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Financial liberalization and bank efficiency: a comparative analysis of India and Pakistan

Ali Ataulah *, Tony Cockerill & Hang Le

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Abstract

This paper provides a comparative analysis of the evolution of the technical efficiency of commercial banks in India and Pakistan during 1988–1998, a period characterized by far-reaching changes in the banking industry brought about by financial liberalization. Data Envelopment Analysis is applied to two alternative input-output specifications to measure technical efficiency, and to decompose technical efficiency into its two components, pure technical efficiency and scale efficiency. The consistency of the estimated efficiency scores are checked by examining their relationship with three traditional non-frontier measures of bank performance. In addition, the relationship between bank size and technical efficiency is examined. It is found that the overall technical efficiency of the banking industry of both countries improved gradually over the years, especially after 1995. Unlike public sector banks in India, public sector banks in Pakistan witnessed improvement in scale efficiency only. It is also found that banks

are relatively more efficient in generating earning assets than in generating income. This is attributed to the presence of high non-performing loans. In addition, it is found that the gap between the pure technical efficiency of different size groups has declined over the years.

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Helpful comments by Canan Yildirim and the participants of the 4th Annual International Economics and Finance Society Conference, London 2003, are gratefully acknowledged. The usual disclaimer applies.

Notes

See Fry ([1995](#)) for changes in the financial sector in developing countries after the implementation of financial liberalization programmes.

During the sample period used in this study, the legislative changes in India allowed public sector banks to tap the capital market to the extent of 49% of their total capital (see Bhide et al., [2002](#)). In Pakistan in contrast, a major portion of two public sector banks, Muslim Commercial Bank and Allied Bank of Pakistan, was sold to private investors (see SBP, [2000](#)).

Parametric techniques are: Stochastic Frontier Approach, Distribution Free Approach, and Thick Frontier Approach. Non-parametric approaches are: Data Envelopment Analysis, and Free Disposal Hull (see Bauer et al., [1998](#)).

In the case of banks, there is no agreement on the inputs and outputs. This disagreement is due to dual nature of some of the services that banks provide. For example, bank deposits can be regarded as banks' inputs as they are the main inputs for loan production. On the other hand, high value added deposits, like integrated saving and checking accounts, can be regarded as banks' outputs. See, for example, Berger and Humphrey ([1997](#)) for various approaches to specify banks' inputs and outputs, especially the 'intermediation approach' and the 'production approach'.

For DEA estimation, we use DEAP 2.1 is used, developed by Tim Coelli of the University of New England, Australia.

This is especially the case for the commercial banks in developing countries where, unlike in developed countries, fee income is very low for commercial banks, and banks rely on traditional loans and government securities for income.

Another possible explanation for this gap between the efficiency scores obtained from the two models could be that banks transferred the benefits of improvement in their efficiency to their customers because though banks produced more loans, advances and investments (i.e. intermediated more funds) with given inputs, they did not extract more income from this intermediation process. However, increasing interest margins in both the countries, coupled with constant criticism in the domestic media about the quality of customer services provided by banks, especially public sector banks, may cast some doubt on this interpretation.

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