

William A. Ward

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PRESENT POSITION(S)

Director	Clemson University Center for International Trade (Since May 2000)
Professor	Department of Applied Economics & Statistics (Since February 1990)
Professor	Clemson University Faculty of Economic Development
Professor	Clemson University Faculty of Policy Studies

MEMBERSHIP ON CURRENT CLEMSON UNIVERSITY COMMITTEES

- Governing Board, Policy Studies Ph.D. Program. Program advisor on Agricultural Policy field area.
- Department of Applied Economics and Statistics Committee on Research and Graduate Programs.
- Department of Applied Economics and Statistics Committee on Department Advisory Board.
- College of Business and Behavioral Science Awards Committee for Bank of America Study Abroad Grants, Committee Chair.
- College of Business and Behavioral Science Awards Committee for Bank of America Faculty Grants to Internationalize Business Curricula, Committee Chair.
- Management Committee on International Business Honors Program.
- Training, Outreach and Research on International Trade (TORIT) Program Management Committee, Chair.

MEMBERSHIP ON EXTERNAL BOARDS & COMMISSIONS

- Member, South Carolina District Export Council.
- Member, Workforce Investment Board for Pendleton District (Anderson-Pickens-Oconee Counties). Member of Strategic Planning Committee.
- Member, Board of Directors, South Carolina Export Consortium.
- Member, Anderson County Economic Development Advisory Board.
- Member, Anderson County Manufacturers Council.
- Member, Economic Development Committee of Anderson/Clemson University Alliance.
- Member, Governing Board of Clemson/Greenville Innovation and Leadership Initiative.
- Member, Supply Chain Management Working Group of Carolina Crescent Coalition.
- Member, Steering Committee of Advantage Greenville, Greenville Chamber of Commerce.
- Member, Steering Committee of NEXT, Greenville Chamber of Commerce.

PREVIOUS EMPLOYMENT

From To	Employer	Post
2/1/90-11/30/92	Clemson University	Director of International Programs College of Agriculture
12/15/80-2/1/90	Inst. for Dev't Programs	Managing Director
6/1/74-12/14/80	The World Bank	Sr. Economist, Sr. Lecturer, Lecturer
7/1/72-6/30/73	Michigan State University	Visiting Assoc. Prof., Ag. Econ
8/1/71-5/31/74	UNC-Wilmington	Assoc. Professor of Economics
8/1/70-7/31/71	The World Bank	Economist/Young Professionals Program

CONSULTANCIES

International organizations, including The World Bank, International Finance Corporation, Asian Development Bank, Inter-American Development Bank, Caribbean Development Bank, UNDP, FAO, OECD, and Joint Vienna Institute. More than twenty national governments, including Portugal, Ireland, Japan and Korea. U. S. agencies, including Army Corps of Engineers, and President's Water Resources Council. More than twenty development banks, private financial institutions and private companies. Experience includes appraisals and evaluations of more than 100 projects and two dozen investment programs, as well as assistance in preparing and evaluating investment analysis guidelines for five countries and for international organizations including the World Bank, International Finance Corporation, and the Asian Development Bank.

AREAS OF PROFESSIONAL EXPERTISE

- Financial, Fiscal and Economic Analysis of Projects, Programs and Policies
- Economic Development Policy & Practice
- International Trade and Production Integration

CURRENT TEACHING RESPONSIBILITIES

- Natural Resource Economics—PhD Seminar on Market Creation (on demand).
- Cost-Benefit Analysis—MS/PhD Seminar for Policy Studies and Applied Economics students (Spring semesters, in the future).
- International Trade Management—Fall Semester course for MBA & other graduate students in business and APEC. Parallel course taught to TORIT seniors each Fall.
- International Trade Services—Maymester (2.5-weeks) course for sophomores and juniors in TORIT program.
- Developing a one-credit seminar to be taught in Spring Semesters (beginning 2006) to help TORIT seniors prepare a plan to market themselves to employers.

