



**CURRICULUM VITAE**

**BARDIA KAMRAD**

**PROFESSOR OF OPERATIONS**

**GEORGETOWN UNIVERSITY  
MCDONOUGH SCHOOL OF BUSINESS  
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**NOVEMBER 2008**

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MCDONOUGH SCHOOL OF BUSINESS, GEORGETOWN UNIVERSITY

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PROFESSOR OF OPERATIONS  
GEORGETOWN UNIVERSITY  
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**EDUCATION:**

1990 **Ph.D.** Operations Research, *Minor in Operations Management*, Department of Operations, Weatherhead School of Management, **Case Western Reserve University**.

Dissertation Focus: Risk Management in Production and Manufacturing Operations; Option Pricing Methodology; and Real Options.

Dissertation Title: “*A Multinomial Lattice Option Pricing Methodology for Valuing Risky Ventures with Multiple Sources of Uncertainty*”

1987 **M.S.** Operations Research, Department of Operations, Weatherhead School of Management, **Case Western Reserve University**.

1983 **M.S.** Industrial Management, emphasis in Industrial Engineering and Operations Management, Department of Industrial Technology, **University of Wisconsin**, Menominee, WI.

1980 **B.S.** Civil Engineering, emphasis in hydraulics, Department of Civil Engineering, **University of Minnesota**, Institute of Technology, Minneapolis, MN.

**ACADEMIC EMPLOYMENT:**

5/06 - Present ***Professor of Operations***, McDonough School of Business, Georgetown University, Washington, D.C.

7/97 - 5/06 ***Associate Professor of Operations***, McDonough School of Business, Georgetown University, Washington, D.C.

7/91 – 7/97 ***Assistant Professor of Operations***, McDonough School of Business, Georgetown University, Washington, D.C.

8/90 - 5/91 ***Assistant Professor of Operations***, Department of Decision and Information Sciences, School of Business Administration, Miami University, Oxford, OH.

1987 - 5/90 ***Lecturer / Instructor***, Weatherhead School of Management, Department of Operations Case Western Reserve University, Cleveland, OH.

## RESEARCH PAPERS:

### Refereed Publications:

“A Binomial Contingent Claims Model for Valuing Risky Ventures,” (with P. Ritchken) *The European Journal of Operational Research*, Volume 53, No.1, July 1991.

“Multinomial Approximating Models for Options With k State Variables,” (with P. Ritchken) *Management Science*, Volume 37, No. 12, December 1991.

“Valuing Fixed Price Supply Contracts,” (P. Ritchken), *The European Journal of Operational Research*, Volume 74, No. 1, April 1994.

“Multi-product Manufacturing with Stochastic Input Prices and Output Yield Uncertainty,” (R. Ernst), *Real Options in Capital Investment: New Contributions*, Edt. L. Trigerogis, (refereed article), Greenwood/Prager, 1995.

“A Lattice Claims Model for Capital Budgeting,” (B. Kamrad), *IEEE Transactions on Engineering Management*, Volume 42, No. 2, May 1995.

“Allocation of Warehouse Inventory with Electronic Data Interchange and Fixed Order Intervals,” (R. Ernst and B. Kamrad), *The European Journal of Operational Research*, Volume 103, No. 1, November 1997.

“A Contingent Planning Process for Counter-trade Based Projects: A Decision Analytic Perspective,” (B. Kamrad and A. Reisman), *International Journal of Operations and Quantitative Management*, Volume 3, No. 1, September, 1997.

“Production, Operating Risk and Market Uncertainty: A Valuation Perspective on Controlled Policies,” (B. Kamrad and S. Lele), *IIE Transactions: Scheduling and Logistics*, Volume 30, No. 5, May, 1998.

“Evaluation of Supply Chain Structures through Outsourcing and Postponement,” (with R. Ernst) Volume 124, No. 3, *The European Journal of Operational Research*, August, 2000.

“An Economic Model for Evaluating Mining and Manufacturing Ventures with Output Yield Uncertainty,” (with R. Ernst), *Operations Research*, Volume 49, No. 5, Sept/Oct., 2001.

