

Economic Analyst

GRAHAM A. DAVIS

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EDUCATION

Degrees:

- PhD, Mineral Economics**, 1993
The Pennsylvania State University, USA
- MBA**, 1988
University of Cape Town, South Africa
- BSc (with honors), Metallurgical Engineering**, 1982
Queen's University at Kingston, Canada

EMPLOYMENT

Academic:

- Professor**, April 2006 - present
Division of Economics and Business, Colorado School of Mines

Undergraduate Courses Taught

- Microeconomics
- International Economics
- Economic Development
- Freshman Success
- Mathematical Economics
- Economics Field Session
- Investments

Graduate Courses Taught

- Microeconomics
- Resource Economics
- Economic Development
- Asset Valuation (Real Options)
- Mathematical Economics
- Policy Analysis
- Social License in Exploration and Mining

- Associate Professor**, April 1999 - April 2006
Division of Economics and Business, Colorado School of Mines

- Assistant Professor**, August 1993 - April 1999
Division of Economics and Business, Colorado School of Mines

- Instructor**, 1992 - 1993
Department of Mineral Economics, The Pennsylvania State University

- Assistant Lecturer**, 1988 - 1989
The Graduate School of Business, University of Cape Town

*Employment***Industry:****Resource Economics Consultant, 1993 - Present**

United States Dept. of Energy, United States Dept. of Justice, RMB Resources, Yates and Leal LLP, Hall and Evans LLP, Corporate Tax Management, Monument Resources, National Research Council, Pincock, Allen and Holt, Frommer Lawrence & Haug LLP, Platts Research & Consulting, Stevens Littman Biddison Tharp & Weinberg LLC, Berg Hill Greenleaf & Ruscitti LLP, Royal Gold, Community Systems Associates, Birch Mountain Resources, Westchester Resources, Africore (Ghana), Patterson Belknap Webb & Tyler LLP, De Beers, Duke Corporate Education.

Consulting Metallurgist, 1986

Deblin Mines (silver/lead/zinc), Swakopmund, Namibia

Mill Metallurgist, 1985 - 1986

Equity Silver Mines Ltd. (Placer Dome), British Columbia, Canada

Metallurgical Engineer, 1982 - 1985

Rössing Uranium Ltd. (Rio Tinto), Swakopmund, Namibia

RESEARCH GRANTS

“Real Options Analysis,” AMEC Americas, \$2,000 annually, 2004 - 2006.

“Real Options Analysis of R&D,” US Dept. of Energy, Fossil Energy Division, 2002-2003: \$30,000.

“Mining and Sustainable Development,” International Council on Mining and Metals, 2002: \$10,400.

“R&D Real Options Analysis,” National Renewable Energy Laboratory, 2001: \$4,976.

"Mineral Wealth and Economic Development," Rio Tinto, 1997: \$10,000.

"Mineral Wealth and Economic Development," Rio Tinto, 1996: \$10,000.

"Valuing the Stock and Flow of Mineral and Renewable Assets in National Income Accounting," National Science Foundation/Environmental Protection Agency Partnership for Environmental Research (NSF 95-48), R824705-01-0, 1995 - 1997: \$101,000.

PROFESSIONAL AWARDS AND DISTINCTIONS

Outstanding Instructor in Mineral Economics, Colorado School of Mines, 2005 - 2006.

Board of Trustees, Queen's University, 2006 - 2009

Board of Directors, Mineral Economics and Management Society, 2005 - 2008

Senior Senator (elected), Faculty Senate, Colorado School of Mines, 2004 – 2006

Visiting Scholar, Centre Interuniversitaire de Recherches en Economie Quantitative (CIREQ), McGill University, March 2004.

Round Table Group Scholar, 2003 - present

Member, National Research Council Standing Committee on Earth Resources, Board on Earth Sciences and Resources, 1999 - 2001.

Visiting Teaching Fellow, Department of Mineral Economics, Western Australia School of Mines, July 1997.

