Warren Joseph Hahn, Ph.D., P.E.

Curriculum Vitae

Contact Information

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Education

2001-2005	The University of Texas, Austin, TX Ph.D. Management Science and Information Systems, 2005 Concentration: Decision Science Minors: Computational Finance, Economics Dissertation: *A Discrete-Time Approach for Valuing Real Options with Underlying Mean-Reverting Stochastic Processes* Advisor: James S. Dyer
1999-2001	The University of Texas, Austin, TX MBA, 2001
1988-1991	The University of Texas, Austin, TX M.S. Environmental Engineering, 1991 Thesis: *Fate of Polynuclear Aromatic Hydrocarbons during Microbiological Processing of Petroleum Wastes* Advisor: Raymond C. Loehr
1982-1988	The University of Texas, Austin, TX B.S. Petroleum Engineering, 1988

Academic Experience

2013-pres.	McCombs School of Business, The University of Texas, Austin, TX Clinical Professor, Finance (2020-pres.) Clinical Associate Professor, Finance (2013-2020)
2006-2013	Graziadio School of Business & Management, Pepperdine University, Malibu, CA Associate Professor with tenure, Decision Sciences (2012-2013) Assistant Professor, Decision Sciences (2006-2012)
2001-2004	McCombs School of Business, The University of Texas, Austin, TX Teaching Assistant, Department of MSIS

Research Interests:

Quantitative modeling of operational decision-making and its effect on asset value (real options), including investments in both conventional and unconventional energy production. Discrete-time modeling of stochastic processes for commodity prices. Numerical techniques for solving decision analysis problems, including decision models for problems with multiple criteria.

Professional Experience

2005-2006	Shell Trading Gas and Power, Houston, TX Market Analysis Manager Supervised development of mid- and long-term natural gas grid flow and price forecasts using transportation/transshipment LP model of North American supply/demand network.
2001-2005	BP America, Houston, TX Strategy & Planning Advisor Advisor on valuation of exploration and production projects with flexible development options. Developed multi-attribute decision model for prioritizing portfolio of exploration and production research and development projects.
2000-2001	BP America, Houston, TX Commercial Team Leader Led strategic planning effort and development of short- and long-term budgets for Gulf Coast Onshore area, as well as economic evaluations of ongoing capital programs.
1996-2000	Vastar Resources (now merged with BP), Houston, TX Area Reservoir Engineer Managed development of producing oil and gas fields in South and East Texas. Evaluated proposals for development projects, acquisitions, and divestitures.
1991-1996	ARCO Oil and Gas (now merged with BP), Bakersfield, CA and Houston, TX Environmental Engineer Responsible for environmental compliance for produced water treatment systems and facility air emissions and for managing emissions credits. Conducted project environmental assessments and coordinated assignment of acreage offsets.

Academic Appointments and Service

Associate Dean for Graduate Programs, McCombs School of Business, 2019-present

Chair, MBA Programs Committee, 2019-present

Director, Master of Science in Finance Program, McCombs School of Business, 2016-2019

Associate Director, Master of Science in Finance Program, McCombs School of Business, 2013-2016

MSF Committee, Finance Department, McCombs School of Business, 2016 – 2019.

Undergraduate Curriculum Review Committee, Finance Department, McCombs School of Business, 2015-2016

Member of Editorial Board, *Decision Analysis*, 2010-present

Academic Appointments and Service (cont'd)

INFORMS Decision Analysis Society Council, 2014 – 2017

Chair, Full-Time Graduate Business Programs Committee, Pepperdine University, 2011-2013

Interm Chair, Decision Sciences Department, Pepperdine University, January 2013- April 2013

Faculty Council Representative, Graziadio School of Business, Pepperdine University, 2009-2011

Publications in Management Science and Economics

Risk Premia in Commodity Price Forecasts and their Impact on Valuation, *Energy Economics*, **72**, 393-493, 2018.

Sensitivity Analysis of Decision Making under Dependent Uncertainties using Copulas, *EURO Journal of Decision Processes*, **5**, 117-139, 2017.

Market-calibrated Forecasts for Natural Gas Prices, White Paper, UT Energy Institute, 2016, available at http://energy.utexas.edu/files/2016/09/UTAustin_FCe_NGForecasting_2016.pdf.

A Copula-based Approach for Generating Lattices, *Review of Derivatives Research*, **18/3**, 263-289, 2015.

Making Decisions with Multiple Criteria: A Case in Energy Sustainability Planning, *EURO Journal of Decision Processes*, **3/1**, 161-185, 2015.

What do Market-calibrated Stochastic Processes Indicate about the Long-term Price of Crude Oil?, *Energy Economics*, **44**, 212-221, 2014.

Quantifying the Value of Managerial Flexibility with Decision Tree Analysis, *Valuation*, **16/6**, 4-11, 2013.

Volatility Estimation for Stochastic Project Value Models, *European Journal of Operational Research*, **220/3**, 642-648, 2012.

A Discrete Time Approach for Modeling Two-Factor Mean-Reverting Stochastic Processes, *Decision Analysis*, **8/3,** 2011.

Real Options: The Value Added through Optimal Decision Making, *Graziadio Business Report*, **13/2**, 2010.

The Winner's Curse and Optimal Auction Bidding Strategies, *Graziadio Business Report*, **12/2**, 2009.

Flexibility as a Source of Value in the Production of Alternative Fuels: The Ethanol Case, *Energy Economics*, **31**, 411-422, 2009.

