Global Finance Journal 37 (2018) 57–78

Contents lists available at ScienceDirect

Global Finance Journal

journal homepage: www.elsevier.com/locate/gfj

Diversification and bank efficiency in six ASEAN countries

Thi Lam Anh Nguyen

Finance Faculty, Banking Academy, 12 Chua Boc str., Dong Da dist., Hanoi, Viet Nam

ARTICLE INFO

JEL classification:
G21
G28
G34

Keywords:
SFA
Bank efficiency
Diversification
ASEAN

ABSTRACT

This study examines the impact of diversification on cost and profit efficiency of commercial banks from six ASEAN countries over the period 2007–2014. Measured using the stochastic frontier approach (SFA), the average cost efficiency scores for these countries range from 0.7922 to 0.8108 and the average profit efficiency scores range from 0.3009 to 0.3385. The study analyzes three dimensions of diversification: asset, funding, and income. The regression results indicate that more income-diversified banks have lower cost efficiency while more asset-diversified banks have only lower persistent cost efficiency. More funding-diversified banks enjoy higher profit efficiency, while more asset-diversified banks enjoy only higher persistent profit efficiency. Funding-diversified banks with majority government ownership demonstrate higher cost efficiency but lower profit efficiency than other banks, while both funding and asset diversification make foreign banks less profit efficient.

1. Introduction

A robust banking system is essential for countries, and particularly developing countries, to achieve sustainable economic growth (Levin, 1997). An efficient banking system can provide low-cost monetary payments and effectively mobilize and allocate funds to encourage investments and savings. To achieve those capacities, governments of developing countries have significantly liberalized financial markets and reformed financial sectors.

Because of their importance not only for bankers and bank stakeholders but also for economic systems, banks' business models assume a critical role. Researchers have extensively discussed whether banks should diversify across different products, assets, and sources of funding, or whether they should specialize instead (Berger, Hasan, & Zhou, 2010). One argument suggests that diversification helps banks gain economies of scope by spreading fixed costs over different products (Laeven & Levine, 2007), bringing management abilities and skills to bear on different products and markets (Iskandar-Datta & McLaughlin, 2007), reducing the risk of bankruptcy (Berger et al., 2010), and acquiring in advance the skills to make efficient business decisions in new areas (Elsas, Hackethal, & Holzhauser, 2010). In contrast, another argument holds that diversification increases agency problems between corporate insiders and small shareholders (Laeven & Levine, 2007), dilutes the comparative advantages of bank management by making managers operate outside their expertise (Klein & Saidenberg, 1998), increases the volatility of revenue and therefore profit (Berger et al., 2010), and can, in an increasingly competitive market, exaggerate costs and consequences for banks that try unsuccessfully to enter a new sector (Winton, 1999).

The literature also provides mixed empirical evidence. Furthermore, empirical studies have mainly been based on developed markets, such as the United States and the European Union (Acharya, Hasan, & Saunders, 2006; Baele, Jonghe, & Vennet, 2007; Curi, Lozano-Vivas, & Zelenyuk, 2015; Elsas et al., 2010; Mercieca, Schaeck, & Wolfe, 2007; Rossi, Schwaiger, & Winkler, 2009; Stiroh & Rumble, 2006). Very little research has focused on developing markets, such as Brazil (Tabak, Fazio, & Cajueiro, 2011), China (Berger

E-mail address: nguyenlamanh@hvnh.edu.vn.

https://doi.org/10.1016/j.gfj.2018.04.004
Received 25 September 2017; Received in revised form 6 April 2018; Accepted 9 April 2018
Available online 11 April 2018

et al., 2010), or the Philippines (Meslier, Tacneng, & Tarazi, 2014). While numerous studies have explored the determinants of ASEAN bank performance, very few of them have examined the impact of diversification on bank performance.