CURRENT/RECENT RESEARCH PROJECTS

- Impact of Liberalizing Trade in Biofuels. With Masami Kojima and Don Mitchell of World Bank. (World Bank 2006).
- Economics of Biodiesel Production in Brazil. With Todd Johnson and Bob Schneider of World Bank. (World Bank 2006-2007).
- Lessons from Energy Efficiency Finance in Brazil, China and India. With Bob Taylor, Jeremy Levin and Chandra Govindarajalu of the World Bank. (World Bank 2005-2006).
- Reducing the Trade Logistics Barriers Facing Small/Rural Firms. With John Mittelstaedt, Will Lacey, George Harben, and Peter Lehman (Hatch Project—2000-2002; continued 2002-2006 with series of small grant funds).
- Global Restructuring and Its Implications for South Carolina. With Jim Hite and Gary McMahan (Hatch Project—1993-1999).
- Quality of Economic Analysis in International Finance Corporation (IFC) Projects, with Roland Michelitsch (1997-1999).
- Industrial Energy Efficiency & Greenhouse Gas Emissions in China (\$1.2 mil research project funded by Global Environment Facility/ World Bank/Government of China). With Bob Taylor & Todd Johnson of the World Bank; Professor Li Junfeng of Energy Research Institute (China) and colleagues; assisted by Professor Jim London of Clemson University (1994-1998).
- Asset Fixity/Specificity and the Development of Remote Regions (Continuation of work started under National Research Initiative project funded during 1994-95). With Alumni Distinguished Professor (Emeritus) J. C. Hite.
- Current Best Practice in International Investment Analysis. On-going research funded from consulting contracts.

EDUCATION & TRAINING

Michigan State University East Lansing, Michigan, USA 1972	1968-70	Ph.D. - Agricultural Economics (Natural Resources Policy)
Clemson University Clemson, SC, USA	1965-67	MS - Agricultural & Applied Economics (Natural Resources Policy) 1967
Clemson University Clemson, SC, USA	1961-65	BA - Arts & Sciences (English Literature) 1965

Short Courses, including advanced topics in corporate finance, financial structuring, and in financial economics; various short courses in procurement, project management, organizational management and organizational development.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Academy of International Business
Southern Regional Science Association
South Carolina Economic Developers Association
Southeastern Training Association
Western South Carolina International Trade Association
Piedmont Economics Club

HONORS AND AWARDS

1970 Selected to the Young Professionals Program at the World Bank
1989 Named a Centennial Distinguished Alumnus of Clemson University

PUBLICATIONS

Peer-Reviewed Journal Articles

- William A. Ward. "Manufacturing Jobs 2005-2010: Medium-Term Strategies for Long-Term Realities." *Economic Development Journal*, 5(1): 7-15 (Winter Quarter 2006).
- John D. Mittelstaedt, Mary Anne Raymond and William A. Ward. "External and Internal Factors Affecting the Tendency to Import: The Effects of Location and Firm Size." *Journal of Global Marketing*, 19(2): 27-48. (2006)
- John D. Mittelstaedt, William A. Ward and Edward Nowlin. "Location, Industrial Concentration and the Propensity of Small Firms to Export." *International Marketing Review*, 23:5, pp. 486-503. (2006)
- Ahjongd Garmestani, Craig Allen, John Mittelstaedt and William A. Ward. "Firm Size Diversity, Functional Richness and Resilience". *Environment and Development Economics*, 11:4, pp. 533-551 (August 2006).
- John Mittelstaedt, George Harben, and William A. Ward, "How Small is Too Small? Firm Size as a Barrier to Exporting from the United States." *Journal of Small Business Management* (January 2003).
- William A. Ward and James C. Hite, "Theory in Rural Development: An Introduction and Overview". *Growth and Change*, 29:3 (Summer 1998), pp. 245-58.
- James B. London, Li Junfeng, William A. Ward, Gary J. Wells, Dai Yande, and Liu Jingru, "Options for Reducing Greenhouse Gas Emissions in the Chinese Industrial Sector", *Energy Policy* 26:6, pp. 477-85 (1998).
- William A. Ward. "Cost-Benefit Analysis at a Cross Roads: The New World Bank and Asian Development Bank Guidelines on Economic Analysis of Investments." *Canadian Journal of Program Evaluation* (September 1996).
- William A. Ward. "The Role of the EDI in Projects Training for LDC Officials." *Journal of International Development*, Vol. 6. No. 1 (1994), pp 109-114.
- William A. Ward. "On Estimating Shadow Wage Rates for Portugal." *Economia*, Vol. 8, No. 3 (October 1983).

William A. Ward. "Implementing Training Programs in Project Organizations: Lessons of Experience." *Philippine Budget Management*, Second Quarter 1983.

William A. Ward. "Project Selection and Macroeconomic Objectives: Comment." *American Journal of Agricultural Economics*, Vol. 56, No. 3 (August 1974).

William A. Ward. "Economic Research: Prologue and Epilogue." *American Journal of Agricultural Economics*, Vol. 52, No. 1 (February 1970).

Article Submissions Under Review

Mittelstaedt, John D., Mary Anne Raymond and William A. Ward (under review), "Helping Exporters Understand Their Customers: Factors Affecting the Tendency to Import," *International Marketing Review*.