Teacher of the Year, Division of Economics and Business, Colorado School of Mines, 1995 - 96, 1996 - 97, 1997 - 98.

Domingo Moreno Developmental Professorship in Mineral Economics, Colorado School of Mines, 1996 - 97.

Member of the United Nations Conference on Trade and Development (UNCTAD) Secretary-General's Expert Group on Development Policies in Resource-based Economies, 1996.

Centennial Fellow, College of Earth and Mineral Sciences, Pennsylvania State University, 1996.

Visiting Scholar, Graduate School of Business, University of Cape Town, May/June 1995.

MEMBERSHIPS

Charter Member, Mineral Economics and Management Society

Member, American Economic Association

Member, Association of Environmental and Resource Economists

Member, Society for Mining, Metallurgy, and Exploration

Member, Institution of Engineers Australia

Member, International Association for Energy Economics

Member, United States Association for Energy Economics

Member, Canadian Economics Association

PUBLICATIONS

Books: Davis, G. South African Managed Trade Policy: The Wasting of a Mineral Endowment. Westport: Praeger (1994).

Chapters in Books: Davis, G., and Tilton, J. "La Maldición de los Recursos Naturales," in Minería y Desarrollo, Foro en Economía de Minerales, Vol. III, edited by Gustavo Lagos. Santiago: Ediciones Universidad Católica de Chile (2005), 83-103.

Davis, G., and Moore, D. "Valuing Mineral Stocks and Depletion in Green National Income Accounts," in Natural Resource Accounting and Economic Development: Theory and Practice, edited by Charles Perrings and Jeffrey R. Vincent. Cheltenham: Edward Elgar (2003), 105-123. Reprinted from Environmental and Development Economics 5 (2000): 109-127.

Davis, G. "The Potential for Economic Recovery of Metals from the Sillamäe Site," in Turning a Problem into a Resource: Remediation and Waste Management at the Sillamäe Site, Estonia, edited by Cheryl K. Rofer and Tõnis Kaasik. Dordrecht: Kluwer Academic Publishers (2000), 195-206.

Davis, G. "Project Assessment Methodologies and Measures: The Contribution of Mining Projects to Sustainable Development," in Sustainable Development and the Future of Mineral Investment, edited by James M. Otto and John Cordes. Paris: United Nations Environment Programme (2000), 7.1-7.31.

Davis, G. "A Review of Option Valuation," in Evaluating Mineral Projects: Applications and Misconceptions, by Thomas F. Torries. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc. (1998),: 117-123.

Considine, T. J., Davis, G. and Marakovits, D. "Costs and Benefits of Coke Oven Emission Controls," in Modeling Environmental Policy, edited by Wade E. Martin and Lisa A. McDonald. Boston: Kluwer Academic Publishers (1997), 103-122.

Davis, G. "The Declining Influence of Economic Growth on Metal Demand," in Productivity and Technology in the Metallurgical Industries, edited by M. Koch and J. C. Taylor. Warrendale: The Minerals, Metals, and Materials Society (1989), 159-186.

Refereed Articles: Cairns, R., and Davis, G. "Strike when the Force is with You: Optimal Stopping with Application to Resource Equilibria." Forthcoming, American Journal of Agricultural Economics.

Samis, M., Davis, G., Laughton, D., and Poulin, R. "Valuing Uncertain Asset Cash Flows When There are No Options: A Real Options Approach." Resources Policy 30 (2006): 285-298.

Publications (refereed articles)

Davis, G., and Samis, M. "Using Real Options to Value and Manage Exploration," in Wealth Creation in the Minerals Industry: Integrating Science, Business, and Education, edited by Michael D. Doggett and John R. Parry. Littleton, CO: Special Publication Number 12, Society of Economic Geologists (2006), 273-294.

Cairns, R., and Davis, G. "Comment: Rejecting the Hotelling Valuation Principle." Empirical Economics 30.3 (2005): 473-478.

