

The X-Efficiency of Commercial Banks in Hong Kong

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Summary

This paper uses the stochastic econometric cost frontier approach to investigate the cost efficiency of multi-branch banks operating in Hong Kong using quarterly data from 1992 through 1999. Based on pooled time-series cross-section estimation, the average X-efficiency of Hong Kong banks is found to be about 16 to 30 per cent of observed total costs. On the time-series dimension, X-efficiency is found to decline over the sampling period, indicating that banks in Hong Kong are now operating closer to the cost frontier than before. This is consistent with the existence of technological innovation in banking during the sampling period. X-efficiency is found to edge up following the Asian financial crisis, perhaps because banks were spending additional resources to deal with the mounting bad loan problem when outputs fell simultaneously. Cross-sectionally, X-efficiency is found to skew to the left, indicating that there are more banks that are relatively efficient than inefficient. As a whole, the average large bank is found to be less efficient than the average small bank, particularly during the earlier time periods.

In addition to documenting the X-efficiency of Hong Kong banks, this paper also studied the relation between X-efficiency and certain bank characteristics. *Ceteris paribus*, X-efficiency is found to decline with bank size, deposit-to-asset ratio, loan-to-asset ratios, provision for loan loss, and loan growth, but to increase with off-balance sheet activities. The results suggest the following. After controlling for certain on- and off-balance sheet characteristics and growth, bigger banks are found to be more efficient than smaller banks. Banks that make more loans, and banks that gather more deposits tend to be more efficient. Not surprisingly, efficient banks are found to grow faster than inefficient banks. However, banks with higher loan loss provisions also are found to be more cost-efficient. The reason for this may be that bad loans are cheaper to produce, but at the expense of lower profits. Finally, more off-balance sheet activities are found to be associated with higher level of inefficiencies, in part because off-balance sheet products were not included in the output definition and therefore biased the output measure downward.