

ESTIMATES OF SCHOOL PRODUCTIVITY AND IMPLICATIONS FOR POLICY

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ABSTRACT

School productivity was not perfectly estimated because of the sampling error and the measurement error. The traditional Ordinary Least Square (OLS) leaves the estimation of school productivity questionable. Moreover, Hierarchical Linear Model (HLM) encounters a large proportion of the variance unexplained in the level-1 equation. In the paper, I will first introduce the Kalman Filter (KF) algorithm together with the Bayesian random draw mechanism to simulate the accurate school effects, and then compare the simulated results with the estimates generated from OLS and HLM. The comparison of the school effects will conclude that the Kalman Filter is more reliable and accurate for the educators and school administrators to supervise the allocation of the school resources for school improvement.