Davis, G., and Tilton, J. "The Resource Curse." Natural Resources Forum 29.3 (2005): 233-242.

Davis, G., and Owens, B. "Optimizing the Level of Renewable Electric R&D Expenditures Using Real Options Analysis." Energy Policy 31 (2003): 1589-1608.

Davis, G. "The Impact of Volatility on Firms Holding Growth Options." Engineering Economist 47.2 (2002): 213-231.

Davis, G. "The Credibility of a Threat to Nationalize." Journal of Environmental Economics and Management 42 (2001): 119-139.

Cairns, R., and Davis, G. "Adelman's Rule and the Petroleum Firm." Energy Journal 22.3 (2001): 31-54.

Davis, G., and Moore, D. "Valuing Mineral Stocks and Depletion in Green National Income Accounts." Environmental and Development Economics 5 (2000): 109-127.

Davis, G., and Cairns, R. "Valuing Petroleum Reserves using Current Net Price." Economic Inquiry 37.2 (1999): 295-311.

Davis, G. "The Minerals Sector, Sectoral Analysis, and Economic Development." Resources Policy 24.4 (1998): 217-228.

Cairns, R., and Davis, G. "On Using Current Information to Value Hard-rock Mineral Properties." Review of Economics and Statistics 80.4 (1998): 658-663.

Davis, G. "Estimating Volatility and Dividend Yield when Valuing Real Options to Invest or Abandon." Quarterly Review of Economics and Finance 38 (special issue) (1998): 725-754.

Davis, G., and Cairns, R. "Simple Analytics of Valuing Producing Petroleum Reserves." Energy Journal 19.4 (1998): 133-142.

Cairns, R., and Davis, G. "Economic Theory and the Valuation of Mineral Reserves." OPEC Review 22.3 (1998): 169-183.

Davis, G., and Moore, D. J. "Valuing Mineral Reserves When Capacity Constrains Production." Economics Letters 60.1 (July 1998): 121-125.

Davis, G. "The Substitution Problem in the Theory of Effective Protection." Review of International Economics 6.2 (May 1998): 307-320.

Publications (refereed articles)

Davis, G. "One Project, Two Discount Rates." Mining Engineering 50.4 (April 1998): 70-74. Reprinted in Business Valuation Review (March 2001): 18-23.

Davis, G. "Effect of NAFTA on the Economics of Mineral Production." Mining Engineering September (1997): 57-61.

Davis, G. "Option Premiums in Mineral Asset Pricing: Are They Important?" Land Economics 72.2 (1996): 187-205.

Davis, G. "Using Commodity Price Projections in Mineral Project Valuation." Mining Engineering 48.4 (1996): 67-70.

Davis, G. "Brazil's Comparative Advantage in the Global Economy." Raw Materials Report: Journal of Mineral Policy, Business and Environment 11.4 (1995): 4-10.

Davis, G. "Learning to Love the Dutch Disease: Evidence from the Mineral Economies." World Development 23.10 (1995): 1765-1779.

Davis, G. "(Mis)Use of Monte Carlo Simulations in NPV Analysis." Mining Engineering 47.1 (1995): 75-79.

Considine, T., Davis, G., and Marakovits, D. "Technological Change Under Residual Risk Regulation: The Case of Coke Ovens in the U.S. Steel Industry." Environmental and Resource Economics 3 (1993): 437-455.

Davis, G. "Nationalisation of the Mines: Comment." South African Journal of Economics 59.4 (1991): 485-490.

Davis, G. "The Privatization of Electric Utilities: Economic Aspects." South African Journal of Economics 59.2 (1991): 160-72, with "Errata," 59.4 (1991): 516.

Davis, G. "Energy Catastrophes and Energy Consumption." Materials and Society 15.1 (1991): 31-39.

