

January 2019

## **Robert J. Windle**

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### **EDUCATION:**

Degrees:

B.A., College of William and Mary, 1977, Williamsburg, Virginia, majored in Economics.

M.S., University of Wisconsin-Madison, 1981, Madison, Wisconsin, Department of Economics.

Ph.D. University of Wisconsin-Madison, 1984, Madison, Wisconsin, Department of Economics.

Ph.D. Dissertation: The Cost Structure of the U.S. Urban Bus Transit Industry

### **PROFESSIONAL EXPERIENCE:**

Assistant Dean of Doctoral Programs, Robert H. Smith School of Business, University of Maryland, August 2017 to present.

Director of Doctoral Programs, Robert H. Smith School of Business, University of Maryland, August, 2014 to August 2017.

Professor of Logistics, Business and Public Policy, Robert H. Smith School of Business, University of Maryland, August, 2001 to present.

Chair, Department of Logistics, Business and Public Policy, Robert H. Smith School of Business, University of Maryland, July 2003 to December 2010.

Associate Professor of Logistics, Business and Public Policy, Robert H. Smith School of Business, University of Maryland, August 1993-August 2001

Assistant Professor of Transportation, Business, and Public Policy, College of Business and Management, University of Maryland, August 1988 - August, 1993.

Senior Economist, Laurits R. Christensen Associates, Inc., Madison, Wisconsin, September 1984 - June 1988.

Research Associate, University of Wisconsin-Madison, September 1984 - April 1985.

Staff Economist, Laurits R. Christensen Associates, Inc., Madison, Wisconsin, July 1982 - August 1984.

Teaching Assistant and Research Assistant, University of Wisconsin-Madison, September 1978 - August 1984.

## RESEARCH INTERESTS:

Research interests primarily in the area of transportation economics with an emphasis on the airline industry. Areas of interest include: cost and productivity analysis, demand studies, and the impact of the changing regulatory environment.

## PUBLICATIONS: Articles in Refereed Journals

- 1) Train, Kenneth E.; Herriges, Joseph A.; and Windle, Robert J. "Statistically Adjusted Engineering (SAE) Models of End-Use Load Curves," *Energy*, Vol. 10, No. 10, 1985, pp. 1103-1111.
- 2) Caves, Douglas W.; Christensen, Laurits R.; Tretheway, Michael W.; and Windle Robert J. "The Effect of New Entry on Productivity Growth in the U.S. Airline Industry: 1947-1981," *The Logistics and Transportation Review*, Vol. 21, No. 4, 1985, pp. 299-335.
- 3) Caves, Douglas W.; Herriges, Joseph A.; Train, Kenneth E.; and Windle, Robert J. "A Bayesian Approach to Combining Conditional Demand and Engineering Models of Electricity Usage," *The Review of Economics and Statistics*, August 1987, Vol. LXIX, No. 3, pp. 438-448.
- 4) Caves, Douglas W.; Hanser, Philip; Herriges, Joseph A.; and Windle, Robert J. "Load Impact of Interruptible and Curtailable Rate Programs: Evidence from Ten Utilities," *IEEE Transactions on Power Systems*, Vol. 3, No. 4, November 1988, pp. 1757-1763.
- 5) McShan, Scott; and Windle, Robert J. "The Implications of Hub-and-Spoke Routing for Airline Costs and Competitiveness," *The Logistics and Transportation Review*, Vol. 25, No. 3, 1989, pp. 209-230.
- 6) Caves, Douglas W.; Herriges, Joseph A.; and Windle, Robert J. "Customer Demand for Service Reliability in the Electric Power Industry: A Synthesis of the Outage Cost Literature," *Bulletin of Economic Research*, Vol. 42, No. 2, April, 1990, pp. 79-119.
- 7) Windle, Robert J. "A Cost and Productivity Comparison of the World's Airlines," *Journal of Transport Economics and Policy*, Vol. XXV, No. 1, January, 1991, pp. 31-49.
- 8) Windle, Robert J.; and Dresner, Martin E. "Mandatory Child Safety Seats in Air Transport: Do They Save Lives?," *Journal of the Transportation Research Forum*, Vol. XXXI, No. 2, 1991, pp. 309-316.
- 9) Caves, Douglas W.; Herriges, Joseph A.; and Windle, Robert J. "The Cost of Electric Power Interruptions in the Industrial Sector: Estimates Derived from Interruptible Service Programs," *Land Economics*, Vol. 68, No. 1, 1992, pp. 49-61.
- 10) Dresner, Martin E.; and Windle, Robert J. "The Liberalization of U.S. International Air Policy: Impact on U.S. Markets and Carriers," *Journal of the Transportation Research Forum*, Vol. XXXII, No. 2, 1992, pp. 273-285.
- 11) Windle, Robert J.; and Dresner, Martin E. "Partial Productivity Measures and Total Productivity in the Air Transport Industry: Limitations and Uses," *Transportation Research-A*, Vol. 26A, No. 6, 1992, pp. 435-445.
- 12) Dresner, Martin E.; and Windle, Robert J. "Airport Dominance and Yields In the U.S. Airline Industry," *The Logistics and Transportation Review*, Vol. 28, No. 4, 1992, pp. 319-339.

