# KENT DELL WALL

Defense Resources Management Institute Naval Postgraduate School, Monterey, CA 93943

# Education

- University of Minnesota, Bachelor of Mechanical Engineering, 1966.
- University of Minnesota, Master of Science (Mechanical Engineering), 1967.
- University of Minnesota, Ph.D. (Control Science), 1971.

# Work Experience

- Professor of Systems Engineering, Defense Resources Management Institute, Naval Postgraduate School, Monterey, CA, 1985 present.
- Associate Professor of Systems Engineering (tenured 1980), Department of Systems Engineering, University of Virginia, Charlottesville, VA, 1978 1986.
- Economist/Engineer, Policy Analysis and Socio-Economic Systems, Systems Control, Inc. Palo Alto, CA, 1976-1978.
- Research Associate, National Bureau of Economic Research, Cambridge, MA, 1974-1976.
- Senior Research Fellow, Program of research into Econometric Methods, Department of Economics, Queen Mary College and Department of Computing and Control, Imperial College, University of London, London, UK, 1971-1974.
- Senior Research Fellow, Control Systems Center, University of Manchester Institute of Science and Technology, Manchester, UK, 1971.

## **Grants and Contracts**

- FTC Contract 10638, "The Impact of Public Policy and Expectations on Firms of Different Size", September 1979 December 1980 (co-Principal Investigator with Professor Edwin Burmeister).
- NSF Research Grant SES-8218229, "Kalman Filtering Estimation of Unobserved Expectations", January 1983 June 1985 (co-Principal Investigator with Professor Edwin Burmeister).

## Personal

Born 28 June 1944, Passaic, New Jersey

Married, Two children: Matthew and Danielle

#### **Professional Service**

- Associate Editor, Journal of Forecasting, 2001 present.
- Associate Editor, Journal of Economic Dynamics and Control, 1984 1993.
- Assistant Associate Editor, International Abstracts in OR, 1983 1990.
- Associate Editor, Special Issue on Kalman Filtering, *IEEE Transactions on Automatic Control*, 1981 1982.
- Associate Editor, Evaluation Quarterly, 1979 1990
- Cluster Chairman for economics sessions, ORSA/TIMS Spring meeting, Washington, DC, April 25-27, 1988.
- Co-organizer and Program Chairman, 6th Annual Conference on Economic Dynamics and Control, Nice, France, June 13-15, 1984.
- Tau Beta Pi (National Honorary Engineering Society)
- Pi Tau Sigma (National Honorary Mechanical Engineering Society)

### Publications

- Wall, K.D., "Degree of Optimality for Mean-Square Estimation via State-Vector Partitioning", *Proceedings of the IEE*, Vol. 119, no.3, (March 1972), pp. 363-368.
- Caines, P.E. and K.D. Wall, "Theoretical Foundations for Methods of Estimation and Control in Economic Policy Optimization", Chpt. 11 in Renton, G.A. (ed.), Modelling the U.K. economy, (London: Heinnemans Press, 1973), pp. 353-397.
- Wall, K.D., J.W. Bray, M.H. Peston, and A.J. Preston, "Estimation for a Simple Control Model of the U.K. Economy," Chpt. 12 in Renton, G.A. (ed.), Modelling the U.K. Economy, (London: Heinnemans Press, 1973), pp. 398-446.
- Wall, K.D. and J.H. Westcott, "Macroeconomic Modelling for Control," *IEEE Trans*actions on Automatic Control, Vol. AC-19, no. 6 (December 1974), pp. 862-873.
- Wall, K.D., "FIML Estimation of Rational Distributed Lag Structural Form Models," Annals of Social and Economic Measurement, Vol. 5, no. 1 (1976), pp. 53-63.