Other Published Articles:

Davis, G. "An Empirical Investigation of Mining and Sustainable Development." Preprint Number 04-136 (2004), Society for Mining, Metallurgy, and Exploration, Inc., Littleton, Colorado.

Samis, M. R., and Davis, G. "Actively Recognizing Cash Flow Uncertainty Within the Net Present Value Calculation." Mineral Economics and Management Society (MEMS) Newsletter, 31 (Winter 2004): 13-19.

Davis, G., and Owens, B. Optimizing the Level of Renewable Electric R&D Expenditures Using Real Options Analysis, National Renewable Energy Laboratory Technical Report NREL/TP-620-31221 (February 2003).

Davis, G. "One Project, Two Discount Rates." Business Valuation Review 20.1 (March 2001): 18-23.

Publications (other published articles)

Davis, G. "One Project, Two Discount Rates." Preprint No. 97-39 (1997), Society for Mining, Metallurgy, and Exploration, Inc., Littleton, Colorado.

Davis, G. "The Effect of NAFTA on the Economics of Mineral Production." Preprint No. 96-44 (1996), Society for Mining, Metallurgy, and Exploration, Inc., Littleton, Colorado.

Davis, G. "(Mis)Use of Monte Carlo Simulations in NPV Analysis." Transactions of the Society for Mining, Metallurgy, and Exploration, Inc., 298. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc. 1996, 75-79.

Davis, G. "Reply: (Mis)Use of Monte Carlo Simulations in NPV Analysis." Transactions of the Society for Mining, Metallurgy, and Exploration, Inc., 298. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc. 1996, 861-62.

Davis, G. "Discussion of 'Discount Rates and Risk Assessment in Mineral Project Evaluations' by L. D. Smith." Transactions of the Institution of Mining and Metallurgy, Section A: Mining Industry 104 (1995): 188-189.

Davis, G. "Reply: (Mis)Use of Monte Carlo Simulations in NPV Analysis." Mining Engineering 47.9 (1995): 75-79.

Davis, G. "An Investigation of the Underpricing Inherent in DCF Valuation Techniques." Preprint No. 95-37 (1995), Society for Mining, Metallurgy, and Exploration, Inc., Littleton, Colorado.

Davis, G. "Using Commodity Price Projections in Mineral Project Valuation." Preprint No. 95-36 (1995), Society for Mining, Metallurgy, and Exploration, Inc., Littleton, Colorado.

Davis, G. "US Share of World Mineral Markets: Where Are We Headed?" Mining Engineering 46.9 (1994):1067-1069.

Davis, G., and T. Considine. "An Economic Evaluation of Process Options that Reduce Coking Emissions at Integrated Steel Mills." Iron and Steelmaker March 1992: 57-62.

Papers in Proceedings:

Davis, G. "Economic Theory and the Valuation of Mineral Assets." Journal of Business Valuation - 2003, Proceedings of the Fifth Joint Business Valuation Conference of the Canadian Institute of Chartered Business Valuators and the American Society of Appraisers. 2003, 391-408.

Underwood, R., and Davis, G. "Control of Buffer Stocks Modeled by Functional Differential Equations." Nonlinear Analysis, Theory, Methods & Applications 30.2, Proceedings, Second World Congress of Nonlinear Analysts. 1997, 1087-1097.

Davis, G. "Brazil's Comparative Advantage in the Global Economy." Proceedings of the First International Symposium on Mining and Development, Universidade Estadual de Campinas, Campinas, Brazil. Ed. Saul B. Suslick. July 1995, 35-44.

Publications (papers in proceedings)

Davis, G. "The South African Export Incentive Scheme: Boom or Bust for the Minerals Sector?" Proceedings of the Mineral Economics and Management Society. Eds. Henry N. McCarl and Carmine Nappi. March 1994, 174-186.

Book Reviews:

Angola: Anatomy of an Oil State, 2nd edition, by Tony Hodges. Norway: Fridtjof Nansen Institute, in association with James Currey and Indiana University Press, 2004. Energy Journal 26.4 (2005): 127-130.