- 13) Windle, Robert J.; and Dresner, Martin E. "Competition at 'Duopoly' Airline Hubs in the U.S.," *Transportation Journal*, Vol. 33, No. 2, Winter, 1993, pp. 22-30.
- 14) Xu, Kefeng; Windle, Robert J.; Grimm, Curtis M.; and Corsi, Thomas M. "Re-evaluating Returns to Scale in Transportation," *Journal of Transport Economics and Policy*, Vol. XXVIII, No. 3, September, 1994, pp. 275-286.
- 15) Windle, Robert J. and Dresner, Martin E. "An Empirical Analysis of Airport Choice in a Multiple Airport Region," *Journal of Transportation Engineering*, Vol. 121, No. 4, July/August, 1995, pp. 332-337.
- 16) Dresner, Martin E.; Flicop, Susan and Windle, Robert J. "Trans-Atlantic Airline Alliances: A Preliminary Evaluation," *Journal of the Transportation Research Forum*, Vol. 35, No. 1, 1995, pp. 13-25.
- 17) Dresner, Martin E. and Windle Robert J. "Are U.S. Carriers to be Feared? Implication of Hubbing to North Atlantic Competition," *Transport Policy*, Vol. 2, No. 3, 1995, pp. 195-202.
- 18) Windle, Robert J. and Dresner, Martin E. "A Note on Productivity Comparisons Between Air Carriers," *The Logistics and Transportation Review*, Vol. 31, No. 2, June, 1995, pp. 125-134.
- 19) Windle, Robert J. and Dresner, Martin E. "The Short and Long Run Effects of Entry on U.S. Domestic Air Routes," *Transportation Journal*, Vol. 35, No. 2, Winter, 1995, pp.14-25.
- 20) Dresner, Martin E.; Lin, Jiun-Sheng and Windle, Robert J. "The Impact of Low Cost Carriers on Airport and Route Competition," *Journal of Transport Economics and Policy*, Vol. 30, No. 3, September, 1996, pp. 309-328.
- 21) Dresner, Martin E. and Windle, Robert J. "Alliances and Code-Sharing in the International Airline Industry", *Built Environment*, Vol. 22, No. 3, 1996, pp. 201-211.
- 22) Corsi, Thomas; Dresner, Martin and Windle, Robert. "Air Passenger Forecasts: Principles and Practices", *Journal of the Transportation Research Forum*, Vol. 36, No. 2, 1997, pp. 42-62.
- 23) Windle, Robert J. and Dresner, Martin E. "Competitive Responses to Low Cost Carrier Entry" *Transportation Research Part E - The Logistics and Transportation Review*, Vol.35, 1999, pp.59-75.
- 24) Corsi, Thomas M.; Windle, Robert J. and Knemeyer, A. Michael "Evaluating the Potential Impact of Interstate Highway Rights-of-Way Commercialization on Economic Activity at Interchanges," *Transportation Journal*, Vol. 39, No. 2, Winter 1999.
- 25) Rabinovich, Elliot; Windle, Robert; Dresner, Martin and Corsi, Thomas "Outsourcing of Integrated Logistics Functions: An Examination of Industry Practices," *International Journal of Physical Distribution & Logistics Management*, Volume 29, Numbers 5 and 6, 1999, pp. 353-373.
- 26) Dresner, Martin E. and Windle, Robert J. "Assessing Competitive Behavior By U.S. Carriers" *Journal of the Transportation Research Forum*, Vol. 39, No. 2, Winter 2000, pp.177-189.
- 27) Dresner, Martin and Windle, Robert J. "Resource Availability and New Entry in the U.S. Airline Industry", *Journal of Air Transport Management*, Vol. 7, 2001, pp. 231-239.
- 28) Lin, Jiun-Sheng Chris, Dresner, Martin, and Windle, Robert, "Determinants of Price Reactions to Entry in the US Airline Industry", *Transportation Journal*, Vol. 41, Winter 2001, pp. 5-22.

- 29) Dresner, Martin E., Windle, Robert J. and Yao, Yuliang, "Airport Barriers to Entry in the U.S.", *Journal of Transport Economics and Policy*, Vol. 36, Part 2, September, 2002, pp. 389-405.
- 30) Dresner, Martin E., Windle, Robert J., and Zhou, Ming, "Regional jet services: supply and demand", *Journal of Air Transport Management*, Vol. 8, No. 5, September, 2002, pp. 267-274.
- 31) Turner, Hugh, Windle, Robert J. and Dresner, Martin, "North American Containerport Productivity: 1984-1997", *Transportation Research Part E: Logistics and Transportation Review*, Vol. 40, No. 4, July 2004, pp 339-356.
- 32) Hofer, Christian, Dresner, Martin E. and Windle, Robert J., "Financial Distress and US Airline Fares," *Journal of Transport Economics and Policy*, Vol. 39 (3), September 2005, pp. 323-340.
- 33) Pathomsiri, Somchai, Haghani, Ali, Dresner, Martin and Windle, Robert J., "Impact of Undesirable Outputs on the Productivity of U.S. Airports," *Transportation Research Part E: Logistics and Transportation Review*. Special issue, Genevieve Giuliano, Maged Dessouky, and Majes E. Moore, eds. Vol 44(2), 2008, pp. 235-259.
- 34) Hofer, Christian, Windle, Robert J. and Dresner, Martin E., "Price Premiums and Low Cost Carrier Competition," *Transportation Research Part E: Logistics and Transportation Review*, Vol. 44(5), 2008, pp. 864-882.
- 35) Zhou, Ming, Dresner, Martin and Windle, Robert J., "Online Reputation Systems: Design and Strategic Practices," *Decision Support Systems*, Vol. 44(4), 2008, pp. 785-797.
- 36) Han, Chaodong, Dresner, Martin and Windle, Robert J., "Impact of Global Sourcing and Exports on U.S. Manufacturing Inventories," *International Journal of Physical Distribution and Logistics Management*, Vol. 38(6), 2008, pp. 475-494.
- 37) Hofer, Christian, Dresner, Martin E. and Windle, Robert J., "The Impact of Airline Financial Distress on U.S. Air Fares: A Contingency Approach," *Transportation Research Part E: Logistics and Transportation Review*. Vol. 45(1), 2009, pp.238-249.
- 38) Zhou, Ming, Dresner, Martin and Windle, Robert, "Revisiting Feedback Systems: Trust Building in Digital Markets," *Information and Management*, Vol. 46(5), June 2009, pp. 279-284.
- 39) Hofer, Christian, Dresner, Martin E. and Windle, Robert J., "The Environmental Effects of Airline Carbon Emissions Taxation in the U.S.," *Transportation Research Part D: Transport and Environment*, Vol. 15(1), January 2010, pp. 37-45.
- 40) Zou, Li, Dresner, Martin and Windle, Robert, "A Two-Location Inventory Model with Transshipments in a Competitive Environment," *International Journal of Production Economics*, Vol. 125(2), June 2010, pp.230-250.
- 41) Zou, Li, Dresner, Martin E. and Windle, Robert J., "Many Fields of Battle: How Cost Structure Affects Competition Across Multiple Markets," *Journal of Transport Economics and Policy*, Vol. 45(1), January 2011, pp. 21-40.
- 42) Cho, Woohyun, Windle, Robert J. and Hofer, Christian, "Route Competition in Multi-Airport Cities: An Analysis of U.S. Air Fares," *Transportation Journal*, Vol. 51, No. 3, 2012, pp. 265-288.

