Chapter 5
Technical Efficiency of Banks in Southeast Asia

E. Dogan and D.K. Fausten

5.1 Introduction

National financial systems, and banking sectors in particular, assume increasing importance and fluidity with the progress of economic development and the increase in economic openness. This notwithstanding, attempts to measure and formally monitor the performance of the banking sector have largely been confined to western developed economies. As a result, little concrete empirical information and evidence is available about banking productivity and efficiency in non-western countries. Accordingly, the aim of the present investigation is to start filling the gap left by non-industrialized countries in the empirical literature of efficiency studies of banking.

The paper examines the evolution and the contemporary state of bank efficiency in major developing economies of Southeast Asia – Indonesia, Malaysia, Philippines, and Thailand – over the period 2001–2005. During this period, the banking sectors of the sampled countries were involved in a process of restructuring that was often guided or even mandated by the respective governments. For example, the Indonesian government pursued a policy of consolidation, reducing the number of licensed banks by more than 40% (from 238 in 1997 to 134 by the end of 2004) during the sampled period. In Malaysia, the number of banks was reduced by 31%, from 36 in 1997 to 25 in 2004. In the Philippines, consolidation reduced the number of banks from 52 to 44, and in Thailand, from 16 to 12 during the period 1997–2004 (Gosh 2006, pp. 63–65). At the same time, an increase in cross-border mergers, i.e., mergers involving foreign firms, exposed the domestic banking sectors to greater competition from abroad (Deloitte-Touche 2005).

Consolidation does not necessarily improve efficiency in banking. For industrialised countries, there is no robust evidence of large value or efficiency gains from bank M&As (Pilloff and Santomero 1998; Dymski 2002). Most cost X-efficiency
studies of M&As completed by US banks during the 1980s find little or no improvement (Berger et al. 1999). This assessment is reinforced by more recent investigations (Peristiani 1997, DeYoung 1997, Rhoades 1998). However, Houston et al. (2001) find evidence of improvement in operating performance of banks, while Akhavein et al. (1997) observe gains in profit X-efficiency, which they attribute to enhanced opportunities for risk diversification. Evidence from Europe (Amel et al. 2004; Lang and Welzel 1999) and Australia (Ralston et al. 2001) is consistent with these US findings.

Consolidation of banks, ceteris paribus, inevitably changes the competitive structure of the banking sector with potential consequences on the efficiency of operation. As banks combine, the number of players diminishes and concentration increases. One consequence of such consolidation is that the managers of the newly enlarged companies operate in a less competitive environment. This environment weakens the incentives to reduce costs and increase efficiency compared to more competitive conditions (Williams and Nguyen 2005). On the other hand, consolidation may introduce greater foreign competition into the domestic market since it involves cross-border institutions.

Changes in the governance structure of banks may also affect efficiency by increasing or reducing agency problems. For instance, changes in ownership structure resulting, for instance, from moving family-owned banks into public ownership will create different sets of agency problems that may change the overall efficiency of operation. By the same token, different forms of public ownership may affect efficiency. For example, foreign banks may be more efficient than domestic banks which, in turn, may be more efficient than state-owned banks.

The present study measures bank performance by employing Data Envelopment Analysis (DEA). The nature and robustness of the DEA results are evaluated with bootstrapping methods. To our knowledge, these methods have not been applied in the context of developing countries in Asia. Our methodology of estimating efficiency and bootstrapping is explained in the following section. Data issues are discussed in Sect. 5.3, results are presented in Sect. 5.4, and policy implications in Sect. 5.5. Section 5.6 concludes the paper.

5.2 Methodology

We follow Simar and Wilson (1998 2000a, b) in using DEA together with the bootstrapping methodology. The methodology is demonstrated by Shephard output distance functions that compare actual performance to best practice in the industry (Shephard 1970). Industry best-practice is the empirical approximation of potential optimum output to which the individual firm performance can be compared. Specifically, we estimate an efficiency indicator for each bank by measuring the distance of its location in input–output space from the best practice position. This distance can be measured as the actual relative to the optimum position (in Fig. 5.1, this distance is equal to ab/ad assuming the true technology is known).