- Wall, K.D. and J.H. Westcott, "Policy Optimization Studies with a Simple Control Model of the U.K. Economy," *Automatica*, Vol. 12, no.6 (November 1976).
- Athans, M., E. Kuh, T. Ozkan, L. Papademos, R.S. Pindyck and K.D. Wall, "Sequential Open-Loop Optimal Control of a Nonlinear Econometric Model," in M.D. Intrilligator (ed.), *Frontiers in Quantitative Economics*, Vol. IIIA (Amsterdam: North-Holland, 1977), pp. 281-317.
- 8. Wall, K.D., "Comments on 'Imperfect Observation and Systematic Policy Error'," Annals of social and economic Measurement, Vol. 6, no. 3, (1977), pp.259-260.
- Wall, K.D., "Time-Varying Models in Econometrics," in A. Bensoussan and J.L. Lions (eds.), New Trends in Systems Analysis, Vol. 2, Lecture Notes in Control and information Sciences (Berlin: Springer-Verlag, 1977), pp.612-625.
- Cooley, T.F., B. Rosenberg and K.D. Wall, "A Note on Optimal Smoothing for Time-Varying Coefficient Problems," Annals of Social and Economic Measurement, Vol. 6, no. 4 (1977), pp. 453-456.
- Wall, K.D., 'Specification and Estimation of Econometric Models with Generalized Expectations," in A. Bensoussan and J.L. Lions (eds.), *The Analysis and Optimization of Systems*, Vol. 14, Lecture Notes in Control and information Sciences (Berlin: Springer-Verlag, 1978), pp.16-31.
- Bar-Shalom, Y. and K.D. Wall, "Dual Adaptive Control and uncertainty Effects in Macroeconomic Systems Optimization," *Automatica*, Vol. 16, no.2 (1980), pp.147-156.
- Wall, K.D., "Generalized Expectations Modelling in Macroeconometrics," Journal of Economic Dynamics and Control, Vol. 2, no. 2 (1980), pp. 161-184.
- 14. Burmeister, E. and K.D. Wall, "Estimation of Unobserved Rational Expectations with Applications to the German Hyperinflation," in A. Bensoussan and J.L. Lions (eds.), *The Analysis and Optimization of Systems*, Vol. 28, Lecture Notes in Control and information Sciences (Berlin: Springer-Verlag, 1980), pp.627-651.
- Burmeister, E. and K.D. Wall, "Kalman Filtering Estimation of Unobserved Rational Expectations with Applications to the German Hyperinflation," *Journal of Econometrics*, Vol. 20, no.2 (1982), pp. 255-284.
- Spall, J.C. and K.D. Wall, "Asymptotic distribution Theory for the Kalman Filter State Estimator," *Communications in Statistics*, Series A, Vol. 13, no. 6 (1984), pp.1981-2003.
- 17. McElroy, M.B., E. Burmeister and K.D. Wall, "Two Estimators for the APT Model when Factors are Measured," Economics Letters, Vol. 19 (1985), pp. 271-285.
- Burmeister, E., K.D. Wall and J.D. Hamilton, "Estimation of Unobserved Expected Monthly Inflation Using Kalman Filtering," *Journal of Business and Economic Statis*tics, Vol. 4, no. 2 (1986), pp. 147-160.
- 19. Burmeister, E. and K.D. Wall, "The Arbitrage Pricing Theory and Macroeconomic Factor Measures," *The Financial Review*, Vol. 21, no. 1 (1986), pp. 1-20.

- Burmeister, E. and K.D. Wall, "Unobserved Rational Expectations and the German Hyperinflation with Endogenous Money," *International Economic Review*, Vol. 28, no. 1 (1986), pp.15-32.
- Wall, K.D., "Identification Theory for Time-Varying Coefficients Regression Models," Journal of Time Series Analysis, Vol. 8, no. 3 (1987), pp. 359-371.
- 22. Wall, K.D. and C. Correia, "A Preference-Theory Based Method for Forecast Combination," *Journal of Forecasting*, Vol. 8, no. 3 (1989), pp.269-292.
- Stoffer, D.S. and K.D. Wall, "Bootstrapping State Space Models," Journal of the American Statistical Association, Vol. 86, no. 416 (1991), pp.1024-1033.
- Wall, K.D., "A Model of Decision Making under Bounded Rationality," Journal of Economic Behavior and Organization, Vol. 21, (1993), pp.331-352.
- Wall, K.D. and D.S. Stoffer, "A State Space Approach to Bootstrapping Conditional Forecasts in ARIMA Models," *Journal of Time Series Analysis*, Vol. 23 (2002), no. 6, pp. 733-751.
- Wall, K.D. and J.C. Felli, "Discounting Effectiveness," *Military Operations Research*, Vol. 8, no. 4 (2003), pp.5-12.
- 27. Stoffer, D.S. and K.D. Wall, "Resampling in State Space Models," to appear in A. C. Harvey (ed.), *Essays in the Honor of James Durbin*, (Berlin: Springer-Verlag, 2004).
- Wall, K.D., "Thinking about Risk: Definition, Assessment and Management", Armed Forces Comptroller, Vol. 54, Summer 2009, pp.8-13.