- 43) Elawkil, Omar S., Windle, Robert J. and Dresner, Martin E., "Transborder demand leakage and the US-Canadian air passenger market," *Transportation Research Part E: Logistics and Transportation Review*. Vol. 57, 2013, pp. 45-57.
- 44) Ke, Jian-yu and Windle, Robert J., "The Ongoing Impact of the US-China Air Services Agreements (ASAs) on Air Passenger Markets," *Transportation Journal*, Vol. 53, No. 3, 2014, pp. 274-304.
- 45) Elking, Isaac and Windle, Robert J., "Examining Differences in Short-haul and Long-haul Markets in US Commercial Airline Passenger Demand," *Transportation Journal*, Vol. 53, No. 4, 2014, pp. 424-452.
- 46) Ke, Jian-yu, Windle, Robert J., Han, Chaodong, and Britto, Rodrigo, "Aligning Supply Chain Transportation Startegy with Industry Characteristics – Evidence from the US-Asia Supply Chain," *International Journal of Physical Distribution & Logistics Management*, Vol. 45, Issue 9/10, 2015, pp. 837-860.
- 47) Özpölat, Koray, Ribbink, Dina, Hales, Douglas N., and Windle, Robert J., "Food Aid Procurement and Transportation Decision-making in Governmental Agencies: The United Nations/EU versus the United States Approach", *Transportation Journal*, Vol. 54, No. 2, 2015, pp.159-185.
- 48) Cho, Woohyun, Windle, Robert J. and Dresner, Martin E., "The Impact of Low Cost Carriers on Airport Choice in the US: A Case Study of the Washington-Baltimore Region," *Transportation Research Part E: Logistics and Transportation Review*, Vol. 81, September, 2015, pp. 141-157.
- 49) Cho, Woohyun, Windle, Robert J. and Dresner, Martin E., "The Impact of Operational Exposure and Value-of-Time on Customer Choice: Evidence from the Airline Industry," *Transportation Research Part A: Policy and Practice*, Vol.103, September 2017, pp. 455-471.

**PUBLICATIONS: Articles in Edited Volumes**

- 50) Caves, Douglas W.; Christensen, Laurits R.; Tretheway, Michael W. and Windle, Robert J. "Network Effects and the Measurement of Returns to Scale and Density for U.S. Railroads," in A. F. Daughety, ed., Analytical Studies in Transport Economics, Cambridge: Cambridge University Press, 1985.
- 51) Caves, Douglas W.; Christensen, Laurits R.; Tretheway, Michael W.; and Windle, Robert J. "An Assessment of the Efficiency Effects of U.S. Airline Deregulation Via An International Comparison," in E. E. Baily, ed., Public Regulation: New Perspectives on Institutions and Policies, Cambridge: The MIT Press, 1987, pp. 285-320.
- 52) Windle, Robert J. "Transit Policy and the Cost Structure of Urban Bus Transportation" in J. S. Dodgson and N. Topham, eds., Bus Deregulation and Privatization: An International Perspective, Gower, 1988, pp. 119-140.
- 53) Grimm, Curtis and Windle, Robert, "Regulation and Deregulation in Surface Freight, Airlines and Telecommunications," in Regulatory Reform and Labor Markets, edited by James Peoples, Kluwer Academic Publishers, 1998, pp. 15-50.
- 54) Windle, Robert, "Economic Deregulation in the U.S.," in Button, Kenneth and Hensher, David (eds.) Handbooks 6: Transport Strategy, Policy and Institutions, Amsterdam: Pergamon/Elsevier Science, 2005

## **PUBLICATIONS: Published Reviews**

*The Economic Effects of Airline Deregulation* by Steven Morrison and Clifford Winston reviewed in Journal of the Transportation Research Forum, Vol. XXX, No. 1, 1989, pp.227-228.

*The Economics of Transport* edited by Herbert Mohring reviewed in Journal of the Transportation Research Forum, Vol. 35, No. 2, 1995, pp. 73-74.

*Transport Economics*, 2nd Edition by Kenneth J. Button reviewed in The Logistics and Transportation Review, Vol. 32, No. 2, June, 1996, pp. 247-249.