“Supply Contracts, Profit Sharing, Switching and Reaction Options,” (with A. Siddique), *Management Science*, Volume 50, No. 1, January 2004.

“Innovation Diffusion Uncertainty, Advertising and Pricing Policies,” (with A. Saddingue, S. Lele and R. Thomas), *The European Journal of Operational Research*, Vol. 164, pp. 829-850, 2005.

“Estimating Demand By Using Sales Information: Inaccuracies Encountered,” (with Ricardo Ernst), *The European Journal of Operational Research*, Vol. 174, pp. 675 – 688, 2006.

“Market Risk and Process Uncertainty in Production Operations,” (with Keith Ord), Vol. 53, pp.627 – 640, *Naval Research Logistics*, 2006/2007.

“Delivery Performance in Vendor Selection Decisions,” (with Keith Ord, and Ricardo Ernst), *The European Journal of Operational Research*, Vol. 176, pp.534 – 541, 2007.

**Submitted / Under Review:**

“Partial Equilibrium in Risk based Production Decision” (A. Siddique and R. Ernst). *in submission*, *Naval Research Logistics*, 2008.

**Research In Progress:**

“Does Outsourcing Create Shareholder Value?” (*in progress*), (with S. Dahiya), McDonough School of Business, Georgetown University, 2008.

“Prepayment Option Value in Mortgage-Backed Securities,” (*in progress*), (with A. Siddique), McDonough School of Business, Georgetown University, 2008.

“Capital Investment, Cost Uncertainty, and Political Shocks”, (*in progress*), McDonough School of Business, Georgetown University, 2008.

“Demand Uncertainty, Operating Flexibility and Moral Hazard”, (*in progress*), McDonough School of Business, Georgetown University, 2008.

**Completed Papers/Other Publications:**

“Market Uncertainty and Process Risk in Operations” , *Real Options Conference*, T2, Volume 10, *Real Options Conference Proceedings*, (invited paper), Columbia Business School, Columbia University, June, 2006.

“Market and Process Risks in Operations” *Real Options Conference*, T2, Volume 8, *Real Options Conference Proceedings*, CIRANO / CIRAQ, (invited paper), Universite de Montreal, Montreal, Canada. June, 2004.

“Risk in Production: Demand and Yield Uncertainty”, (with K. Ord), *Real Options* T2, Volume 7, *Real Options Conference Proceedings*, McDonough School of Business, Georgetown University, July 2003.

“Profit Sharing and Adjustment Options in Supply Contracts”, (with A. Siddique), *Real Options* , T2, Volume 7, *Real Options Conference Proceedings*, McDonough School of Business, Georgetown University, July 2003.

“Risk Sharing and Supplier Switching Contracts”, (with A. Siddique), ***Real Options***, T4, Vol. 5, ***Real Options Conference Proceedings***, Anderson School, UCLA, July 2001.

“Production, Operating Risk and Market Uncertainty,” (B. Kamrad and S. Lele), ***Manufacturing and Service Operations Management: MSOM Proceedings***, Volume 2, pp. 201-206, School of Business Administration, University of Washington, Seattle, WA, 1998 .

“Production, Operating Risk and Market Uncertainty,” (with S. Lele), ***Real Options***, T1, Vol. 1, ***Real Options Conference Proceedings***, Columbia University School of Business, June 1997.

“An Economic Model for Valuing Mining Ventures with Output Yield Uncertainty,” (with R. Ernst), ***Real Options***, T5, Volume 2, ***Real Options Conference Proceedings***, Kellogg School, Northwestern University, Chicago, IL, June 1998.

“A Conceptual Framework for Analyzing Supply Chain Structures,” (R. Ernst and B. Kamrad), ***Manufacturing and Service Operations Management: MSOM Proceedings***, Volume 1, pp. 1-7, The Amos Tuck School of Business Administration, June 1996.

“Modeling a Population Heterogeneity Continuum within a Markov Process: A Credit Account Application,” (with B. Wilson), School of Business, Georgetown University, 1992.

“Ensuring Positive Probability Terms for Approximating Lattices With Three or More Underlying Lognormal Random Variables,” School of Business, Department of Decision Sciences, Miami University, 1990.

