Efficiency, growth and market power in the banking industry: New approach to efficient structure hypothesis

Habib Hussain Khan\textsuperscript{a}, Ali M. Kutan\textsuperscript{b,*}, Iram Naz\textsuperscript{c}, Fiza Qureshi\textsuperscript{d}

\textsuperscript{a}Faculty of Business & Accountancy, University of Malaya, Malaysia
\textsuperscript{b}Department of Economics and Finance, Southern Illinois University Edwardsville, USA
\textsuperscript{c}Faculty of Management Sciences, Capital University of Science and Technology, Islamabad, Pakistan
\textsuperscript{d}Institute of Business Administration, University of Sindh, Jamshoro, Pakistan

\textbf{Article Info}

\textbf{Article history:}
Received 10 April 2017
Received in revised form 2 August 2017
Accepted 14 August 2017

\textbf{JEL classification:}
G01
G21
G28

\textbf{Keywords:}
Efficient structure hypothesis
Cost efficiency
Bank growth
Bank concentration
Data Envelopment Analysis

\textbf{A B S T R A C T}

We extend the work of Homma, Tsutsui, and Uchida (2014) to provide empirical evidence on nexus of relationships in efficient structure (ES) hypothesis. In this framework, we test causality from cost efficiency to bank growth and then from bank growth to market concentration. We apply this approach to banking industry in Association of South East Asian (ASEAN) over the period of 1999–2014. The efficiency scores have been estimated by employing Slack Based Measurements Data Envelopment Analysis (SMB DEA). We apply Two-step system Generalized Method of Moments (GMM) and Panel Vector Auto Regression (PVAR) to account for endogeneity in estimation models. The results show that cost efficiency enables the banks to grow and obtain higher market share. The resultant growth then leads to higher market concentration/bank market power. There is also some evidence to support for quiet life (QL) hypothesis. Therefore, both ES and QL hypotheses may coexist in ASEAN banking industry.

\textcopyright 2017 Elsevier Inc. All rights reserved.

\textbf{1. Introduction}

The efficient structure (ES) hypothesis (Demsetz, 1973) suggests that efficient firms grow, obtain higher market share and become larger; consequently, the market becomes more concentrated. The policy implications of ES hypothesis thus follow that the concentrated markets are dominated by efficient firms/banks. Therefore, antitrust policies/anti-concentration measures can bring unwarranted distortions in the market. The traditional approach to test ES hypothesis has not been very convincing. For instance, empirical studies relate firm/bank efficiency to firm/bank performance to test ES hypothesis [see for example (Berger, 1995; Berger & Hannan, 1989; Smirlock, 1985; Smirlock, Gilligan, & Marshall, 1984; Weiss, 1974)]. However, Homma, Tsutsui, and Uchida (2014) argue that ES hypothesis is a composite hypothesis that predicts stages of causal relationships form efficiency to firm growth and then to market structure (concentration/market power). In their study, Homma et al. (2014) test ES hypothesis through a causal relationship from efficiency to firm growth, but they do not test subsequent causal relationship from growth to market structure.

* Corresponding author.

\textsuperscript{*} E-mail addresses: habib.suduzai@gmail.com (H.H. Khan), akutan@siue.edu (A.M. Kutan), iram_iuii@live.com (I. Naz), f.qureshi83@gmail.com (F. Qureshi).

http://dx.doi.org/10.1016/j.najef.2017.08.004
1062-9408/© 2017 Elsevier Inc. All rights reserved.
In this study, we extend the work of Homma et al. (2014) and test ES hypothesis considering all relationships in efficiency-growth-market structure nexus. Unlike earlier literature, we examine the causality from efficiency to growth and then from growth to market structure. In comparison to the methodology employed by existing studies, this is more direct approach to test ES hypothesis. We apply the proposed methodology to commercial banks in Association of South East Asian (ASEAN) region over the period of 1999–2014. In doing so, we also apply a non-structural measure of market structure i.e. Hirschman Herfindahl Index (HHI) and Concentration Ratio (CR). Application of Lerner Index enables us to overcome the criticism on use of traditional concentration indices for their inability to assess the level of competition.