*Flying to Close to the Sun: The Success and Failure of New-Entrant Airlines* by Sveinn V. Gudmundsson reviewed in Journal of the Transportation Research Forum, Vol. XXXIX, No. 1, 2000.

## **OTHER PUBLICATIONS AND REPORTS:**

Combined Engineering and Statistical Approaches to Estimate End-Use Load Shapes, Volumes 1 and 2, Final Report prepared for the Electric Power Research Institute, October 1985 (with K. Train, J. Herriges, and T. Alereza).

Demand-Side Management Customer Response, Final Report prepared for Electric Power Research Institute, September 1986 (with D. W. Caves, J. A. Herriges, and C. McDonald).

Residential Response to Time-of-Use Rates, Volume 4: Assessing RETOU's Out-of-Sample Performance, Final Report prepared for the Electric Power Research Institute, March, 1987 (with D. W. Caves, L. R. Christensen, and J. A. Herriges).

Customer Response to Interruptible and Curtailable Rates, Volumes 1 and 2, Final Report prepared for Electric Power Research Institute, October 1987 (with D. W. Caves and J. A. Herriges).

Customer Demand for Service Reliability: Existing and Potential Sources of Information, Final Report prepared for Electric Power Research Institute, September 1989 (with D. W. Caves and J. A. Herriges).

"Passengers, Airlines and International Air Transport Policy," in The Annual Review of Travel published by American Express Travel Related Services Company, Inc., 1992 (with M. E. Dresner).

Fueling American Prosperity: The Economic Significance of Interstate Businesses, Final Report for The NATSO Foundation, 1997 (with T. M. Corsi and M. Knemeyer).

"Resource Availability and New Entry in the US Airline Industry," Prepared for the Transportation Research Board, April, 1999 (with M.E. Dresner).

Research Report: "An Analysis of the 1998 Metropolitan Washington Council of Governments Air Passenger Survey", October, 2000 (with Martin Dresner and Yuliang Yao).

Reprint – Caves, Douglas W., Christensen, Laurits R., Thretheway, Michael W. and Windle, Robert J., "Network Effects and the Measurement of Returns to Scale and Density for U.S. Railroads" in Nash, Chris, Wardman, Mark, Button, Kenneth and Nijkamp, Peter (eds.), Classics

in Transport Analysis 3: Railways, 2002, Northampton, MA: Edward Elgar Publishing, Inc., pp. 43-66.

Dresner, Martin, Windle, Robert and Yao, Yuling, "The Impact of Hub Dominance and Airport Access on Entry in the U.S. Airline Industry", in Wang, Kelvin C.P., Xiao, Guiping, Nie, Lei, and Yang, Hao (eds.), Traffic and Transportation Studies: Proceedings of the ICTTS 2002, Reston, Virginia: American Society of Civil Engineers, pp. 1430-1437.

Fueling American Prosperity: How Rest Area Commercialization Will Devastate the Economic Contributions of Interstate Business, Final Report for the NATSO Foundation, 2003 (with T.M. Corsi and G. B. Infanger)

#### **AWARDS AND CONTRACTS:**

International Airline Productivity, Graduate Research Board, University of Maryland, Summer Research Award, Summer, 1989, \$4,500.

An Analysis of Passenger Traffic at BWI, Maryland Aviation Administration, Maryland State Department of Transportation, Co-Principal Investigator, April 1992 - December 1992, \$15,000 (Thomas M. Corsi and Martin E. Dresner, Co-Principal Investigators).

An Analysis of Passenger Traffic at BWI: 1994 Report, Maryland Aviation Administration, Maryland State Department of Transportation, Co-Principal Investigator, March 1994 - June 1994, \$30,300 (Thomas M. Corsi and Martin E. Dresner, Co-Principal Investigators).

Forecasting Passenger Traffic at BWI: 1996-2020. Maryland Aviation Administration, Maryland State Department of Transportation, Co-Principal Investigator, May 1995 - October 1995, \$60,000 (Thomas M. Corsi and Martin E. Dresner, Co-Principal Investigators).

Economic Impact of Highway Service Industry. NATSO, Inc., Co-Principal Investigator, March 1996 - March 1997, \$145,000 (Thomas M. Corsi, Co-Principal Investigator).

Competitive Response to Low Cost Carrier Entry, Robert H. Smith School of Business, University of Maryland, Summer Research Award, Summer 1997, \$3,500.

Incumbent Responses to Competitive Entry, Robert H. Smith School of Business, University of Maryland, Summer Research Award, Summer 1998, \$6,000.

Service Award, Robert H. Smith School of Business, University of Maryland, Summer Service Award, Summer 1998, \$5,000.

The Impact of Customer Characteristics on Airline Route Demand, Robert H. Smith School of Business, University of Maryland, Summer Research Award, Summer 1999, \$9,150.

An Analysis of the BWI 1998 Air Passenger Survey, Maryland Aviation Administration, Maryland State Department of Transportation, Co-Principal Investigator, September, 1999 – September 2000, \$60,000 (Martin E. Dresner, Co-Principal Investigator).

The Impact of Infrastructure Constraints on Prices and Entry in the Airline Industry, Robert H. Smith School of Business, University of Maryland, Summer Research Award, Summer 2000, \$12,000.

The Impact of Regional Jets on Airline Demand, Robert H. Smith School of Business, University of Maryland, Summer Research Award, Summer, 2001, \$12,000

Airport Access and Entry into the U.S. Airline Industry, Robert H. Smith School of Business, University of Maryland, Summer Research Award, 2002, \$17,625 (Martin E. Dresner, Co-Principal Investigator).