Small-Scale Mining in Asia: Observations Towards a Solution of the Issue, edited by Victor B. Maglambayan and Neoman de la Cruz. London: Mining Journal Books, c.2001. Resources Policy 30.1 (2004): 72.

The Green Myth – Economic Growth and the Quality of the Environment, by Marian Radetzki. Essex: Multi-Science Publishing Co. Ltd., 2001. Resources Policy 30.1 (2004): 71.

Oil and the Economy: Recent Developments in Historical Perspective, a special issue of The Quarterly Review of Economics and Finance 42.2 (2002), edited by James L. Smith. Energy Journal 24.4 (2003): 113-116.

Canadian Suppliers of Mining Goods and Services: Links Between Canadian Mining Companies and Selected Sectors of the Canadian Economy. Ottawa: Natural Resources Canada, 2000. Resources Policy 27 (2001): 273-278.

Why Governments Waste Natural Resources: Policy Failures in Developing Countries, by William Ascher. Baltimore: Johns Hopkins University Press, 1999. Resources Policy 26 (2000): 181-182.

The Economic Appraisal of Natural Gas Projects, by Willem J. H. Van Groenendaal. Oxford: Oxford University Press, 1998. Energy Journal 20.3 (1999): 161-162.

South African Minerals Yearbook 1997. Johannesburg: Raw Materials Group and Mineral and Energy Policy Centre. Natural Resources Forum 23.2 (1999): 180-181.

Trade and the Environment: Conflict or Compatibility? edited by Duncan Brack. London: Earthscan Publications Ltd., 1998, and Washington: The Brookings Institution, 1998. Journal of Energy and Development 24.1 (1998): 117-119.

National Accounts and the Environment, edited by Ignazio Musu and Domenico Siniscalco. Resources Policy 23.4 (1997): 205-207.

Trade Policy Implications of the Basel Convention Export Ban on Recyclables from Developed to Developing Countries, by Maria Isolda P. Guevara and Michael Hart, and A Statistical Review of International Trade in Metal Scrap and Residues, Parts I, II and III, by Ulrich Hoffmann. Resources Policy 23.3 (1997): 147-148.

Trading Up: Consumer and Environmental Regulation in a Global Economy, by David Vogel. Review of International Economics 5.2 (1997): 284-286.

Publications (book reviews)

Transnational Corporations and the International Trade in Primary Commodities, by the United Nations Conference on Trade and Development. Asian-Pacific Economic Literature 10.2 (1996): 70-72.

Investment under Uncertainty, by Avinash K. Dixit and Robert S. Pindyck, and Real Options: Managerial Flexibility and Strategy in Resource Allocation, by Lenos Trigeorgis. Resources Policy 22.3 (1996): 218-220.

Freer Trade, Protected Environment: Balancing Trade Liberalization and Environmental Issues, by C. Ford Runge, and Environment and Resource Policies for the World Economy, by Richard N. Cooper. Resources Policy 21.1 (1995): 74-75.

Sustainable Investment and Resource Use: Equity, Environmental Integrity and Economic Efficiency, by M. D. Young. Resources Policy 20.1 (1994): 76-77.

Working Papers:

Davis, G. "Measuring Unambiguously Pro-poor Growth."

Davis, G., and Cairns, R. "An Economic Interpretation of Optimal Stopping."

Davis, G. "An Empirical Investigation of Mining and Sustainable Development."

Davis, G., and Schantz, R. "Selling and Managing Offshore Oil Leases: A Real Options Analysis."

Moore, D. J., and Davis, G. "A Real Options Approach to Valuing Resource Deposits When Net Prices and Recoverable Reserves are Stochastic: The Case of North American Open-Pit Gold Mines."

Davis, G., and Tilton, J. "Should Developing Countries Renounce Mining? A Perspective on the Debate." Mimeo, Colorado School of Mines, December, 2002.