“Mathematical Properties of Approximating Multinomial Lattices: Applications for Option Pricing,” *Technical Memorandum No. 675*, Department of Operations Research, WSOM, Case Western Reserve University, 1990.

“A Planning Process for Barter or Other Compensatory Arrangements,” *Technical Memorandum No. 652*, Department of Operations Research, WSOM, Case Western Reserve University, 1988.

### **Other Publications:**

“Valuing Real Options,” ***Georgetown Business***, IV, No.2, Spring/Summer, 1997.

“Valuing Flexibility,” ***Georgetown Business***, Vol. XIII, No.1, Spring/Summer, 2000.

### **GRANTS, AWARDS & HONORS :**

#### ***Academic Research Grants.***

McDonough School of Business: 2008, 2007, 2006, 2005, 2004, 2003, 2001, 2000, 1999, 1998.

Georgetown University: 2006, 2002, 1997, 1996, 1995, 1994, 1993, 1992.

***Awards /Honors:***

***Teaching Excellence Award*** : “Joseph F. Le Moine” Teaching Excellence Award, McDonough School of Business, Georgetown University, 2005.

***Teaching Excellence Award***: International Executive Masters of Business Administration (IEMBA), McDonough School of Business, Georgetown University, 2002.

***Teaching Excellence Award***, Masters of Business Administration, McDonough School of Business, Georgetown University, 1998.

***Teaching Excellence Award***, Masters of Business Administration, McDonough School of Business, Georgetown University, 1993.

***Distinguished Service Award***, Masters of Business Administration, McDonough School of Business, Georgetown University, 1996.

***Distinguished Service Award***, Masters of Business Administration, School of Business, Georgetown University, 1995.

***Teaching Excellence Award***, Masters of Business Administration, Case Western Reserve University, Weatherhead School of Management/School of Graduate Studies (1989).

***OMEGA RHO,  $\Omega\rho$***  : International Honor Society of Operations Research.

***BETA GAMMA SIGMA,  $B\Gamma\Sigma$***  : National Business Honors Society.

***Fellowship Award***: Graduate Teaching and Research, Case Western Reserve University, Weatherhead School of Management, 1987-1990.

***Graduate Honors Society***  
University of Wisconsin, Meno., WI (1982)

***Other:***

***Graduation Speaker***, Executive Masters of Business Administration, voted by the IEMBA class of 2001, McDonough School of Business, Georgetown University, 2001.

***“Outstanding Faculty,” Business Week***, Guide to the Best Business Schools, Seventh edition, 2003; fourth edition, 1995; and Website, 1998.

***“Most Popular Faculty,” Business Week***, Guide to the Best Business Schools, Sixth edition, 1999; and 2001.

**SERVICE:**

**The McDonough School of Business:**

1991 – Present:	School of Business Executive Council.
1991 - 1992:	Computer Advisory Committee.
1992 - 1993:	Faculty Recruitment Committee.
1993 - 1994:	Faculty Peer Review and Development Committee.
1994 - 1995:	Graduate Curriculum Committee.
1994 - 1995:	Graduate Admissions Committee & Board of Academic Appeals
1995 - 1996:	Graduate Admissions Committee & IEMBA Admissions Committ.
1996 - 1997:	Graduate Admissions Committee.
1997 - 1998:	Area Coordinator; Decision Sciences.
1998 - 1999:	Area Coordinator; Decision Sciences.
1999 - 2000:	Area Coordinator; Decision Sciences.
2000 - 2001:	Under Grad. Curriculum. Comm.(Fall). IEMBA-Director Search Comm.
2001 - 2004:	Graduate Curric. & Std. Comm. IEMBA Curric. Sub-Comm.
2003 - 2004:	Dean Search Committee.
2006 – Present	Chair, Graduate Curriculum and Standards Committee.
2007 – Spring	MBA Curriculum Task Force
2008 – Present	MCRT: McDonough Committee on Rank and Tenure.