Mittelstaedt, John D., William A. Ward and Maya Vijayaraghavan (under review), "Location, Competition and Globalization: Increasing Returns and International Trade," in preparation for the *Journal of Macromarketing*.

Invited Book Reviews

William A. Ward. "Review of GLOBAL PERSPECTIVES ON INDUSTRIAL TRANSFORMATION IN THE AMERICAN SOUTH". *Journal of Regional Science* (Forthcoming December 2006).

William A. Ward. "Review of *The Economics of Rural Organization: Theory, Practice, and Policy* by Hoff, Braverman and Stiglitz." *American Journal of Agricultural Economics*. (August 1995).

William A. Ward. "Economic Analysis of Agricultural Projects by J. Price Gittinger -- A Book Review." *International Development Review* (January 1973).

Books, Monographs, and Book Chapters

Robert P. Taylor, Chandrasekar Govindarajalu, Jeremy Levin, William A. Ward, and Anke S. Meyer. *FINANCING ENERGY EFFICIENCY: Lessons from Recent Experience with a Focus on Brazil, China and India*. Washington: The World Bank (Forthcoming July 2006).

William A. Ward. *The Rise of Market-Based Society: Technology, Institutions and the Choice of Market vs Hierarchy*. (Forthcoming—negotiating with publishers).

William A. Ward, James B. London and Robert P. Taylor. *Energy Efficiency in China: Case Studies and Economic Analysis*. Report Number 4 of *China: Issues and Options in Greenhouse Gas Emissions Control*. Part 1. Overview of Case Studies and Economic Analysis. Washington: The World Bank, 1994 (Supported by the Global Environment Facility). Reprinted February 2006 by Clemson University Center for International Trade in cooperation with the World Bank. Available on-line at <http://business.clemson.edu/cit/>

William A. Ward, Li Junfeng, James B. London, Dai Yande, Gary J. Wells and Liu Jingru. *Energy Efficiency in China: Case Studies and Economic Analysis*. Report Number 4 of *China: Issues and Options in Greenhouse Gas Emissions Control*. Part 2. Energy Efficiency in China: Case Studies. Washington: The World Bank, 1994 (Supported

- by the Global Environment Facility). Reprinted February 2006 by Clemson University Center for International Trade in cooperation with the World Bank. Available on-line at <http://business.clemson.edu/cit/>
- William A. Ward and Barry J. Deren, with Emmanuel D'Silva. *The Economics of Project Analysis: A Practitioners' Guide*. Washington: The Economic Development Institute of the World Bank, 1991. (Translations of all or parts of the English language edition are available from the World Bank Institute in Spanish, Portuguese, Russian, and Bulgarian.)
- William A. Ward and Barry J. Deren, with Emmanuel D'Silva. *The Economics of Project Analysis: A Practitioners' Guide* (Chinese). Beijing: Tsinghua University Press, 2001.
- Robert P. Taylor and William A. Ward. "Economic Analysis of Rural Energy Projects." Chapter 7 of *Integrated Planning and Implementation of Rural Energy Development*. Ed. by Qiu Daxiong. Beijing: Qinghua University Press, 1991. In Chinese.
- William A. Ward, Barry J. Deren, Richard English, and Vernon Robertson. *Impact Evaluation Report: Pakistan Income Generating Project for Refugee Areas (Phase I)*. McLean, Virginia and Washington: The Institute for Development Programs and the World Bank, 1988.
- William A. Ward. *Cost-Benefit Rules for Industrial Incentives: A Proposed Technique for Establishing Criteria for Industrial Grants*. WP8001. The Center for Metropolitan Affairs and Public Policy Studies, College of Charleston, January 1980.
- William A. Ward and Kwon Moon Yong. *A Manual of Industrial Project Appraisal*. Seoul: Economic Planning Board of Korea, 1978. In Korean language.
- William A. Ward and Amilcar di Pina. *Economic Efficiency Analysis of Projects*. Oporto, Portugal: Oporto University, 1977. In Portuguese language.
- A. Allan Schmid and William A. Ward. *A Test of Federal Water Project Evaluation Procedures with Emphasis on Regional Income and Environmental Quality: Detroit River, Trenton Navigation Channel*. Agricultural Economics Report No. 158 (April 1970).
- J. C. Hite, W. Fred Chapman, and William A. Ward. *Estimates of Future Economic Growth for Water Resource Planning, Broad River Basin, North and South Carolina*. Charlottesville, Virginia: Federal Water Pollution Control Administration (July 1967).