#### **Book Reviews**

- Artificial Intelligence and Economic Analysis by Scott Ross and Rohn Rae (eds.), (Aldershot, UK: Edward Elgar, 1992), in Journal of Economic Behavior and Organization, Vol. 30 (1996), pp.137-138.
- Time Series and Dynamic Models by Christian Gourierroux and Alain Montfort, (New York: Cambridge University Press, 1997), in Journal of the American Statistical Association, Vol. 93, no. 439 (1998), pp.

#### **Conference Papers and Published Proceedings**

- Wall, K.D. and K.S.P. Kumar, "Aggregation, Decomposition and Optimum Control," Proceedings of the First IFAC Symposium on Multivariate Control Systems, (Dusseldorf, October 1971), pp. 2.2.11.1-2.2.11.14
- Wall, K.D. and A.J. Preston, "Some Aspects of the use of State Space Models in Econometrics," Proceedings of the First IFAC/IFORS Symposium on Dynamic Modeling and Control of National Economies (Warwick 1973), pp.226-239.

- Cooley, T.F. and K.D. Wall, "On the Identification of Time-Varying Structures," Fourth NBER Conference on Stochastic Control Theory and Economics, Cambridge, MA, May 1975.
- Bar-Shalom, Y. and K.D. Wall, "Adaptive Control of Macroeconomic Models with Correlated Measurement Errors," Sixth NBER Conference on Stochastic Control Theory, Yale university, May 1977.
- 5. Wall, K.D., "Rational Expectations and Control of the Economy," special Session Paper, IEEE Conference on Decision and Control, New Orleans, December 1977.
- Bar-Shalom, Y. and K.D. Wall, "Effect of Uncertainties on the Adaptive Control of Macroeconomic Systems," Sixth Triennial World Congress of IFAC, Helsinki, June 1978.
- Bar-Shalom, Y. and K.D. Wall, "Evaluation of Caution and Probing Terms in Econometric Models," Seventh NBER Conference on Stochastic Control Theory, University of Texas, May 1978.
- Ross, D.W., R. Podmore, G.B. Ackerman, R. Biscke and K.D. Wall, "Short-term Load Prediction for Economic Dispatch of Generation," IEEE Power Industry Computer Applications Conference, Cleveland, May 1979.
- Wall, K.D., "Generalized Expectations Modelling in Econometrics," First Annual Conference of the Society for Economic Dynamics and Control, Cambridge University, U.K., June 1979.
- Burmeister, E. and K.D. Wall, "Estimation of Unobserved Rational Expectations and a New Analysis of the German Hyperinflation," Allied Social Sciences Convention, Atlanta, December 1979.
- 11. Burmeister, E. and K.D. Wall, "Estimation of Unobserved Rational Expectations and a New Analysis of the German Hyperinflation: Part 2," Second Annual Conference of the Society for Economic Dynamics and Control, Princeton University, June 1980.
- Burmeister, E. and K.D. Wall, "Kalman Filtering Estimates of Unobserved Rational Expectations," Fourth Annual Conference of the Society for Economic Dynamics and Control, Federal Reserve Bank, Washington, DC, June 1980.
- Hamilton, J.H. and K.D. Wall, "Models of Bounded Rationality in Decision Making, IEEE Large Scale Systems Symposium, Virginia Beach, VA October 1982.
- Spall, J.C. and K.D. Wall, "On Hypothesis Testing and Model Validation Employing State Estimation," IEEE Large Scale Systems Symposium, Virginia Beach, VA October 1982.
- Wall, K.D., "Identification Theory for Time-Varying Coefficient Regression Models," Sixth Annual Conference of the Society for Economic Dynamics and Control, Nice, France, June 1984.
- 16. Burmeister, E. and K.D. Wall, "Unobserved Rational Expectations and the German Hyperinflation with Endogenous Money," Sixth International Conference on Analysis and Optimization of Systems, Nice, France, June 1984.