The Role of Sugarcane-Based Ethanol in the Developing Global BioFuels Market. *Dialogue/United States Association for Energy Economics*, **16/3**, 27-30, 2008.

Discrete Time Modeling of Mean-Reverting Stochastic Processes for Real Option Valuation, *European Journal of Operational Research*, **184/2**, 534-548, 2008.

Publications in Management Science and Economics (cont'd)

Using Decision Analysis to Solve Real Option Valuation Problems: Building a Generalized Approach, SPE 108006, Proceedings of the 2007 Hydrocarbon Economics and Evaluation Symposium, Dallas, TX (April, 2007).

Using Binomial Trees to Solve Real Option Valuation Problems, *Decision Analysis*, **2**, 69-88, 2005.

Response to Comments on Brandao et al. (2005), *Decision Analysis*, **2**, 103-109, 2005.

Incorporating Mean-Reverting Price Forecasts into Oil and Gas Exploration and Production Project Valuation, SPE 94577, Proceedings of the 2005 Hydrocarbon Economics and Evaluation Symposium, Dallas, TX (April, 2005).

Publications in Engineering

Chapter 2 – Pollution Prevention, Society of Petroleum Engineers Environmental Engineering Monograph, 1999.

High Temperature Reprocessing of Petroleum Sludges, *Society of Petroleum Engineers Production and Facilities Journal*, August 1994.

Presentations in Management Science and Economics

Decomposition of Sensitivity Analysis for Problems with Correlated Inputs, presented at the 2018 INFORMS Annual Meeting, Phoenix, AZ (November 4, 2018).

Risk Premia in Commodity Price Forecasts and their Impact on Valuation, presented at the 2016 Decision Sciences Institute Annual Meeting, Austin, TX (November 21, 2016).

A Copulas-based Dependent Decision Lattice Approach, presented at the 2013 INFORMS Annual Meeting, Minneapolis, MN (October 7, 2013).

Making Decisions with Multiple Attributes: A Case in Sustainability Planning, presented at the 2012 INFORMS Annual Meeting, Phoenix, AZ (October 17, 2012).

Parameter Estimation for Two-Factor Commodity Price Models, presented at the 2011 INFORMS Annual Meeting, Charlotte, NC (November 12, 2011).

A Binomial Model for Mean Reverting Stochastic Processes: Application to Ethanol Industry Expansion, presented at the 2010 INFORMS Annual Meeting, Austin, TX (November 7, 2010).

Volatility Estimation for Stochastic Project Value Models, presented at the 2009 INFORMS Annual Meeting, San Diego, CA (October 14, 2009).

The Winner's Curse and Developing Optimal Auction Bidding Strategies through Simulation, presented at the 2009 INFORMS Western Regional Meeting, Tempe, AZ (April 25, 2009).

Brazil's Energy Portfolio and the Value of Diversification, presented at the 2009 Latin American Conference on Energy Economics, Santiago, Chile (March 24, 2009).

Presentations in Management Science and Economics (cont'd)

Flexibility as a Source of Value in the Production of Alternative Fuels, presented at the 2009 Latin American Conference on Energy Economics, Santiago, Chile (March 24, 2009).

Investment Timing Under Competition: Effect of Stochastic Process Model, presented at the 2008 INFORMS Annual Meeting, Washington, D.C. (October 15, 2008).

Modeling Switching Options using Mean-Reverting Commodity Price Models, Proceedings of the Eleventh Annual International Conference on Real Options, Haas School of Business, University of California, Berkeley, CA (June, 2007).

A Discrete-Time Approach for Valuing Real Options with Underlying Mean-Reverting Stochastic Processes, presented at the Second Annual Mini-Conference on Integrated Risk Management in Operations and Global Supply Chain Management, Olin School of Business, Washington University, St. Louis, MO (June, 2005).

Separation of Market-Correlated and Private Uncertainties in Real Option Valuation, presented at the 2003 INFORMS Annual Conference, Atlanta, GA (October, 2003).

Presentations in Engineering

Integrated Management of Petroleum Industry Wastes, presented at the 1995 International Petroleum Environmental Conference, New Orleans, LA.

Reuse of Partially Spent Caustic Solutions, presented at the 1995 Society of Petroleum Engineers Environmental Conference, Houston, TX.

Biological Treatment of Petroleum Sludges, presented at the 1992 Society of Petroleum Engineers Permian Basin Oil and Gas Recovery Conference, Midland, TX

Awards

Hank and Mary Harkins Foundation Award for Effective Teaching in Undergraduate Classes, 2017-2018.

McCombs Faculty Honor Roll (Spring 2014, Fall 2014, Fall 2015, Spring 2016, Fall 2017, Spring 2018 and Fall 2018 Semesters)

Howard A. White Award for Teaching Excellence, Pepperdine University, 2010

Bonham Fellowship, The University of Texas, 2005

University Continuing Fellowship, The University of Texas, 2004-2005

University Preemptive Fellowship, The University of Texas, 2001

Student Paper Competition Award, INFORMS Decision Analysis Society, 2004

Kozmetsky Award for Outstanding Academic Achievement in University of Texas MBA Program, 2001

Affiliations

Institute for Operations Research and Management Science (INFORMS)

United States Association for Energy Economics (USAEE)

Society of Petroleum Engineers

Registered Professional Engineer, TX