

CHANCE-CONSTRAINED APPROACH TO HEALTHCARE PERFORMANCE

*Yong Joo Lee, Department of Finance and Supply Chain Management, Central Washington University,
Ellensburg, WA 98926, yongjoo.lee@cwu.edu*

ABSTRACT

The interest of our study lies on understanding the overall operational efficiency of health care providers through concocting varied components of cost, quality, or human resources, which are directly or indirectly tied to the operational structure of individual hospitals. To accomplish the aim our study, we employ DEA (Data Envelopment Analysis) technique since DEA is a well-known mathematical method that takes into many variables into consideration to calculate the productivity ratio of respective measurement units. However, our study goes beyond the scope of merely applying pure DEA method; we incorporate chance-constrained approach with the method, which reveals the stochastic feature of firms' performance. Ultimately, we will contrast the deterministic feature of performance measurement from the traditional DEA method and probabilistic side of performance measurement from the chance-constrained model. The result showed that the average productivity scores are significantly different between the two methods.