**The Georgetown University:**

1992 - 1996:	College Executive Council.
1993 - 1994:	Incentive Programs; Georgetown University Residence Halls.
1996 - 1999:	Freshman Fall Convocation.
1997 - 1998:	John Carroll Scholars Program.
1998 - 1999:	Executive Faculty. Steering Committee.
1999 - 2000:	Executive Faculty. Steering Committee.
2000 - 2001:	Executive Faculty. Steering Committee;
2000 – 2001:	Merit Evaluation Committee; Instit. Research Adm. Comm.
2001 - 2002:	Provost Search Committee.
2004 - 2005:	Graduate School Executive Committee.
2007 – 2008:	University Committee on Rank and Tenure.
2008 – Present	Area Coordinator, OPIM

**The Academe and Profession:**

2005 – Present:	Editor; Focused Issue: Risk Management in Operations: <i>European Journal of Operational Research.</i>
2004 – Present:	Senior Associate Editor. <i>Production and Operations Management.</i>
1999–2004:	Editorial Review Board. <i>Production and Operations Management</i>
1990 - 1998:	Session chair in ORSA/TIMS Joint National conferences.
1995 - 1996:	Panel member of the Public Relations Committee for INFORMS.

**The Academe and Profession:**

- Spring – 2003: **7<sup>th</sup> Annual International Real Options Conference: July 2003.**  
Locally organized, coordinated, managed, raised funds and hosted the 7<sup>th</sup> Real Options Conference at the McDonough School of Business, **Georgetown University**, July 9<sup>th</sup> – 12<sup>th</sup>, 2003. Over 80 research papers were presented. Details are available upon request.
- 1990 – Present: **Reviewer:**  
“Management Science”; “Operations Research”; “Institute of Industrial Engineers Transactions”; “European Journal of Operational Research”; “Naval Research Logistics”; “Production and Operations Management Journal”; “Annals of Operations Research”; “Advances in Futures and Options Research”; “International Journal of Money and Finance”.
- 1999 Public Awareness Committee INFORMS.  
1995- 1999 Public Information Committee INFORMS.  
1993 - 1997: Organized and initiated Decision Sciences/Operations Seminars.

**The Community:**

- 1992 - 1993: Joshua House Volunteer, Washington, DC. Incentive programs for the homeless in cooperation with the MBA volunteers program.
- 1994: Established and raised funds for the Family Support Fund program, developed for providing a variety of charitable activities, in particular for the children around the Washington Metropolitan Area. This program involved MBA volunteers.
- 1995: Volunteered and assisted in holding Christmas party for children and Girl Scouts in cooperation with the MBA students and sponsorship of the Family Support fund. S. E. Washington, DC.
- 2002 - 2005: **Orphanage Support Program** Mexico: Initiated /organized in association with the IEMBA students. Details are available upon request.

**PRESENTATIONS:**

- “Demand Uncertainty, Operating Flexibility and Moral Hazard”, (*in progress*), McDonough School of Business, Georgetown University, 2008.
- “A Generalized Framework for Evaluating Financial Risk in Operations”, **BCTIM: Risk Management Conference**, (Invited presentation). Olin School of Business, Washington University. June 2007.

“A Generalized Framework for Evaluating Financial Risk in Operations”, McDonough School of Business, Georgetown University, July, 2007.

“Entry and Exist Decisions with Investment Cost Uncertainty and Irreversible Shocks”, McDonough School of Business, Georgetown University, July, 2006.

“Market Risk and Process Uncertainty in Operations,”, *Real Options Conference* (Invited presentation). Columbia School of Business, Columbia University June 2006.

“Market Risk and Process Uncertainty in Production Operations”, *BCTIM: Risk Management Conference*. Invited presentation. Olin School of Business, Washington University. June 2005.

“Supply Contracts, Profit Sharing, Switching and Reaction Options”, *BCTIM: Risk Management Conference*. Invited presentation, Olin School of Business, Washington University. June 2004.

“Market and Process Risks in Operations” *Real Options Conference*, CIRANO/CIRAQ, (invited presentation), Universite de Montreal, Montreal, Canada. June, 2004.

“A Prefatory Perspective on Optimal Control Theory”, *Army Resource Mangers’ Conference*, (invited presentation) Georgetown University, September 2003.

