

ARE FIXED EFFECTS FIXED?

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September 1997

Abstract

In attempts to overcome the problem of omitted variables, the assumption of fixed effects is widely implemented when working with panel data. This paper examines the validity of this technique, in the context of estimating a production function using panels of US textile plants. The hypothesis of fixed effects is tested by estimating a more flexible functional form for the error term's components than is found in the literature. It is shown that what looks like a "fixed effect" is actually decaying slowly — the "fixed effects" have a half-life of approximately 10 to 20 years. A reasonable example is constructed to illustrate that the fixed effect estimates can actually have a larger asymptotic bias than the OLS estimates, even if the "fixed effects" are nearly fixed.

Key words: fixed effects, plant-level productivity, textile industry.

JEL Classification: C23, D24.

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