

[Home](#) > [The Journal of Real Estate Finance and Economics](#) > [Article](#)

An Empirical Study of Sample-Selection Bias in Indices of Commercial Real Estate

Published: July 2000

Volume 21, pages 45–64 (2000) [Cite this article](#)[Save article](#)[View saved research](#) >

[The Journal of Real Estate Finance and Economics](#)

[Aims and scope](#) →[Submit manuscript](#) →[Henry J. Munneke¹](#) & [Barrett A. Slade²](#)[397](#) Accesses [61](#) Citations [Explore all metrics](#) →

Abstract

Real estate price indices based solely on samples of sold properties may not accurately represent the population of properties due to potential sample-selection bias. This study addresses this potential for sample-selection bias in the construction of commercial price indices within the context of the Phoenix area office market. The empirical analysis confirms the presence of sample-selection bias in the estimation of the total price equation. However, within this sample, the price indices generated after correcting for sample-selection bias do not appear significantly different from those that do not consider selectivity bias.



Access this article

[Log in via an institution](#) →

Subscribe and save

✓ Springer+

from €37.37 /Month

- Starting from 10 chapters or articles per month
- Access and download chapters and articles from more than 300k books and 2,500 journals
- Cancel anytime

[View plans](#) →

Buy Now

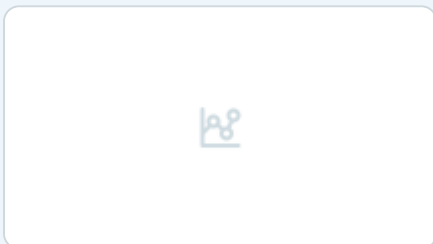
[Buy article PDF 39,95 €](#)

Price includes VAT (Poland)

Instant access to the full article PDF.

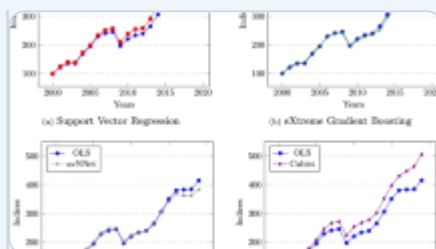
[Institutional subscriptions](#) →

Similar content being viewed by others



[Search Costs, Behavioral Biases, and Information Intermediary Effects](#)

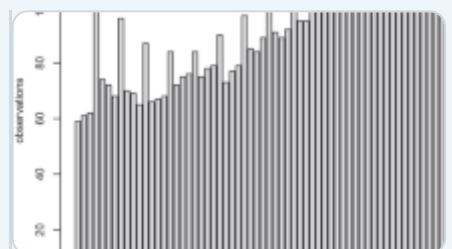
Article | 30 September 2016



[A Machine Learning Approach to Price Indices: Applications in Commercial Real Estate](#)

Article | Open access

09 April 2022



[Estimating Commercial Property Fundamentals from REIT data](#)

Article | 02 October 2023

Explore related subjects

Discover the latest articles, books and news in related subjects, suggested using machine learning.

[Economic Psychology](#)

[Econometrics](#)

[Market Psychology](#)

[Microeconomics](#)

[Quantitative Economics](#)

[Real Estate Economics](#)

References

Bryan, T., and P. Colwell. (1982). "Housing Price Indexes," C. F. Sirmans, (ed.), *Research in Real Estate* (vol. 2, pp. 57-84).

Case, B., H. Pollakowski, and S. Wachter. (1991). "On Choosing Among House Price Index Methodologies," *AREUEA Journal* 19(3), 286-307.

Clapp, J., and C. Giaccotto. (1995). "Which Real Estate Price Index Is Right for Mortgage-backed Securities?" *Real Estate Finance* 12(2), 41-47.

Colwell, P., and H. Munneke. (1997). "The Structure of Urban Land Prices," *Journal of Urban Economics* 41(3), 321-336.

Colwell, P., and H. Munneke. (1999). "Land Prices and Land Assembly in the CBD," *Journal of Real Estate Finance and Economics* 18(2), 163-180.

Colwell, P., H. Munneke, and J. W. Trefzger. (1998). "Chicago's Office Market: Price Indices, Location, and Time," *Real Estate Economics* 26(1), 83-106.

Colwell, P., and C. F. Sirmans. (1978). "Area, Time Centrality, and the Value of Urban Land," *Land Economics* 54(4), 514-519.

Colwell, P., and C. F. Sirmans. (1980). "Nonlinear Urban Land Prices," *Urban Geography* 1, 141-152.