“Market and Process Risks in Production Opportunities: Demand and Yield Uncertainty” *Real Options Conference*, McDonough School of Business, Georgetown University, July 2003.

“Profit Sharing and Adjustment Options in Supply Contracts”, *Real Options Conference*, McDonough School of Business, Georgetown University, July 2003.

“Risk Sharing and Switching-Option Contracts”, McDonough School of Business, Georgetown University, August 2003.

“Risk Sharing and Switching Contracts”, *Real Options Conference*, Anderson School, University of California at Los Angeles, July 2001.

“An Economic Model for Valuing Ventures with Yield Uncertainty,” *School of Business Administration, University of Washington*, Seattle, WA, May 2001.

“An Economic Model for Valuing Mining and Manufacturing Ventures with Output Yield Uncertainty,” Georgetown University, McDonough School of Business, Summer, 1999.

“Production, Operating Risk and Market Uncertainty,” *Manufacturing and Service Operations Management: MSOM Conference*, School of Business Administration, University of Washington, Seattle, WA, June 1998.

“An Economic Model for Valuing Mining Ventures with Output Yield Uncertainty,” *Real Options Conference*, The Kellogg School of Management, Northwestern University, Chicago, June 1998.

“Production, Operating Risk and Market Uncertainty”, *Real Options Conference*, Columbia University Graduate School of Business, New York, June 1997.

“Production, Risk and Moral Hazard Valuation,” INFORMS, (*Invited Session*), Joint National Conference, Dallas, TX, October 1997.

“Advertising and Pricing Policies Using Contingent Claims Valuation,” INFORMS, (*Invited Session*), Joint National Conference, Dallas, TX, October 1997.

“Production, Operating Risk, and Market Uncertainty: A Valuation Perspective On Controlled Policies”, Georgetown University, McDonough School of Business, Summer Seminar, July 1997.

“Multiproduct Operations: An Operating Options Model of Flexibility,” (with R. Ernst), INFORMS, (*Invited Session*), Joint National Conference, Atlanta, GA, November 1996.

“Global Manufacturing, Operating Risk & Switching Options: Simulated Flexibility Analysis,” INFORMS, (*Invited Session*), Joint National Conference, Atlanta, GA, Nov. 1996.

“Global Manufacturing Investments in the Presence of Price and Demand Uncertainty,” INFORMS, (*Invited Session*) Joint National Conference, Washington, D.C., May 1996.

“Analyzing Manufacturing/Mining Production Ventures with Output Price and Yield Uncertainty,” (with R. Ernst), INFORMS-MSOM Conference, *Amos Tuck School of Business Administration*, Hanover, NH, June 1996.

“A Conceptual Framework for Analyzing Supply Chain Structures,” (with R. Ernst), INFORMS-MSOM Conference, *Amos Tuck School of Business Administration*, Hanover, NH, June 1996.

“On Valuing Operational Hedge,” (with K. Ferdows and R. Ernst), School of Business, Georgetown University, June 1996.

“Evaluation of Supply Chain Structures through Modularization and Postponement,” (with R. Ernst) INFORMS, (*Invited Session*), Joint National Conference, New Orleans, LA, October/November 1995.

“Analysis of Investment Decisions in Global Manufacturing: Input Price and Demand Uncertainty,” INFORMS, (*Invited Session*), Joint National Conference, New Orleans, LA, October/November 1995.

“On Market Stochasticity of Innovation Diffusion: A Valuation Framework,” (with A. Siddique, S. Lele and R. Thomas), INFORMS, New Orleans, LA, October/November 1995.

“On Optimal Advertisement Policies for Market Innovations,” School of Business, Georgetown University, August, 1995.

“Project Valuation Under Stochastic Prices and Breakdowns,” School of Business, Georgetown University, June 1995.

“Project Valuation Under Stochastic Prices and Breakdowns,” INFORMS, Joint National Conference for Operations Research and Management Science, Los Angeles, CA, April 1995.

“Evaluation of Production Contracts,” (*Invited Session*) ORSA/TIMS, Joint National Conference, Detroit, MI, October 1994.

“An Approach to Measuring the Advantages of Postponement or Delay Customization,” (with R. Ernst), ORSA/TIMS, Joint National Conference, Detroit, MI, October 1994.