Economic Impact of Highway Service Industry. NATSO, Inc., Co-Principal Investigator, September 2002-April 2003, \$100,000 (Thomas M. Corsi, Co-Principal Investigator).

Many Fields of Battle: How Cost Structure Affects Competition Across Multiple Markets, Robert H. Smith School of Business, University of Maryland, Summer Research Award, 2007, \$14,298 (Martin E. Dresner, Co-Principal Investigator).

US-Canadian Air Passenger Traffic: More Than It Appears?, Robert H. Smith School of Business, University of Maryland, Summer Research Award, 2011, \$8,315.

The Ongoing Impact of the US-China Air Services Agreements (ASAs), Robert H. Smith School of Business, University of Maryland, Summer Research Award, 2012, \$12,572.

Air or Ocean? An Empirical Examination of Transport Modal Selection in Global Supply Chains, Robert H. Smith School of Business, University of Maryland, Summer Research Award, 2013, \$16,962.

Robert H. Smith School of Business, University of Maryland, Summer Research Award, 2014, \$28,296.

Robert H. Smith School of Business, University of Maryland, Summer Research Award, 2015, \$29,652.

Robert H. Smith School of Business, University of Maryland, Summer Research Award, 2016, \$29,652.

#### **CONSULTING PROJECTS:**

World Travel & Tourism Council. Prepared (with Martin E. Dresner) a report on Air Transport Liberalization in the U.S., July 1992 - October 1992.

Washington Board of Trade. Estimated (with Thomas M. Corsi) impact of increasing congestion on freight costs in the Washington, D.C. area, 1996-1997.

Transportation Research Board. Prepared (with Martin E. Dresner) a report on resource availability and new entry in the US airline industry, September, 1998 – April, 1999.

#### **PROFESSIONAL CONFERENCES:**

"Estimating the Cost Savings From Rail Mergers." Paper presented at the meetings of the Allied Social Science Associations, Transportation and Public Utilities Group, December 1983, San Francisco (with D. W. Caves, L. R. Christensen, and M. W. Tretheway).

"Reference Load Shapes and Response Estimates for Analyzing Alternative Rates and Marketing Programs." Paper presented at Second Annual Seminar on Demand-Side Management sponsored by the Electric Power Research Institute, Albuquerque, NM, November 1985 (with D. W. Caves and J. A. Herriges).

"Statistical Disaggregation of Residential End-Use Load Shapes." Paper presented at the Midwest Regional AEIC Load Research Conference, Milwaukee, WI, October 1986 (with S. Braithwait).

"Evidence on Interruptible and Curtailable Service for Electricity Customers." Paper presented at the Third National Conference on Utility DSM Programs, Houston, TX, June 1987 (with D. W. Caves, P. Hanser and J. A. Herriges).

"Interruptible/Curtailable Rate Programs: Issues in the Development of Customer Credits." Paper presented at The Annual Review of Demand-Side Management Planning Research, Houston, Texas, September 1987 (with D. W. Caves and J. A. Herriges).

"The Importance of Market Segmentation in New Service and Rate Offerings." Paper presented at Moving Toward Integrated Value Based Planning: The Issues, an EPRI Conference, December 1987, New Orleans (with D. W. Caves and J. A. Herriges).

"Network Reconfiguration and Its Effects on the International Airline Industry." Paper presented at Globalization of Business, New England Business Administration Association Conference, November 1988 (with M. E. Dresner).

"The Effect of Liberalization on European International Air Transport." Paper presented at the Transportation Research Forum meetings in Williamsburg, VA, October 1989 (with M. E. Dresner).

"Mandatory Child Safety Seats in Air Transport: Do They Save Lives?" Paper presented at the Transportation Research Forum meetings in Long Beach, CA, October 1990 (with M. E. Dresner).

"Airport Dominance and Pricing in the U.S. Airline Industry." Paper presented at the Allied Social Science Association's Transportation and Public Utilities Group meetings in Washington, D.C., December 1990 (with M. E. Dresner).

"The Liberalization of U.S. International Air Policy: Impact on U.S. Markets and Carriers." Paper presented at the Transportation Research Forum meetings in New Orleans, November 1991 (with M. E. Dresner).

"The Liberalization of U.S. International Air Policy: Impact on U.S. Markets and Carriers." Paper presented at the Allied Social Science Association's Transportation and Public Utilities Group meetings in New Orleans, January 1992 (with M. E. Dresner).

"Competition at "Duopoly" Airline Hubs in the U.S." Paper presented at the Transportation Research Forum meetings in St. Louis, October 1992 (with M. E. Dresner).

"An Empirical Analysis of Airport Choice in a Multiple Airport Region." Paper presented at the Allied Social Science Association's Transportation and Public Utilities Group meetings in Anaheim, CA, January 1993 (with M. E. Dresner).

"Productivity Measurement in Transportation Industries." Paper presented at the Transportation Research Forum meetings in New York, October 1993 (with M. E. Dresner).

"Economies of Scale and Scope In Religious Social Services Organizations." Paper presented at the Southern Economic Association meetings in New Orleans, November 1993 (with G. E. Krohn).

"The Effect of Hubbing on North Atlantic Traffic Flows." Paper presented at the Allied Social Science Association's Transportation and Public Utilities Group meetings in Boston, January 1994 (with M. E. Dresner).

"The Effect of Hubbing on North Atlantic Traffic Flows." Paper presented at Duke University's Center for International Business Education and Research, conference on "The Changing Role of

State Intervention in Services in an Era of Open International Markets", February 1994 (with M. E. Dresner).