Downs, A. (1992). "Who's Running U.S. Banks Anyway?" *National Real Estate Investor* 34(6), 22-24.

Downs, D., and B. Slade. (1999). "Characteristics of a Full-Disclosure, Transaction-based Index of Commercial Real Estate," *Journal of Real Estate Portfolio Management* 5(1), 95-104.

Fisher, J., D. Geltner, and B. Webb. (1994). "Value Indices of Commercial Real Estate: A Comparison of Index Construction Methods," *Journal of Real Estate Finance and Economics* 9(2), 137-164.

Forgey, F., R. Rutherford, and M. Van Buskirk. (1994). "Effects of Foreclosure Status on Residential Selling Price," *Journal of Real Estate Research* 9(3), 313-318.

Gat, D. (1995). "Optimal Development of a Building Site," *Journal of Real Estate Finance and Economics* 11, 77-84.

Gatzlaff, D., and D. Geltner. (1998). "A Repeat-Sales Transaction-Based Index of Commercial Property." Working Paper.

Gatzlaff, D., and D. Haurin. (1997). "Sample Selection Bias and Repeat-Sales Index Estimates," *Journal of Real Estate Finance and Economics* 14, 33-50.

Gatzlaff, D., and D. Haurin. (1998). "Sample Selection and Biases in Local House Value Indices," *Journal of Urban Economics* 43, 199-222.

- Guilkey, D., M. Miles, and R. Cole. (1989). "The Motivation for Institutional Real Estate Sales and Implications for Asset Class Returns," *AREUEA Journal* 17(1), 70-86.
- Hardin, W., and M. Wolverton. (1996). "The Relationship Between Foreclosure Status and Apartment Price," *Journal of Real Estate Research* 12(1), 101-109.
- Haurin, D., and P. Hendershott. (1991). "House Price Indexes: Issues and Results," *AREUEA Journal* 19(3), 259-269.
- Heckman, J. (1979). "Sample Selection Bias as a Specification Error," *Econometrica* 47(1), 153-161.
- Jud, D., and T. Seaks. (1994). "Sample Selection Bias in Estimating Housing Sales Prices," *Journal Real Estate Research* 9(3), 289-298.
- Lee, L. (1976). "Estimation of Limited Dependent Variable Models by Two Stage Methods," Unpublished paper.
- Lee, L., and R. Trost. (1978). "Estimation of Some Limited Dependent Variable Models with Application to Housing Demand," *Journal of Econometrics* 8, 357-382.
- Linneman, P., and R. Voith. (1991). "Housing Price Functions and Ownership Capitalization Rates," *Journal of Urban Economics* 30, 100-111.
- Maddala, G. S. (1983). *Limited-Dependent and Qualitative Variables in Econometrics*. Cambridge, MA: Cambridge University Press.
- Miles, M., D. Hartzell, D. Guilkey, and D. Shears. (1991). "A Transactions-based

Real Estate Index: Is It Possible?" *Journal of Property Research* 8(3), 203-217.

Palmer, J. (1991). "Great Performers And Bad Actors," *Barron's* (October), 14-15.

Shilling, J., J. Benjamin, and C. F. Sirmans. (1990). "Estimating Net Realizable Value for Distressed Real Estate," *Journal of Real Estate Research* 5(1), 129-140.

Thibodeau, T. (1990). "Estimating the Effect of High-Rise Office Buildings on Residential Property Values," *Land Economics* 66(4), 402-408.

Thorsnes, P., and D. McMillen. (1997). "Land Value and Parcel Size: A Semiparametric Analysis," *Journal of Real Estate Finance and Economics* 17(3), 233-244.

Author information

Authors and Affiliations

Terry College of Business, University of Georgia, Athens, GA, 30602

Henry J. Munneke

Marriott School, Brigham Young University, Provo, Utah, 84602

Barrett A. Slade

Rights and permissions

[Reprints and permissions](#)

About this article

Cite this article

Munneke, H.J., Slade, B.A. An Empirical Study of Sample-Selection Bias in Indices of Commercial Real Estate. *The Journal of Real Estate Finance and Economics* **21**, 45–64 (2000).

<https://doi.org/10.1023/A:1007861303058>

Issue date

July 2000

DOI

<https://doi.org/10.1023/A:1007861303058>

[sample-selection bias](#)

[hedonic price indices](#)

[commercial office property.](#)

Search

Search by keyword or author



Navigation

Find a journal

Publish with us

Track your research