that explain the relationship between competition and the risk-taking behaviour of banks. Beck et al. (2013) however,

\* Corresponding author. Tel.: +233 244232879; fax: +233 302 500024.  
E-mail addresses: [amidu@ug.edu.gh](mailto:amidu@ug.edu.gh) (M. Amidu), [ssjw@soton.ac.uk](mailto:ssjw@soton.ac.uk) (S. Wolfe).

Peer review under responsibility of Africagrowth Institute.



suggest that an increase in competition will have a larger impact on banks' fragility in countries with stricter activity restrictions, lower systemic fragility, better developed stock exchanges, more generous deposit insurance and more effective systems of credit information sharing. Our paper contends that competition pressurises banks to adopt strategies to diversify and this decision affects bank insolvency risk. Apart from changes in the competitive environment that trigger banks to diversify their activities [Gardener and Molyneux \(1990\)](#), other drivers that cause banks to diversify include: a hedging strategy ([Froot and Stein, 1998](#)); a mechanism to improve profitability and operational efficiency ([Landskroner et al., 2005](#)); reinforcing the function of banks as delegated monitors ([Baele et al., 2007](#)). Despite these reasons, the impact of diversification on bank insolvency risk has been mixed. [Stroh \(2004\)](#), [Hirtle and Stroh \(2007\)](#) and [Mercieca et al. \(2007\)](#) find no benefits for diversification. On the contrary, researchers such as ([Landskroner et al., 2005](#); [Baele et al., 2007](#); [Sanya and Wolfe, 2011](#)) reveal that diversification increases bank stability. Though the above arguments present a sound theoretical and empirical underpinning of the relationship between competition, diversification and stability, to the best of our knowledge this paper will be the first to investigate the role of diversification in the competition-stability relationship employing a panel dataset for banks in emerging economies.

This paper contributes to literature, especially on emerging/developing economies, by identifying the significance of diversification for the relationship between competition and stability. Three stage least squares (3SLS) is employed to simultaneously analyse the effect of diversification on competition and stability. The Lerner index is used as a measure of banking competition, while revenue diversification is measured by constructing Herfindahl Hirschman Indices (HHI) for each bank. This measure accounts for diversification between banks' major activities: net-interest income and non-interest income. On bank stability measures, Z-score (log); risk adjusted profits; bank capitalization level; and the ratios of non-performing loans to total gross loans are used. Z-score is used as a measure of overall bank insolvency risk; risk adjusted profit is used as a measure of profitability; the volume of non-performing loans to total gross loans measures bank loan portfolio risk; and finally the equity capital to asset ratio accounts for the bank capitalization level.

Our results show that competition increases bank stability. This is because banks make decisions to diversify their portfolio in response to the competitive environment in which they operate. Furthermore, the results show that competition not only improves stability, it also enhances bank performance measured by risk adjusted return on both assets and on equity (RAROE). More importantly, these relationships hold when non-performing loans ratio and bank capitalization are used as measures of stability. On contestability, the results reveal that the regulatory initiative that requires high regulatory capital and protects property rights reduces insolvency risk. The overall contribution of this paper is that it shows empirically that competition increases bank stability, and that the effect is due to the decision that banks make to diversify their portfolios in

response to the competitive environment in which they operate.

The rest of the paper is organised as follows: Section 2 reviews both theoretical and empirical arguments on the relationship between banking sector competition, diversification, and stability, Section 3 specifies the measurement and construction of the key variables, data and econometric specifications, Section 4 discusses and presents the empirical results, and finally, Section 5 concludes.

## 2. Related literature

The theoretical literature on the link between competition and stability is inconclusive. On one hand competition in banking has been shown to improve stability. On the other hand theory suggests it adversely affects banking stability. Those who support the 'competition-fragility view' suggest that monopolistic banks operating in uncompetitive banking systems may enhance profits and reduce financial fragility by maintaining higher levels of capital that protects them from external economic and liquidity shocks. A bank with more market power enjoys higher profits and has more to lose if it takes on more risk. [Keeley \(1990\)](#) and [Hellman et al. \(2000\)](#) provide the so-called 'franchise value' hypothesis and argue that as a higher franchise value will result in higher opportunity costs when bankruptcy occurs, bank managers as well as shareholders may not accept risky investments that could affect the stability of the firm and thereby jeopardise their future earning streams. [Matutes and Vives \(2000\)](#) develop an imperfect competition model where banks are differentiated, have limited liability and experience social costs of failure. Furthermore, [Boot and Thakor \(2000\)](#) suggest that because large banks tend to engage in credit rationing, they have fewer, but higher quality credit investments which enhance their financial soundness. Besides, market power in the banking sector could lead to higher quality of loan portfolios, improved capital allocation and thus maximise economic growth. [Cetorelli and Peretto \(2000\)](#) suggests that increased concentration in the banking sector and a reduction in information asymmetry gives banks the opportunity to screen and differentiate between low and high quality borrowers.

The proponents of the 'competition-stability view' on the other hand, argue that larger banks are often more likely to receive public guarantees and thus, are inefficiently managed and likely to fail. Under [Mishkin \(1999\)](#), the so-called 'too-big-to-fail' concept posits that as banks become too large, the moral hazard problem becomes more severe for the manager who takes on risky investments with the knowledge of being protected under the government's safety net. Moreover, the higher loan rates charged by monopolistic banks may induce borrowers to take on risky investments to compensate for higher loan repayments. Thus, the likelihood of loan defaults may increase and induce a higher probability of bank failure ([Boyd and De Nicolo, 2005](#)). It is argued that a bank's size is associated with organisational complexity making it difficult to manage efficiently. Moreover, size allows banks to expand across multiple geographical markets, business lines and complex

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات