

On Choosing Among House Price Index Methodologies

Bradford Case, Henry O. Pollakowski** and Susan M. Wachter****

This paper compares housing price indices estimated using three models with several sets of property transaction data. The commonly used hedonic price model suffers from potential specification bias and inefficiency, while the weighted repeat-sales model presents potentially more serious bias and inefficiency problems. A hybrid model combining hedonic and repeat-sales equations avoids most of these sources of bias and inefficiency. This paper evaluates the performance of each type of model using a particularly rich local housing market database. The results, though ambiguous, appear to confirm the problems with the repeat sales model but suggest that systematic differences between repeat-transacting and single-transacting properties lead to bias in the hedonic and hybrid models as well.

INTRODUCTION

Hedonic and repeat-sale methodologies are commonly used to construct constant-quality housing price indexes.¹ To examine bias and efficiency issues, this paper constructs and compares indexes produced by these methods and a combined third approach, using a large local housing market database.

*ICF, Inc., 9300 Lee Highway, Fairfax, Virginia 22031-1207.

**Harvard University, Joint Center for Housing Studies, 79 John F. Kennedy Street, Cambridge, Massachusetts 02138.

***The University of Pennsylvania, Wharton Real Estate Unit, Third Floor, Lauder-Fischer Hall, 256 South 37th Street, Philadelphia, Pennsylvania 19104-6330.

Date Received: June 15, 1991; Revised: September 15, 1991.

¹See, for example, Case and Shiller [3], [4], Clapp and Giaccotto [5], Mark and Goldberg [10], Palmquist [11], Pollakowski and Wachter [14] and Shiller [15].