

X-Efficiency Revisited: Its Concept and Measurement in Commercial Banking Institutions

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The article seeks to measure X-efficiency among India's nationalised commercial banks. It first examines the suitability of existing tools and techniques to measure Leibenstein's concept of X-efficiency. Having identified the weakness of available methodologies, the study proceeds to develop a new one based on two-stage least square method which belongs to the so-called Econometric Frontier Approach (EFA). We claim that this methodology recognises all facets of Leibenstein's original sense of the term. For India's commercial banks, the major findings are: (1) the variant component of X-efficiency is statistically more significant than its invariant part; (2) the efficiency of 13 banks have improved and that of the rest 14 have deteriorated during the study period; (3) the variant component of X-efficiency is found as low as 25-40 per cent for 17 banks and 40-50 per cent for nine banks and (4) the overall X-efficiency among the banks are more disappointing, it clusters in the range of 25-37 per cent for all but one.

Leibenstein's (1966) concept of X-efficiency is grossly misunderstood in the rapidly growing banks' performance analysis literature. Controversy prevails in the definition X-efficiency as well as in its measurement. According to Button and Weyman-Jones (1992, p. 144), "The efficiency literature contains two broad themes. On the one hand, there is a focus on measurement, in which some enormous advances on technique have been made recently. On the other hand, there is the explanation of cause and effect for which Harvey Leibenstein was the pioneering spirit. What is missing, at present, is a serious effort by investigators of efficiency measurement to relate their choice of sample or experimental design to tackling the issues raised by Leibenstein." In this background, the present article addresses itself, firstly, to show that the existing methodologies can not suitably capture Leibenstein's concept for X-efficiency, and secondly, to formulate a measurement methodology of X-efficiency in line with what Leibenstein has originally conceived of the term. The article is organized as follows. Part I describes Leibenstein's concept of X-efficiency and contrasts it with its various definitions that have been used in the literature. Part II intends to develop a suitable methodology for the measurement of X-efficiency. The methodology is applied for the efficiency measurement of Indian public sector banks in Part III. Part IV summarises the major findings of the study by way of conclusion.

I Concept of X-efficiency and Contrasts it with Various Definitions

Leibenstein (1966) has identified three broad sources of X-efficiency, each concerning about certain 'human' aspect of an organization. A firm may adopt certain internal policies like motivation that infuse better work culture among workers, and increase their efficiency. This source of X-efficiency is called intra-plant motivational efficiency.

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