

0081

Uncertainty in school league tables

George Leckie, Harvey Goldstein

University of Bristol, Bristol, United Kingdom

Background

Secondary school league tables of schools' GCSE performances are published annually in England by the Department for Children, Schools and Families (DCSF). A principal aim of publishing these tables is to help parents choose a school for their children who are about to enter secondary education. However, these children will only take their GCSE examinations five years later when they complete their secondary education and so the current performances of schools are being implicitly promoted as an accurate guide to their future performances. But schools' performances change over time and so their current performances will be an uncertain guide.

Research Questions

In this research, we focus on the extent to which the uncertainty of schools' future performances limits the usefulness of league tables as guides to school choice. Specifically, we ask: to what extent does the precision with which we can distinguish between schools' performances decrease when we account for the uncertainty in predicting schools' future performances from their current performances?

Methods

Currently the DCSF publish two types of league table: (1) The traditional league table: and (2) The Contextual Value Added (CVA) league tables. The Traditional league table reports the percentage of children in each school who achieve five or more good GCSE grades. In terms of measuring the effectiveness or quality of schools, it is well known that these tables are fundamentally flawed as they make no recognition of the differences between schools' intakes in terms of the prior achievement and other characteristics of their pupils. The DCSF introduced the CVA league table in 2007 in response to this and other criticisms made by the school effectiveness literature. In the CVA league table, schools' current performances are estimated from a random effects (multilevel) model which adjusts for prior achievement and other differences between schools' intakes and so leads to fairer and more meaningful comparisons between schools. However, common to both the traditional and CVA league tables is that neither recognises the instability in schools' performances over time and so both will overstate the precision with which schools' predicted future performances can be distinguished from one another. This problem has not been recognised by the DCSF and has not been discussed in the school effectiveness literature.

Frame

This paper uses an empirical analysis of the National Pupil Database to investigate the extent to which the uncertainty of schools' future performances limits the usefulness of league tables as guides to school choice. Specifically, the paper compares schools' predicted future CVA performances based on the DCSF random effects model with those based on our extended version which explicitly incorporates the prediction uncertainty.

Research findings

We find that, when the uncertainty that arises from predicting schools' future performances is taken into account, the comparison of schools becomes so imprecise that only a handful of schools can be separated from one another with an acceptable degree of precision. Relying on league tables to inform school choice will therefore lead to highly misleading judgments. We argue that publishing

league tables to inform parental choice is a meaningless exercise, as parents are using a tool which is not fit for that purpose.