A PRODUCTION FUNCTION FOR CRICKET: THE SOUTH AFRICAN PERSPECTIVE

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Abstract

Production functions are common to any productive activity. Although it may not appear obvious, cricket is no different. Production functions in cricket provide a wide range of information, utilised to enhance efficiency and maximize match success. Given these benefits, this study involved the derivation of a production function for the South African SuperSport Series and an analysis of technical efficiency. An econometric analysis was conducted on data from the 2004-2011 cricket seasons and it was concluded that the most optimal strategy for South African teams involved a combination of attacking batting and defensive bowling. Furthermore, South African teams had a relatively low variable substitutability and a high degree of technical efficiency.

1. Introduction

The production function in a microeconomic perspective can be understood as the relationship between input flows and the resultant output flows (FAO Document Repository, 2011). Production functions are illustrative of the marginal productivity of each input variable. Once developed, a production function allows one to view any trends that create a causal link between inputs employed and the resultant outcome. They are useful to examine the incremental changes in input that will result in a change in output and, possibly more importantly, allow one to decipher the quantity of which inputs will result in a positive change in output such that the optimal result is achieved. Furthermore, production functions are illustrative of the combination of input variables that are needed for efficiency maximisation and they are common to all productive activities (Zech, 1981:19).

Although it may not appear obvious, the sporting context is no exception. Sports matches, like any productive activity, are comprised of some inputs, a transformation process, and finally an output. The inputs into such a production function include variables such as: the team's performance, weather conditions, match strategies as well as other such variables that may impact the outcome of the game. These variables need to be considered as they appear over the full duration of

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