Working Papers

- William A. Ward. "Manufacturing Productivity and the Shifting US, China, and Global Job Scene 1990-2005" (August 2005). Center for International Trade Working Paper 052507. <http://business.clemson.edu/cit/Papers.htm>
- William A. Ward. "South Carolina in a Globalized Economy: How we got here and where we go next." CIT Working Paper 040918, Clemson University Center for

- International Trade (September 28, 2004).
http://business.clemson.edu/CIT/Documents/GTEC_Seminar_WAWARD.pdf
- John D. Mittelstaedt and William A. Ward. "Location, Firm Size and International Trade: Simultaneous Measurement of the Effects of Internal and External Scale Economies." CIT Working Paper 030115, Clemson University Center for International Trade (January 2003). <http://business.clemson.edu/cit/Papers.htm>
- Maya Vijayaraghavan and William Ward. "Institutions and Economic Growth: Empirical Evidence from a Cross-National Analysis." CIT Working Paper 001302, Clemson University Center for International Trade (March 2001).
<http://business.clemson.edu/cit/Papers.htm>
- William A. Ward. "Globalization and its Implications: The Size and Location of Manufacturing Sector Export Firms in South Carolina" (Revised). CIT Working Paper 0001115, Clemson University Center for International Trade (November 2000). <http://business.clemson.edu/cit/Papers.htm>
- John D. Mittelstaedt, George N. Harben, William A. Ward. "How Big is Big Enough? Firm Size as a Barrier to Exporting in South Carolina's Manufacturing Sector" (Revised). CIT Working Paper 000701, Clemson University for International Trade (October 2000). <http://business.clemson.edu/cit/Papers.htm>
- John D. Mittelstaedt, George N. Harben, William A. Ward. "Economic Characteristics of South Carolina Manufacturing Sector Exporters." CIT Working Paper 000626, Clemson University for International Trade (September 2000)
<http://business.clemson.edu/cit/Papers.htm>
- William A. Ward and James C. Hite. "Asset Fixity, Asset Specificity and Regional Economic Change: Hypothesis and Implications." Working Paper WP110499, Clemson University Department of Agricultural and Applied Economics. November 1999. <http://cherokee.agecon.clemson.edu/wp110399.pdf>
- William A. Ward, Madhusudan Bhattarai and Pei Huang, "The New Economics of Distance: Long Term Trends in Indexes of Spatial Friction." Departmental Working Paper WP020299, Clemson University Department of Agricultural and Applied Economics (February 2, 1999).
<http://cherokee.agecon.clemson.edu/wp020299.pdf>
- W. Jordan Ward and William A. Ward. "Providing Benefits for Small Business Employees: Practical Tips for Evaluating Whether and How a Small Business Should Use a Professional Employer Organization/Staff Leasing Company." Departmental Working Paper No. 060898, Clemson University Department of Agricultural and Applied Economics (June 8, 1998).
- William A. Ward. "Capital Markets Institutions, Asset Price Adjustments, and Financial Crises: An Essay on the Origins of the Asian Financial Crisis." Working Paper No. WP 012398, Department of Agricultural and Applied Economics, Clemson University (January 23, 1998).

- William A. Ward. "Labor Quality and Economic Development: Development Strategies for Anderson County in the New Global Competition." Working Paper No. WP081597, Department of Agricultural and Applied Economics, Clemson University (August 8, 1997).
- Gary J. Wells and William A. Ward. "Case Studies of Energy Management Service Contracting and Financing in China." Working Paper No. WP110897, Department of Agricultural and Applied Economics, Clemson University (November 8, 1997).
- William A. Ward. "Cost-Benefit Analysis at a Cross Roads: The New World Bank and Asian Development Bank Guidelines on Economic Analysis of Investments." Working Paper number 013096, Clemson University Department of Agricultural and Applied Economics (January 1996).
- William A. Ward. "Information, Socioeconomic Organization, and Cost-Benefit Analysis." Working Paper No. 121294, Clemson University Department of Agricultural and Applied Economics (December 1994).
- William A. Ward. "Asset Fixity/Specificity and Technology Development Finance: Distribution and Efficiency Implications." Working Paper No. 031693, Clemson University Department of Agricultural and Applied Economics (March 1993).
- William A. Ward. "The Role of the World Bank's Economic Development Institute in Projects Training for LDC Managers." Working Paper 031593, Clemson University Department of Agricultural and Applied Economics (March 1993).
- J. C. Hite and William A. Ward. "Asset Fixity and Rural Development: Hypothesis and Policy Ramifications." Working Paper No. 120792, Clemson University Department of Agricultural and Applied Economics (December 1992).