Davis, G. "A Non-joint Test for Informational Efficiency in Forward Markets." Mimeo, Colorado School of Mines, March, 1996.

Davis, G. "Option Premiums in Mineral Asset Valuation: Are They Important?" Working Paper 94-10, Colorado School of Mines, November, 1994.

Davis, G. "Reconsidering the Substitution Problem in the Theory of Effective Protection." Working Paper no. 77, Pennsylvania State University, November, 1992.

Davis, G., and T. Considine. "Process Choices for Steelmaking in the 1990s." Working Paper no. 55, Pennsylvania State University, May, 1991.

Davis, G., and K. Dellar. "A Method for Scenario Creation in Dynamic Environments." Working Paper no. 42, Pennsylvania State University, May, 1990. Revised January, 1992.

Davis, G. "An Environmental Scanning Exercise into the Trends that are Shaping the Financial Services Industry in South Africa." Confidential industry report, Graduate School of Business, University of Cape Town, 22 August, 1988.

Publications (working papers)

Davis, G. "Metal Marketing Neglect: A South African Phenomenon." Working Paper no. 88-35, Graduate School of Business, University of Cape Town, 1988.

PRESENTATIONS AND CHAIRED SESSIONS

"An Intuitive Approach to Optimal Stopping Under Certainty and Uncertainty" (with R.D. Cairns), 10th Annual International Conference on Real Options, New York, New York, June 14–17, 2006

"The Resource Curse: Assessing the Empirical Evidence," 2006 Allied Social Science Associations (ASSA) Meetings, Boston, Massachusetts, January 6-8, 2006.

"An Empirical Investigation of Resource Extraction and Sustainable Development," 25th US Association for Energy Economics/International Association for Energy Economics Annual North American Conference, Denver, Colorado, September 18-21, 2005.

"An Empirical Investigation of Mining and Sustainable Development," Inaugural Global Sustainable Development Conference, Minerals Council of Australia, Melbourne, Australia, October 25-29, 2004.

"Selling and Managing Offshore Oil Leases: A Real Options Analysis" (with R. Schantz), University of Auckland, Auckland, New Zealand, July 29, 2004.

"An Empirical Investigation of Mining and Sustainable Development," CRC Mining, Brisbane, Australia, July 18, 2004.

"An Empirical Investigation of Mining and Sustainable Development," CIM 2004 Annual Meeting & Exhibit, Edmonton, Alberta, May 12, 2004.

Session Chair, "Mining's View of Sustainability," Mineral Economics and Management Society (MEMS) 13th Annual Conference, Toronto, Ontario, April 21-23, 2004.

"An Empirical Investigation of Mining and Sustainable Development," Mineral Economics and Management Society (MEMS) 13th Annual Conference, Toronto, Ontario, April 23, 2004.

"Selling and Managing Offshore Oil Leases: A Real Options Analysis" (with R. Schantz), Centre Interuniversitaire de Recherches en Economique Quantitative (CIREQ), McGill University, Montreal, Quebec, March 19, 2004.

"An Empirical Investigation of Mining and Sustainable Development," 2004 SME Annual Meeting & Exhibit, Denver, CO, Feb. 23-25, 2004.

"Selling and Managing Offshore Oil Leases: A Real Options Analysis" (with R. Schantz), INFORMS 2003 Annual Meeting, Atlanta, GA, October 19-22, 2003.

Presentations and chaired sessions

“The Economic and Financial Theory Behind the Income Method of Mineral Property Appraisal,” Center for Advanced Property Economics Mineral Appraisal Symposium, Denver, CO, October 1-3, 2003.

“Should Developing Countries Renounce Extractive Industries? A Perspective on the Debate,” World Bank Oil, Gas, Mining, and Chemicals Department, Williamsburg, VA, June 18-20, 2003.