Our study contributes to banking literature in several ways. First, although, this new test was proposed by Homma et al. (2014), our study is first to put complete set of relations into practice using empirical data. Second, we consider the ASEAN economies where the banking industry is moving towards more concentration. For instance, bank concentration in ASEAN – as represented by five bank concentration ratio (CR5) and Hirschman Herfindahl Index (HHI), increased from 0.55 and 0.11 in 1999 to 0.82 and 0.23 in 2014. Similarly, the bank profitability – as represented by return on assets (ROA) and return on equity (ROE) increased from 4% and 9% in 1999 to 17% and 14% respectively in 2014. These developments have important implication for policy makers in context of market structure-efficiency relationship. The results from empirical analysis show that efficiency enables the banks to grow and obtain higher market share. The resultant growth in banks’ loans, assets, and deposits leads to higher concentration/market power. The results are robust to alternative measures of growth and market structure variables and the estimation techniques. We also find some support for coexistence of efficient structure and quiet life hypothesis.

Rest of the study is structured as follows: Section 2 discusses the methodological issues in literature concerning ES hypothesis. Section 3 outlines the methodology and construction econometric model for analysis of ES hypothesis. Section 4 reports the estimation results and their discussion. Finally, Section 5 concludes the study with discussion on policy implications and direction for future research.

2. Literature review

The ES hypothesis is considered as alternative to the structure conduct performance (SCP) hypothesis which suggests that concentration of market share promotes collusive behavior among market players and allows them to earn abnormal profits through monopoly pricing. Although, both SCP and ES predict a positive relationship between concentration and profitability, the underlying mechanism is different under these hypotheses. Accordingly, both SCP and ES recommend contradictory policy measures. For instance, the SCP hypothesis favors antitrust/anti-concentration policies, whereas, the ES hypothesis suggests that such policies may bring inefficiency in the market. The empirical studies on ES are not separable from those on SCP because most of the time they are tested simultaneously. Therefore, most of these studies correspond to both SCP and ES hypotheses. In this section, we review some relevant literature with focus on methodology applied to test ES hypothesis.

Earlier studies directly regress profitability measures on market share along with concentration to test ES and SCP hypothesis. In these studies, market share is considered as proxy for relative efficiency of firms. If market share has positive effect on firms’ profit, it supports the ES hypothesis but if market concentration is positively related to firms’ profit, the SCP hypothesis is supported (Berger, 1995; Berger & Hannan, 1989; Smirlock, 1985; Smirlock et al., 1984; Weiss, 1974). Subsequently, a large number of studies applied a similar methodology to test ES and SCP hypotheses and found mixed evidence. Although this approach is simple and easy to apply, it has some technical drawbacks. For instance, market share as an indicator of relative efficiency is not logical. Moreover, it is very uncertain that relationship between market share and profitability actually supports ES hypothesis. In this regard, a very influential article by Demsetz (1973) suggests that correlation between market concentration/market share and profitability is not enough evidence to support either ES or SCP hypothesis. Moreover, Shepherd (1986) argues that market share can be an indicator of market power and if it is related to profitability then it supports SCP instead of ES hypothesis.

Another approach is proposed by Berger and Hannan (1989) who use interest rate paid on deposits instead of profitability to test SCP and ES hypotheses. The argument is that, the relationship between market concentration and profit is similar (positive) for SCP and ES. Nonetheless, the SCP and the ES differ in their implications regarding concentration-price relationship. For instance, the SCP hypothesis predicts that firms in a concentrated market have higher monopoly power and they can set higher prices. On the other hand, the ES hypothesis suggests that efficient firms dominate the concentrated market.
دریافت فوری

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