Intellectual property rights and information technology industry development

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Abstract

We adopt two DEA methods, including the BCC and SBM Super-Efficiency methods, to investigate whether a patent is an important factor in the development of the information technology (IT) industry of Taiwan. The data consists of 24 Taiwanese IT sub-industries covering the period 2002 to 2003. Our empirical results show that (1) A patent is an influential factor in evaluating the efficiency of the IT industry. (2) The average efficiency scores of the IT sub-industries with high royalty fees are significantly higher than those with lower royalty fees. (3) Based on the non-radial and slacks-based Malmquist TFP index, we find that the productivity of Taiwan’s IT industry has increased and that technical change has improved during the data period.

Keywords and phrases : Intellectual property rights, information technology industry, efficiency, DEA, Malmquist TFP index.

1. Introduction

The information technology (IT) industry is an important sector in many countries, representing a significant component of their gross domestic product. However, regardless of the size of the sector as compared with other sectors, the IT industry is important in terms of increasing the efficiency and productivity of technology. In general that benefits all of

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