Session Chair, "Financial Decision Making for Sustainable Development," Mineral Economics and Management Society, 12th Annual Professional Program, Golden, CO, April 9-11, 2003.

“Economic Methods of Valuing Mineral Assets,” American Society of Appraisers/Canadian Institute of Chartered Business Valuators 5th Joint Business Valuation Conference, Orlando, FL, October 24-26, 2002.

“Strike When the Force is With You: A Robust Rule Involving the Force of Interest and Natural Resources” (with R.D. Cairns), University of Colorado Environmental and Resource Economics Workshop, Boulder, CO, July 15-16, 2002.

Session Co-Chair, "Student Paper Session," Mineral Economics and Management Society, 11th Annual Professional Program, Montreal, Quebec, April 10-12, 2002.

Session Co-Chair, "Student Paper Session," Mineral Economics and Management Society, 10th Annual Professional Program, Pittsburgh, PA, April 5-7, 2001.

“The Pitfalls of Real Options: How to Avoid Poor Management Decisions,” 50th Annual Meeting of the Midwest Finance Association, Cleveland, OH, March 29-31, 2001.

“Renewable Energy and Real Options Analysis,” National Renewable Energy Laboratory, Washington D.C., March 8, 2001.

“Optimizing the Level of Renewable Energy Research and Development Using Real Options Analysis,” National Renewable Energy Laboratory, Golden, CO, March 2, 2001.

“The Pitfalls of Real Options: How to Avoid Poor Management Decisions,” Real Options 2000, hosted by the International Quality & Productivity Center, Chicago, IL, September 25-26, 2000.

Session Co-Chair, "Student Paper Session," Mineral Economics and Management Society, Ninth Annual Professional Program, Boulder, CO, April 12-14, 2000.

“Selling Oil Leases: A Long-term Real Options Analysis,” (with R. Schantz), Allied Social Sciences Associations Annual Meeting, Boston, MA, January 7-9, 2000.

“The Potential for Economic Recovery of Metals from the Sillamäe Site,” NATO Advanced Research Workshop, Tallinn, Estonia, October 5-9, 1998.

Presentations and chaired sessions

"Estimating Volatility and Dividend Yield When Valuing Real Options to Invest or Abandon," 2nd Annual Real Options Conference, Northwestern University, Chicago, IL, June 11-12, 1998.

Session Chair, "Financing Mining," Mineral Economics and Management Society, Seventh Annual Professional Program, Washington, D.C., March 25-27, 1998.

"On Estimating Volatility and the Rate of Return Shortfall When Valuing Real Options to Invest or Abandon," Midwest Finance Association, 47th Annual Meeting, Chicago, IL, March 19-21, 1998.

Session Chair, "Managing Capital in the Minerals Industry," 1998 SME Annual Meeting & Exhibit, Orlando, FL, March 9-11, 1998

"Accounting for and Managing Political Risk in Mineral Projects," 1998 SME Annual Meeting & Exhibit, Orlando, FL, March 9-11, 1998

"Valuing the Stock and Flow of Mineral and Renewable Assets in National Income Accounting," 1997 Workshop on Valuation and Environmental Policy, National Science Foundation, Arlington, VA, April 7-8, 1997.

"One Project: Two Discount Rates," 1997 SME Annual Meeting & Exhibit, Denver, CO, February 24, 1997.

"The Credibility of a Threat to Nationalize," Graduate School of Business, University of Colorado at Denver, November 13, 1996.

"The Cost of a Threat to Nationalize," 71st Annual Western Economic Association International Conference, San Francisco, CA, June 28-July 2, 1996.

"The Effect of NAFTA on the Economics of Mineral Production," 1996 SME Annual Meeting & Exhibit, Phoenix, AZ, March 12, 1996.

Session Chair, "Mining and NAFTA - Two Years Later," 1996 SME Annual Meeting & Exhibit, Phoenix, AZ, March 12, 1996.