Published Training Materials

- William A. Ward and Amarquay Armar. *Economic Analysis of Energy Investments*. McLean, Virginia: Institute for Development Programs, 1988.
- William A. Ward and Mehdi Al Bazzaz. *Containers Corporation of the Caribbean*. IE-5234P and IE-5234-S. EDI Case Studies and Exercise Series. Economic Development Institute of the World Bank, Revised 1986. In English, Spanish, Chinese, Russian, and Portuguese.
- William A. Ward and Mehdi Al Bazzaz. *Caribe Containers Corporation: Domestic Price Numeraire*. IE-5219-P and IE-5219-S. EDI Case Studies and Exercise Series. Economic Development Institute of the World Bank, Revised 1986. In English, Spanish, Chinese, Russian, and Portuguese.
- William A. Ward. *Bangladesh Hand Tubewells Project: Economic Analysis Case Study*. EDI Case Studies and Exercise Series. Economic Development Institute of the World Bank, 1983. In English only.
- J. Price Gittinger, William A. Ward, and Fernando Manibog. *Import Parity Prices Exercise*. AE-1075-P and AE-1075-S. EDI Case Studies and Exercise Series.

- Economic Development Institute of the World Bank, Revised 1983. In English, Spanish, Chinese, and Portuguese.
- J. Price Gittinger and William A. Ward. *Domestic Resource Cost Exercise: Freeze Dried Coffee Production*. AE-1121-P and AE-1121-S. EDI Case Studies and Exercise Series. Economic Development Institute of the World Bank, Revised 1979. In English.
- Prepared by William A. Ward and revised by Lokhi Banerji and James Austin. *Caribe Containers Corporation*. Cambridge, Mass.: Harvard International Case Clearing House, 1979.
- William A. Ward. *Calculating Import and Export Parity Prices*. CN-3. EDI Course Notes. Washington: The Economic Development Institute of the World Bank, 1977. In English, Portuguese, Spanish, Chinese, and Russian.
- William A. Ward, Lyn Squire and Anandarup Ray. *The Numeraire in Economic Analysis*. CN-12. EDI Course Notes. Washington: The Economic Development Institute of the World Bank, 1977.
- William A. Ward. *Pakistan Shadow Exchange Rate and Standard Conversion Factor Exercise*. AE-1093-P and AE-1093-S. EDI Case Studies and Exercise Series. Washington: Economic Development Institute of the World Bank (1976).
- William A. Ward. *The Bruno Criterion in Two Numeraires*. CN-22. EDI Course Notes. Washington: The Economic Development Institute of the World Bank, 1976.
- William A. Ward and Nicholas Burnett. *Choi Containers*. BC-573-P and BC-573-S. EDI Case Studies and Exercise Series. Washington: Economic Development Institute of the World Bank, 1976. Superseded by IE-5219-P and S.
- William A. Ward and Nicholas Burnett. *Malawi Trade-Weighted Average Tariff Calculation*. BC-574-P and BC-574-S. EDI Case Studies and Exercise Series. Washington: Economic Development Institute of the World Bank (1976).

Global Issues Papers (On-line)

- “Curious Alternatives to Social Security.” CIT Global Issues Paper IEP-803-01 (August 28, 2003). <http://business.clemson.edu/cit/economy1.htm>
- “Globalism”. CIT Global Issues Paper IEP-903-02 (September 5, 2003). <http://business.clemson.edu/cit/economy1.htm>
- “The Birth of Bretton Woods.” CIT Global Issues Paper IEP-903-03 (September 18, 2003). <http://business.clemson.edu/cit/economy1.htm>
- “The Death of Bretton Woods.” CIT Global Issues Paper IEP-903-04 (September 18, 2003). <http://business.clemson.edu/cit/economy1.htm>
- “The International Economy Prior to the Great Depression.” CIT Global Issues Paper IEP-903-05 (September 18, 2003). <http://business.clemson.edu/cit/economy1.htm>
- “China Supply Shock.” CIT Global Issues Paper IEP-903-06 (September 27, 2003). <http://business.clemson.edu/cit/economy1.htm>

- “Three Great Intellectual Battles of 20th Century Economics.” CIT Global Issues Paper IEP-1003-07 (October 3, 2003). <http://business.clemson.edu/cit/economy1.htm>
- “Market Liberalization and the Environment.” CIT Global Issues Paper IEP-1003-08 (October 5, 2003). <http://business.clemson.edu/cit/economy1.htm>
- “Educational Attainment in the 20th Century and the Arrival of the 21st Century Knowledge Economy.” CIT Global Issues Paper IEP-1003-09 (October 7, 2003). <http://business.clemson.edu/cit/economy1.htm>