"Trans Atlantic Airline Alliances: A Preliminary Evaluation." Paper presented at the Transportation Research Forum meetings in Daytona Beach, Florida, November 1994 (with S. Flicop and M. E. Dresner).

"The Short and Long Run Effects of Entry on U.S. Domestic Air Routes." Paper presented at the Transportation Research Forum meetings in Chicago, November 1995 (with M. E. Dresner).

"The Impact of Low Cost Carriers on Airport and Route Competition." Paper presented at the Allied Social Science Association's Transportation and Public Utilities Group meetings in San Francisco, January 1996 (with M. E. Dresner and J. Lin).

"Air Passenger Forecasts: Principles and Practices." Paper presented at the Transportation Research Forum meetings in San Antonio, October 1996 (with M. E. Dresner).

"Manufacturer Response to Motor Vehicle Fuel Economy Regulation: Managing the Mix Between 'Cars' and 'Trucks'." Paper presented at the Transportation Research Forum meetings in San Antonio, October 1996 (with B. Shaffer).

"Competitive Responses to Low Cost Carrier Entry." Paper presented at the Western Economic Association meetings in Seattle, Washington, July 1997 (with M.E. Dresner).

"Competitive Responses to Low Cost Carrier Entry." Paper presented at the Transportation Research Forum meetings in Montreal, Canada, October 1997 (with M.E. Dresner).

"Assessing Competitive Behavior By U.S. Carriers." Paper presented at the Transportation Research Forum meetings in Philadelphia, October 1998 (with M.E. Dresner).

"Car and Truck Fuel Economy: Impacts of Static Regulatory Constraints in a Dynamic Market and Technological Environment." Paper presented at the Transportation Research Forum meetings in Philadelphia, October 1998 (with B. Shaffer).

"Incumbent Carrier Response to Entry Into the U.S. Airline Industry " Paper presented at the Transportation Research Forum meetings in Washington, DC, September 1999 (with M.E. Dresner).

"Resource Availability and New Entry in the US Airline Industry" Paper presented at 11th International Workshop on Aviation Activities, Transportation Research Board and Federal Aviation Administration, Washington, DC, September 15-17, 1999 (with M.E. Dresner).

"Determinants of Price Reactions to Entry in the US Airline Industry" Paper presented at the Air Transport Research Group Annual Meetings in Hong Kong, June 1999 (with M.E. Dresner and J. Lin).

"Airport Barriers to Entry in the U.S. " Paper presented at the Third Hamburg Aviation Conference, Hamburg, Germany, February, 2000; Fourth Air Transport Research Group Conference, Amsterdam, July, 2000 and 42nd Annual Transportation Research Forum meetings in Annapolis, MD, November 2000, (with M.E. Dresner and Yuliang Yao).

"The Economic Impact of Airport Congestion", Paper presented at NEXTOR Workshop on Airline and National Strategies for Dealing with Airport and Airspace Congestion, College Park, MD, March 2001 (with Martin Dresner (presenter) and Yuliang Yao).

“Regional Jet Services: Supply and Demand”, Paper presented at World Conference on Transportation Research, Seoul, Korea, July, 2001, and the Transportation Research Forum, Williamsburg, VA, October, 2001 (with Martin Dresner (presenter) and Ming Zhou).

“North American Container Port Productivity”. Paper presented at the Transportation Research Forum, Washington, DC, March, 2003 (with Hugh Turner and Martin Dresner)

“The Impact of Customer Characteristics on Airline Route Demand”. Paper presented at the meetings of the Transportation and Public Utilities Group of the American Economic Association, Washington, DC, January, 2003 (with Chien-Yu Chen).

“Many Fields of Battle: How Cost Structure Affects Competition Across Multiple Markets,” Paper presented at the Transportation Research Forum, Northwestern University, March, 2004, (with Martin Dresner and Li Zou (presenter)).

“Hub Premiums in an Era of Low-Cost Competition and Financial Distress,” Paper presented at the Transportation Research Forum, Northwestern University, March, 2004, (with Christian Hofer (presenter) and Martin Dresner).

“Many Fields of Battle: How Cost Structure Affects Competition Across Multiple Markets,” Paper presented at the Air Transport Research Society, Istanbul, July, 2004 (with Martin Dresner (presenter) and Li Zou).

“The Impact of Low-Cost Carrier Competition on Hub Premiums,” Paper presented at the Air Transport Research Society, Istanbul, July, 2004, (with Christian Hofer (presenter) and Martin Dresner).

“The Impact of Financial Distress on Hub Premiums,” Paper presented at the World Conference on Transportation Research, Istanbul, July 2004, (with Christian Hofer (presenter) and Martin Dresner).

“The Impact of Hub Dominance and Airport Access on Entry in the US Airline Industry”, Paper presented at the German Aviation Research Society, Hamburg, February 2005 (with Yuliang Yao and Martin Dresner (presenter)).

“Financial Distress and Airline Fares”, Paper presented at the Air Transportation Research Society, Rio de Janeiro, July 2005 and MITRE Corporation, October 2005 (with Christian Hofer and Martin Dresner (presenter)).

“Role of Freight Transportation Services and Reduction of Delayed Flights on Productivity of US Airports”, National Urban Freight Conference, Long Beach, CA, February 2006, (with Somchai Pathomsiri (presenter), Ali Haghani, and Martin Dresner).

“Productive and Operational Efficiency of US Airports with Joint Consideration of both Desirable and Undesirable Outputs,” Transportation Research Forum, New York, NY, March 2006, (with Somchai Pathomsiri (presenter), Ali Haghani, and Martin Dresner).

