

Irreversible Investment Under Uncertainty: Conservation Easements and the Option to Develop Agricultural Land

Abebayehu Tegene, Keith Wiebe, Betsey Kuhn

First published: 05 November 2008

<https://doi.org/10.1111/j.1477-9552.1999.tb00808.x>



PDF

Abstract

A landowner's decision to convert farmland to urban use is presented as an irreversible investment under uncertainty. This approach improves on conventional approaches to the valuation of conservation easements by incorporating option values. This approach also refines the calculation of compensation potentially due to landowners when use of their land is restricted by government policies to protect the environment.

References

Amin, K. and Capozza, D. (1991). Seemingly Irrational Construction. Unpublished Manuscript, University of Michigan.

[Google Scholar](#)

Arrow, K. and Fisher, A. C. (1974). Environmental Preservation, Uncertainty and Irreversibility, *Quarterly Journal of Economics*, **88**, 312–319.

[Web of Science®](#) | [Google Scholar](#)

This website utilizes technologies such as cookies to enable essential site functionality, as well as for analytics, personalization, and targeted advertising. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

Manage Preferences

Accept All

Reject Non-Essential

[Google Scholar](#)

Capozza, D. and Helsley, R. (1989). The Fundamentals of Land Prices and Urban Growth, *Journal of Urban Economics*, 26, 295–306.

[Web of Science®](#) | [Google Scholar](#)

Capozza, D. and Helsley, R. (1990). The Stochastic City, *Journal of Urban Economics*, 28, 187–203.

[Web of Science®](#) | [Google Scholar](#)

Capozza, D. and Li, Y. (1994). The Intensity and Timing of Investment: The Case of Land, *American Economic Review*, 84, 889–904.

[Web of Science®](#) | [Google Scholar](#)

Capozza, D. and Sick, G. (1994). The Risk Structure of Land Markets, *Journal of Urban Economics*, 35, 297–319.

[Web of Science®](#) | [Google Scholar](#)

Clark, H. R. and Reed, W. J. (1988). A Stochastic Analysis of Land Development Timing and Property Valuation, *Regional Science and Urban Economics*, 18, 357–381.

[Web of Science®](#) | [Google Scholar](#)

Coase, R. (1960). The Problem of Social Cost, *The Journal of Law and Economics*, 3, 1–44.

[Web of Science®](#) | [Google Scholar](#)

Dixit, A. K. (1992). Investment and Hysteresis, *Journal of Economic Perspectives*, 1, 107–132.

[Google Scholar](#)

This website utilizes technologies such as cookies to enable essential site functionality, as well as for analytics, personalization, and targeted advertising. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

Manage Preferences

Accept All

Reject Non-Essential

Gadsby, D., Wiebe, K. and Heimlich, R. (1997). Wetlands Reserve Programmes. AREI Update No. 6, Economic Research Service, Resource Economics Division, US Department of Agriculture, November.

[Google Scholar](#) 

Hanemann, M. W. (1989). Information and the Concept of Option Value, *Journal of Environmental Economics and Management*, 16, 23–37.

[Web of Science®](#)  | [Google Scholar](#) 

Henry, C. (1974). Investment Decisions Under Uncertainty: The Irreversibility Effect, *American Economic Review*, 64, 1006–1012.

[Web of Science®](#)  | [Google Scholar](#) 

Hubbard, R. G. (1994). Investment Under Uncertainty: Keeping One's Options Open, *Journal of Economic Literature*, 4, 1816–1831.

[Google Scholar](#) 

Leonard, P. (1982). Management Agreements: A Tool for Conservation, *Journal of Agricultural Economics*, 33, 351–360.

[Web of Science®](#)  | [Google Scholar](#) 

McDonald, R. and Siegel, D. (1986). The Value of Waiting to Invest, *Quarterly Journal of Economics*, 101, 707–728.

[Web of Science®](#)  | [Google Scholar](#) 

Phipps, T. (1983). Landowner Incentives to Participate in a Purchase of Development Right Programme with Application to Maryland. *Journal of the Northeastern. Agricultural Economics Council*, 12, 61–65.

[Google Scholar](#) 

This website utilizes technologies such as cookies to enable essential site functionality, as well as for analytics, personalization, and targeted advertising. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

Manage Preferences

Accept All

Reject Non-Essential

Sick, G. (1989). Capital Budgeting with Real Options. Monograph 89-3, Solomon Brothers Centre, Leonard N. Stern School of Business, New York University, New York, NY.

[Google Scholar](#) 

Slangen, L. H. G. (1992). Policies for Nature and Landscape Conservation in Dutch Agriculture: An Evaluation of Objectives, Means, Effects and Programme Costs, *European Review of Agricultural Economics*, **19**, 331-350.

[Google Scholar](#) 

Tegene, A. and Kuchler, F. (1993). Evidence on the Existence of Speculative Bubbles in Farmland Prices, *Journal of Real Estate Finance and Economics*, **6**, 223-236.

[Web of Science®](#)  | [Google Scholar](#) 

Thomson, K. J. and Whitby, M. C. (1976). The Economics of Public Access in the Countryside, *Journal of Agricultural Economics*, **27**, 307-319.

[Web of Science®](#)  | [Google Scholar](#) 

USDA (United States Department of Agriculture) (1997). Agricultural Land Values and Agricultural Cash Rents, National Agricultural Statistics Service, Washington, DC.

[Google Scholar](#) 

Ward, J. R., Benfield, F. K. and Kinsinger, A. E. (1989). *Reaping the Revenue Code: Why We Need Sensible Tax Reform for Sustainable Agriculture*, Natural Resource Defence Council, New York, NY.

[Google Scholar](#) 

Wiebe, K., Tegene, A. and Kuhn, B. (1996). *Partial Interests in Land: Policy Tools for Resource Use and Conservation*, Agricultural Economics Report Number 744, Economic Research Service, US Department of Agriculture.

This website utilizes technologies such as cookies to enable essential site functionality, as well as for analytics, personalization, and targeted advertising. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#) 

[Manage Preferences](#)

[Accept All](#)

[Reject Non-Essential](#)

ABOUT WILEY ONLINE LIBRARY

[Privacy Policy](#)

[Terms of Use](#)

[About Cookies](#)

[Manage Cookies](#)

[Accessibility](#)

[Wiley Research DE&I Statement and Publishing Policies](#)

HELP & SUPPORT

[Contact Us](#)

[Training and Support](#)

[DMCA & Reporting Piracy](#)

[Sitemap](#)

OPPORTUNITIES

[Subscription Agents](#)

[Advertisers & Corporate Partners](#)

CONNECT WITH WILEY

[The Wiley Network](#)

[Wiley Press Room](#)

Copyright © 1999-2026 John Wiley & Sons, Inc or related companies. All rights reserved, including rights for text and data mining and training of artificial intelligence technologies or similar technologies.

WILEY

This website utilizes technologies such as cookies to enable essential site functionality, as well as for analytics, personalization, and targeted advertising. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)



Manage Preferences

Accept All

Reject Non-Essential