- 17. Wall, K.D., "Bootstrapping an Econometric Application of the Kalman Filter," ORSA/TIMS Special Studies Group on Applied Probability, Williamsburg, VA, January 1985.
- Burmeister, E. and K.D. Wall, "The Arbitrage Pricing Theory and Macroeconomic Factor Measures," Eastern Finance Association Meetings, Williamsburg, VA, April 1985.
- Burmeister, E. and K.D. Wall, "Estimation of Unobserved Expected rational Monthly Inflation Using Kalman Filtering," Fifth World Congress of the Econometric Society, MIT, Cambridge, MA, August 1985.
- Wall, K.D., "Bootstrapping the Kalman Filter: The German Hyperinflation Case," Ninth Annual Conference of the Society for Economic Dynamics and Control, Boston College, June 1987.
- Wall, K.D., "A Bounded Rationality Decision Process Model," Joint IFAC/Society for Economic Dynamics and Control Meetings, Edinburgh, Scotland, June 1989.
- 22. Wall, K.D. and C.J. LaCivita, "Multivariate Time Series Modeling of Defense Outlays," American Statistical Association Meetings, Washington, DC, August 1989.

# Programme of Research into Econometric Methods Discussion Papers

- 1. Wall, K.D., L.W. Bray, M.H. Peston, and A.J. Preston, "Estimation for a Simple Control Model of the U.K. Economy," PREM Discussion Paper No. 2, July 1972.
- 2. Caines, P.E. and K.D. Wall, "Theoretical Foundations for Methods of Estimation and Control in Economic Policy Optimization", PREM Discussion Paper No. 3, June 1972.
- 3. Wall, K.D. and A.J. Preston, "Some Aspects of the use of State Space Models in Econometrics," PREM Discussion Paper No. 5, November 1972.
- 4. Preston, A.J. and K.D.Wall, "An Extended Identification Problem for State Space Representations of Econometric Models," PREM Discussion Paper No. 6, June 1973.
- Wall, K.D. and J.H. Westcott, "Macroeconomic Modelling for Control," PREM Discussion Paper No. 7, January 1974.
- Wall, K.D., "An Application of Simultaneous Estimation to the Determination of Causality Between Money and Income," PREM Discussion Paper No. 8, April 1974.
- Wall, K.D. and J.H. Westcott, "Policy Optimization Studies with a Simple Control Model of the U.K. Economy," PREM Discussion Paper No. 9, March 1975.

## National Bureau of Economic Research Working Papers

- 1. Wall, K.D., "The Rational Distributed Lag Structural Form A General Econometric Model," NBER Working Paper No. 65, December 1974.
- Wall, K.D., "FIML Estimation of rational distributed Lag Structural Form Models," NBER Working Paper No. 77, March 1975.
- Cooley, T.F. and K.D. Wall, "On the Identification of Time-Varying Structures," NBER Working Paper No. 85, May 1975.
- 4. Wall, K.D., "Inter-Equation Constraints and the Specification of Dynamic Structures," NBER Working Paper No. 119, January 1976.
- Cooley, T.F. and K.D. Wall, "A Note on Optimal Smoothing for Time-Varying Coefficient Problems," NBER Working Paper No. 128, March 1976.

### **Other Technical Reports**

- Levis, A.H., E.R. Ducot and K.D. Wall, "On Boll Weevil Eradication: An Analysis of a Proposed Policy Using AGRIMOD," NSF Contract Report NSF G76-1277, January 1977.
- Levis, A.H., E.R. Ducot and K.D. Wall, "Energy in Agriculture: On Modeling Energy Inputs in AGRIMOD," ERDA Contract Report No. EY-76-C-03-1314, August 1977.
- 3. Burmeister, E. and K.D. Wall, "A Preliminary Empirical Investigation of Allocation versus Acquisition Mergers," FTC Contract Report No. L0638, December 1980.