“Assessment of Airport Performance with Joint Consideration of Desirable and Undesirable Outputs” Air Transport Research Society, Nagoya, Japan, May 2006 (with Somchai Pathomsiri (presenter), Ali Haghani, and Martin Dresner).

“Robustness of Airport Productivity Assessment,” Transportation Research Board, Washington, DC, January 2007 (with Somchai Pathomsiri (presenter), Ali Haghani, and Martin Dresner).

“Many Fields of Battle: How Cost Structure Affects Competition Across Multiple Markets,” world conference on Transportation Research, Berkeley, CA, July 2007, (with Li Zou and Martin Dresner (presenter))

“The Impact of Airline Financial Distress on Air Fares – a Contingency Approach,” Air Transport Research Society, Berkeley, CA, July 2007 (with Christian Hofer and Martin Dresner (presenter))

“Financial Distress and US Airline Fares,” International Forum on Shipping, Ports, and Airports, Hong Kong, May 2009 (with Christian Hofer and Martin Dresner (presenter)).

“Route Competition in Multi-Airport Cities: An Analysis of U.S. Air Fares” Air Transport Research Society, Porto, Portugal, July 2010 (with Christian Hofer (presenter) and Martin Dresner).

“Transborder Demand Leakage and the U.S. - Canadian Air Passenger Market,” Transportation Research Forum, Long Beach, CA, March, 2011 (with Omar Elwakil (presenter) and Martin Dresner).

“Transborder Demand Leakage and the U.S. - Canadian Air Passenger Market,” Air Transport Research Society, Sydney, Australia, July, 2011 (with Omar Elwakil and Martin Dresner).

“The On-going Impact of the U.S.-China Air Services Agreement,” Air Transport Research Society, Tainan, Taiwan, July, 2012 (with Jian-Yu Ke).

“Are Skies Open Enough? A Study on The Diminishing Effect of Open Skies Agreements (OSAs) - Evidence from US OSAs,” Air Transport Research Society, Bergamo, Italy, June, 2013 (with Jian-Yu Ke).

“The Impact of Low Cost Carrier (LCC) Presence on Airport Choice: More Than Fares?,” Air Transport Research Society, Bordeaux, France, July, 2014 (with Woohyun Cho and Martin Dresner).

“The Impact of Operational Exposure and Value-of-Time on Customer Choice: Evidence from the Airline Industry” Air Transport Research Society, Singapore, July, 2015 (with Woohyun Cho and Martin Dresner (presenter)).

“When Less Is More: Estimating the Effect of Product Variety on Retail Operational Performance” Decision Sciences Institute, Austin, Texas, November, 2016 (with Kevin Sweeney (presenter), Yuliang Yao, Yongrui Duan and Jiazhen Huo).

#### **AWARDS:**

Received 1991 Best Aviation Research Award from the Transportation Research Forum

Awarded Second Prize in the 1992 American Express Annual Review of Travel

Received 1995 Best Aviation Research Award from the Transportation Research Forum

#### **EDITORIAL AND REVIEWING ACTIVITIES:**

Frequent reviewer for the following journals: *Transportation Research Part E: The Logistics and Transportation Review*, *Journal of Transport Economics and Policy*, *International Journal of Aviation Management*, *Transportation Journal*, *Journal of Air Transport Management* and *Journal of the Transportation Research Forum*.

Member of the Editorial Review Board of the *Journal of the Transportation Research Forum*, 1992 to 1999.

Member of the Editorial Board of *Journal of Air Transport Management*, 1999 to 2005.

Member of the Editorial Board of the *Transportation Journal* from 2005 to the present.

### **PROFESSIONAL AFFILIATIONS:**

Member of the following organizations:

American Economics Association

Transportation Research Forum – Served as Vice President, Academic Affairs (1994 and 1995), Council-at-Large Member (1999 to 2002).

Transportation and Public Utilities Group of AEA

### **TEACHING AND ADVISING:**

Courses Taught:

BMGT 370 Introduction to Transportation

BMGT 670 Economic Environment of Business

BMGT 671 Managerial Economics

BMGT 808 Transportation Economics and Public Policy

ENTS 630 The Economics of International Telecommunications Regulation

BUSI 681 Managerial Economics and Public Policy

BUSI 683 The Global Economic Environment

BMGT 798 Telecommunications Economics and Public Policy

### **INDEPENDENT STUDIES:**

Supervised independent studies for the following students:

Pierre A. Pozzo-Di-Borgo (MBA student-Spring 1991), A. Rami Holtzman (MBA student Spring 1992), Erik W. Lytikainen (MBA student Fall 1992), Christopher Russell (MBA student Fall 1995), Lisa Wax (MBA Student Fall 1997)

Ph.D. Dissertation Committees

Robert Trempe (1991), Ching Chang (1994), Carol Emerson (1995), Deborah Lyons (Chair-1995),

Rayank Maturi (Economics-1998), Michael Mejza (1998), Yan Dong (1998), Jiun-Sheng Lin (Co-Chair-1998),

Lane Koenig (Economics-1999), Chackrit Duangphastra (University of Sydney-2000), Susan Singer (Economics-2000), Hugh Turner (Co-chair - 2001), Somchai Pathomsiri (Civil Engineering-2006), Somnuk Ngamchai (Civil Engineering-2006), Michael Zhou (Co-chair-2006), Li Zou (Co-Chair-2007), Christian Hofer (Co-Chair-2007), Chaodong Han (2009), Hamed Hasheminia (University of British Columbia-2012), Rodrigo Britto (2012), Woohyun Choo (Co-chair-2012), Jian-yu Ke (Chair-2012), Myungseob Kim (Civil Engineering-2013), Kevin Sweeney (Chair-2016), Elham Shayanfor (Civil Engineering-2018), Alan Pritchard (Co-Chair-2019).