This paper focuses on the ASEAN region because banking sectors there are currently subject to forces that favor both diversification and specialization. The banking systems of different ASEAN countries are diverse, with different models and paces of development. Some are undergoing consolidation processes aiming to reduce the number of banks, as in Indonesia (aiming to decrease from over 120 banks to 70 before 2020) or Vietnam (from 37 banks to 20 before 2020). Others have just completed the consolidation process and are focusing mainly on tightening bank regulations, such as Thailand and Malaysia, both of which completed their bank consolidations in 2010. In Cambodia, the banking system is in the development and expansion stages, but regulators there are also focusing on tightening regulations to ensure the soundness of their banking system. Consolidation and restructuring reduce the number of banks mainly through mergers and acquisitions. Since the banks created after mergers and acquisitions are normally larger and more complex than premerger banks, they tend to be more diversified, and bank supervisors also tend to encourage diversification to reduce risk. On the other hand, tightening regulations, particularly restrictions that limit banks' participation in investment or insurance, makes banks more focused. Hence, research on the optimal bank business model in ASEAN countries is highly useful from both managerial and regulatory perspectives. Given the purpose of this study and the availability of data, banks from the following six ASEAN countries are included in the sample: Vietnam, Cambodia, Indonesia, Malaysia, the Philippines, and Thailand.

This paper examines three dimensions of bank diversification—asset, funding, and income—and measures both cost and profit efficiency using the stochastic frontier approach (SFA). I explore the impact of diversification on bank efficiency through fixed-effects panel regressions. I also carry out a robustness test to control for the potential endogeneity problem, as diversification is likely a choice made by the banks themselves.

The efficiency concept used in this paper is economic efficiency, which refers to the ability of a bank to minimize its costs (cost efficiency) or maximize its profits (profit efficiency). To investigate the causes of bank inefficiency, I separate each efficiency term into persistent (long-term) and time-varying (short-term) components, and explore how diversification affects efficiency in the long and the short terms. To determine the persistent and time-varying economic efficiency of ASEAN banks, I use Kumbhakar, Lien, and Hardaker's (2014) SFA model.

In summary, this study contributes to existing literature in the following ways. First, it attempts to fill the gap regarding the effect of bank diversification on performance in developing countries. Second, it examines the impact of diversification on both long-term and short-term efficiency. Third, it presents evidence of the mitigating effects of foreign ownership and government ownership in ASEAN countries. Hence, the results of this paper may not only help to identify the optimal business models for ASEAN banks but also provide useful suggestions to policy makers and bank supervisors.

The remainder of this paper is structured as follows. Section 2 discusses theories that explain the relationship between diversification and bank performance, and summarizes the empirical evidence and diversification experience in six ASEAN countries. Subsequently, Section 3 presents the methods, data, and descriptive statistics. Section 4 reports the results of diversification and efficiency estimations and the regression analysis of diversification as the determinant of bank efficiency in ASEAN countries. Finally, Section 5 concludes the paper.

2. Literature review

2.1. Theoretical arguments

One of the most important arguments about the benefits of diversification for bank performance is that it leads to economies of scope. Unlike many firms from other sectors, banks have a tendency to maintain long-term contractual relationships with their clients (Elsas et al., 2010). Hence, over time, banks can acquire information about their customers as they provide services, and then reuse that information in providing additional services. For example, during the loan-making process banks can gather information that may then assist them in other financial services, such as the underwriting of securities or insurance (Diamond, 1991; Rajan, 1992; Stein, 2002). In return, the information gained from engaging in securities and insurance underwriting could later be used to improve loan making. Also, Iskandar-Datta and McLaughlin (2007) suggest that diversified banks can benefit from applying managerial abilities and skills across different products and markets.

Boot and Schmeits (2000) point out that by spreading their operations across various products or markets, diversified banks can reduce their risk of bankruptcy. The authors argue that different business activities involve different degrees of risk-taking. Hence, if different business activities are integrated in one firm, the pooled funding cost of the firm only partially represents the risk characteristic of each activity, which means that the business activities coinsure each other. This results in more predictable returns for the firm and a lower possibility of default.

Furthermore, business diversification is one of the strategies that banks use to deal with uncertainty, and it might help to improve their future performance (Boot, 2003; Elsas et al., 2010). As Elsas et al. (2010) mention, technological progress and deregulation trigger dramatic changes in banking industries. Hence, if banks extend their activities to other business areas early, they can acquire the necessary skills required to make efficient business decisions in these new areas. Eventually, when a particular business area flourishes, banks will then be ready to compete and enjoy additional profits. In other words, this line of argument views diversification as a skill-building investment that could help banks to seize future opportunities to create added value for their shareholders.

One of the most important disadvantages of bank diversification for performance is the increase in agency problems between corporate insiders and small shareholders, which might adversely impact the market's valuation of the firm. According to Laeven and Levine (2007), the more diversified the firm is, the more difficult it is to design efficient managerial incentive contracts, which in turn