

Prof. Dr. Stefan Felder

Otto-von-Guericke University Magdeburg

stefan.felder@ismhe.de

“The variance of the length of stay and the optimal DRG outlier payments”

Abstract:

Prospective payment schemes in health care generally include supply-side insurance for cost outliers. In DRG systems, the outlier scheme fixes a length of stay (LOS) threshold, constraining the risk for the provider. According to general DRG rules, this threshold increases with the standard deviation of the LOS distribution. The present paper addresses the adequacy of this DRG rule for risk-averse hospitals with preferences depending on expected profits and its variance.

It first proves that the optimal threshold i) decreases with an increase in the hospital's degree of risk aversion and ii) increases with an increase in the loading factor of the insurance premium. It then shows that for normally distributed LOS the optimal threshold c.p. decreases with an increase of the standard deviation. The intuition for this result is that a higher variance increases the hospital's profit risk, which in turn implies that the hospital wants to insure a larger part of the LOS distribution.