### **TEACHING AWARDS**

Recognized as being in the top 15% of teachers among professional faculty in Fall 1991.

Voted best track professor by MBAs in Spring 1992 and Fall 1993.

Voted best professor by MBAs for the academic year 1996-97.

Krowe Teaching Award, 1999.

Recognized as being in the top 15% of teachers among professional faculty in Spring 2000.

Recognized as being in the top 15% of teachers among professional faculty in academic year 2010-2011.

Distinguished Teaching Award 2016-2017.

## **CURRICULUM DEVELOPMENT**

Developed and taught Ph.D. seminar in Transportation Economics and Public Policy in Fall 1991.

Developed and taught course on the Economics of Telecommunications Regulation for the M.S. in Telecommunications program offered jointly by Electrical Engineering and the College of Business and Management, Fall 1993.

Developed and taught MBA elective course in Telecommunications Economics and Policy in Spring 1998.

Converted BUSI681 – Managerial Economics and Public Policy to a blended format for the Shady Grove part time program (taught Fall, 2015).

## **UNIVERSITY SERVICE:**

Ph.D. Area Coordinator for Logistics, Business and Public Policy - 1989 to 1999. Included writing and revision of

Ph.D. brochure, coordination of activities with the Ph.D. office, responsibility for Ph.D. comprehensive exams, oral exams, etc., contact person for prospective Ph.D. students, conducted interviews of prospective Ph.D. students and handled departmental admission process.

Faculty liaison to the Transportation Club, College of Business and Management - 1988 to 1993. Met with student officers, attended club meetings and participated in scholarship decisions.

Search Committee for MBA Director - Summer, 1990.

Member of MBA Curriculum Review Committee - 1991-1992. Met on a weekly basis to assess the status of the MBA program and propose changes.

Member of Graduate Committee - Fall 1991 to Fall 1994 (served as Acting Chair in Fall, 1994).

Member of M.S. Oversight Committee - 1995 to 1999.

Member of University Athletic Council - 1996 to 1999. Monthly meetings dealing with athletic department issues of concern to the University. Served as Chair of the Budget Committee in the 98-99 academic year.

Member of MBA Review Committee - 1997-1998.

Member MBA Oversight Committee - Fall, 1998 to Spring 2000. During 98-99 academic year met on a weekly basis to assess the MBA program and develop a revised program that was approved

by the faculty to begin in Fall of 2000. In 99-00 academic year served as chair of the MBA Oversight Committee during the implementation of several aspects of the new program including a new preskills program, a new orientation program for international students, revision of core courses from 3 to 2 credit hours, and the formation of a new ELM for incoming students. Also served as Chair of the MBA Core Course Coordinators Committee in 99-00 as we implemented improved course coordination in the MBA core.

Faculty Director of the MBA Program – Fall, 2000 through 2001. In charge of core course coordination, oversight of academic aspects of the MBA program and issues that involved the intersection of academic and administrative issues (scheduling, orientation, etc.)

Core Course Coordinator for BMGT 681 and 683 – 1993 to 2003. Implemented core course coordination for two MBA core courses in the LBPP department. Achieved common syllabus, common work load and common grading practices among the numerous sections (full and Part time) of 681 and 683. Also was responsible for hiring adjuncts throughout this time period.

Chair of Logistics, Business and Public Policy Department – July, 2003 to December 2010. Responsible for running a department with 15 full time faculty and an equal number of adjuncts. Responsibilities including long range planning, hiring, scheduling and staffing courses, and serving on the Smith School's Executive Committee among other duties.

Ph.D. Area Coordinator for Logistics, Business and Public Policy – August, 2011 to August, 2014. Included coordination of activities with the Ph.D. office, responsibility for Ph.D. comprehensive exams, oral exams, etc., contact person for prospective Ph.D. students, conducted interviews of prospective Ph.D. students and handled departmental admission process.

Faculty Summer Research Committee – Summer 2011 to Summer 2014. Evaluate and rank Smith School faculty summer research proposals.

Clinical Professor Committee – January 2012 to May 2013. Assess how to utilize newly created University clinical professor titles within the Robert H. Smith School of Business.

Departmentalization Task Force, Co-Chair - September, 2012 to May, 2013. Assess the possibility of creating formal academic departments within the Robert H. Smith School of Business.

Director of Doctoral Programs for Robert H. Smith School of Business – August 2014 to August 2017. Includes oversight of doctoral office, recruitment of doctoral students, interface with University, strategic planning, representing doctoral program at Executive Committee meetings and graduation, and overseeing doctoral budget, among other duties.

Committee of Associate Deans of Graduate Study (CADGE) – August 2014 to present. Monthly meetings with the Graduate School regarding Graduate School programs, policies and procedures as well interface with Graduate School on other issues (applications, graduate catalog, etc.).

Assistant Dean of Doctoral Programs for Robert H. Smith School of Business – August 2017 to present. Includes oversight of doctoral office, recruitment of doctoral students, interface with University, strategic planning, representing doctoral program at Executive Committee meetings and graduation, and overseeing doctoral budget, among other duties.

Salary Review Committee – 2014, 2017 and 2018.

Faculty Council – Spring 2018 and Spring 2019.

Clinical APT Committee – 2018 and 2019. Review and assess promotion and retention cases of professional track faculty.

Faculty Workload Task Force – 2018-2019. Review how workload is computed on campus and recommend potential ways to raise workload numbers.

Numerous faculty teaching reviews, faculty search committees, doctoral student selection committees and promotion and tenure committees over the years.