"Valuing Petroleum Reserves Using Current Net Price" (with Robert Cairns), Front Range Finance Conference, University of Colorado, Boulder, CO, November 10, 1995.

"Valuing Petroleum Reserves Using Current Net Price" (with Robert Cairns), Front Range Finance Conference, University of Colorado, Boulder, CO, November 10, 1995.

"The Minerals Sector as Winner in Development Economics," 18th Annual Third World Studies Conference, University of Nebraska at Omaha, Omaha, NE, October 12-14, 1995.

"Valuing Petroleum Reserves Using Current Net Price" (with Robert Cairns), University of Colorado Department of Economics, September 22, 1995.

Presentations and chaired sessions

"Brazil's Comparative Advantage in the Global Economy," First International Symposium on Mining and Development, Universidade Estadual de Campinas, Campinas, Brazil, July 10-13, 1995.

Session Chair, "Using Financial Concepts in Mineral Management Decisions," Mineral Economics and Management Society, Fourth Annual Professional Program, Boulder, CO, March 9-11, 1995.

Session Chair, "Commodity Price Projections to 2000," 1995 SME Annual Meeting & Exhibit, Denver, CO, March 6-9, 1995.

"An Investigation of the Underpricing Inherent in DCF Valuation Techniques," 1995 SME Annual Meeting & Exhibit, Denver, CO, March 6-9, 1995.

"Using Commodity Price Projections in Mineral Project Valuation," 1995 SME Annual Meeting & Exhibit, Denver, CO, March 6-9, 1995.

"Demand and Supply in World Mineral Markets: Where Are We Headed?" Envirosciences Expo '93, Earth Resources Consortium, Denver, CO, October 7-8, 1993.

"The Empty Economics in South Africa's Industrial Policy," 68th Annual Western Economic Association International Conference, Lake Tahoe, NV, June 20-24, 1993.

"The South African Export Incentive Scheme: Boom or Bust for the Minerals Sector?," First Annual Mineral Economics and Management Society Professional Program, Sterling, VA, March 19-21, 1992.

"The Declining Influence of Economic Growth on Metal Demand," International Symposium on Productivity and Technology in the Metallurgical Industries, co-sponsored by The Minerals, Metals & Materials Society and Gesellschaft Deutscher Metallhütten-und Bergleute, Cologne, West Germany, September 17-22, 1989.

EXECUTIVE SHORT COURSES

"Using Real Options to Value and Manage Natural Resource Projects," with Michael Samis. 24 hours of instruction, 2 Continuing Education units, offered through the Colorado School of Mines Office of Special Programs and Continuing Education.

"Using Monte Carlo Simulation to Value and Manage Mineral and Energy Projects," with Michael Samis. 24 hours of instruction, 2 Continuing Education units, offered through the Colorado School of Mines Office of Special Programs and Continuing Education.

REFEREEING SERVICES

American Economic Review, American Journal of Agricultural Economics, Applied Economics, Blackwell Publishing, Canadian Institute of Mining and Metallurgy (CIM) Bulletin, Canadian Journal of Economics, Ecological Economics, Economic Development and Cultural Change, Energy - The International Journal, Energy Economics, Energy Journal, Engineering Economist, Environmental and Resource Economics, European Journal of Development Research, IEEE Transactions on Engineering Management, International Economic Review, International Journal of Industrial Organization, International Journal of Risk Assessment and Management, International Review of Economics and Finance, Journal of Development Studies, Journal of Economics and Business, Journal of Economic Dynamics and Control, Journal of Energy and Development Economics, Journal of Environmental Economics and Management, Journal of Industrial Ecology, Journal of Nonlinear Studies, Journal of Petroleum Science and Engineering, Journal of Political Economy, Management Science, Mining Engineering, MIT Press, National Research Council, National Science Foundation, Natural Resources Forum, PennWell Publishing, Raw Materials Report, Resource & Energy Economics, Resources Policy, Review of International Economics, US Environmental Protection Agency, World Development.