“From Financial to Real Options: A Valuation Perspective,” School of Business, Georgetown University, August 1994.

“On Demand Uncertainty for Innovations: A CCA Approach,” (with R. Thomas and S. Lele), School of Business, Georgetown University, June 1994.

“Analysis of R&D Projects: An Option Theoretic Framework,” ORSA/TIMS Joint National Conference, Boston, MA, April 1994.

“On Demand Uncertainty for Innovations,” ORSA/TIMS, Conference, Boston, MA, April 1994.

“A Risky Venture Valuation Model with Stochastic Interruptions,” Department of Mathematics, Georgetown University, November 1993.

“A Risky Venture Valuation Model with Stochastic Interruptions,” School of Business, Georgetown University, August 1993.

“Price and Yield Uncertainty in Multi-Product Scheduling,” ORSA/TIMS Joint National Conference, Chicago, IL, May 1993.

“A CCA Venture Valuation Model with Maintenance Costs and Optimal Production Policies: Jump-Diffusion Case,” TIMS/ORSA, San Francisco, CA, November 1992.

“Valuing Fixed Price Supply Contracts,” TIMS/ORSA, , Orlando, FL, April 1992.

“Flexibility Value: Bridging the Gap Between Manufacturing and Marketing,” (*Invited Session*) TIMS/ORSA, Joint National Conference, Orlando, FL, April 1992.

“Multinomial Approximating Models for Options with  $k$  Sources of Uncertainty,” (*Invited Session*) Department of Finance, School of Business Administration, Miami University, Oxford, OH, March 1990.

“Multinomial Approximating Models for Options with  $k$  Sources of Uncertainty,” TIMS/ORSA, Joint National Conference, Philadelphia, PA, October 1990.

“Approximating Lattices for Option Pricing,” Department of Operations Research, Weatherhead School of Management, Case Western Reserve University, Cleveland, OH, 1989.

“Approximating Lattices for Option Pricing,” (*Invited Session*) Department of Finance, Weatherhead School of Management, Case Western Reserve University, Cleveland, OH, 1989.

**OTHER ACADEMIC EMPLOYMENT:**

1987 - 5/90 *Instructor*, Weatherhead School of Management, Department of Operations Research, Case Western Reserve University, Cleveland, OH.

1985 - 1986 *Instructor*, James Nance School of Business, Cleveland State University, OH.

1981-1982 *Instructor* and Director of Mathematical Skills Laboratory, Department of Mathematics, University of Wisconsin, Menominee, WI.

**OTHER EMPLOYMENT:**

1995 – 2008 [ **Consulting Experience / Information available upon request.** ]

1983-1984 Business (Operations) Consultant, *Doboy Manufacturing Corporation*, New Richmond, WI. Consulted in the areas of inventory control and material purchasing.

1979-1981 Assistant Engineer, *Engineering and Design, University of Minnesota Physical Plant*: Performed design work and cost analysis. Trained internship students

**PROFESSIONAL MEMBERSHIPS:**

The Institute for Operations Research and Management Science (*INFORMS*)

The Production and Operations Management Society (*POMS*)

Institute of Industrial Engineers (*IIE*)

The American Finance Association (*AFA*)

**ACTIVITIES:**

1997 - 2000 Area Coordinator, Decision Sciences, McDonough School of Business, Georgetown University.

1995 - Prsnt. Faculty Associate: Capital Markets Research Center, McDonough School of Business, Georgetown University.

1994 - 1998 Founder and the Faculty Advisor to the Family Support Fund, a Charitable and non-profit program in association with the Masters of Business Administration Students.

1995 - 1999 Public Information Committee Member (appointed), INFORMS.

- 1988 - 1989    President, elect, Case Western Reserve University Student Chapter of the Operations Research Society of America and The Institute of Management Science (TIMS/ORSA).
- 1986- 1988    Graduate Student Senate and one of six panel members of the Executive Graduate Senate Committee, Case Western Reserve University.
- 1986- 1988    Vice President (elect, two terms), Case Western Reserve University Student Chapter of (TIMS/ORSA).