



**CHARLES D. COWAN, Ph.D.**  
ANALYTIC FOCUS LLC

### **KEY QUALIFICATIONS**

Charles D. Cowan is Managing Partner of ANALYTIC FOCUS LLC. Dr. Cowan has 30 years of experience in statistical research and design. He consults for numerous public and private sector entities on the design, implementation, and evaluation of research and the synthesis of statistical and sampling techniques for measurement.

Dr. Cowan has designed some of the largest and most complex research programs conducted by the Federal Government, including the Post Enumeration Program conducted by the Bureau of the Census to evaluate the 1980 Decennial Census, the Economic Cash Recovery valuations conducted by the Resolution Trust Corporation in 1990-95, and many evaluation studies conducted for the Justice Department, the Department of Defense, the Department of Housing and Urban Development, and the Treasury Department. He has provided expert advice to corporations and government agencies on the incorporation of complex research designs in demographic and economic measurement problems, including:

- Development of procedures used by the Resolution Trust Corporation and the FDIC for determination of the value of all assets held by the RTC\FDIC taken from failed banks and S&Ls. Results from this research were used in quarterly reports to Congress on the loss to the American taxpayer that resulted from these failures. These estimates of anticipated recoveries on assets were also used by the RTC and FDIC for financial reporting, leading these agencies to their first clean opinions from the GAO in their annual review of agency financial statements.
- Establishment of audit and sampling methods to determine the completeness and reliability of reporting and record systems. These procedures were used to both expand and streamline bank examinations for safety and soundness and also compliance measurement for the FDIC. These sampling techniques are applied in the audit of Federal agencies concerned with regulatory review of operations and systems, and related systems for banks, regulatory agencies, and law firms;
- Application of econometric and biometric procedures for measurement of credit risk in large portfolios of loans. These models are frequently used for a variety of purposes within financial institutions, such as the pricing of loans, the management of customers long term, decision making on workouts for delinquent loans, and for establishment of economic and regulatory reserves.
- Evaluation of research conducted for the Department of Defense, for the National Institutes of Health, and for the Department of Agriculture, each in response to Congressional inquiries on the validity of published results, and also for defendants in lawsuits involving evidence proffered by plaintiffs in furtherance of their suit.

- Model fitting and development of projection methods to measure the likelihood of loss or errors in recording in loans held by banks or put up for auction; measurement of the likelihood of fraud and/or noncompliance in systems, including bank holding companies, trading activities for brokers, and systems for compliance with health department and judicial requirements;
- Incorporation of population demographic models with financial assessment models to predict risk for insurance companies and corporations in terms of number and value of potential claims in mass tort litigation.
- Development of procedures used by the Bureau of the Census for apportionment of population for revenue sharing purposes and the estimation of the undercount in the Decennial Census of Population and Housing. These procedures include application of capture-recapture methods to measure the size of the undercount in the decennial census, use of network sampling as an alternative measure for population size, and measurement of the reliability of data collected in the Census.
- Development of statistical methods to quantify the size of populations, including nomadic populations for the Census of Somalia, the undercount and overcount in the Census of Egypt, the number of missing children in Chicago, IL, and the number of homeless persons and families needing services in several large cities with transient populations.

Dr. Cowan teaches graduate and undergraduate courses in survey methods, statistics, and computer methods for analysis. He is the co-author of two books, one on evaluation of survey and census methods and one on econometric measures related to the welfare of the U.S. economy. He has written numerous articles on statistical methods, sampling, rare and elusive population research, and optimization techniques.

Prior to cofounding ANALYTIC FOCUS LLC, Dr. Cowan was a Director with ARPC and with Price Waterhouse, where he specialized in financial research, survey research, and audit sampling. From 1991 to 1996, Dr. Cowan was the Chief Statistician for the Resolution Trust Corporation and the Federal Deposit Insurance Corporation, where he designed research necessary to measure the loss from the Savings & Loan Crisis of the late 1980's and capitalization requirements for the RTC funds from the U.S. Treasury. Dr. Cowan also served as the Chief Statistician for the U.S. Department of Education, where he designed large-scale surveys of educational institutions to measure resource needs and availability, and for Opinion Research Corporation, where he designed predictive models of demand for automobile manufacturers, banks, and large horizontally diverse firms like GE and AT&T. Dr. Cowan worked for the U.S. Bureau of the Census, where he was the Chief of the Survey Design Branch and developed many of the techniques in use today for the evaluation of coverage in surveys and censuses.

## **EDUCATION**

Ph.D., Mathematical Statistics, The George Washington University, 1984

M.A., Economics, The University of Michigan, 1973

B.A., English and B.A., Economics, The University of Michigan, 1972

## **PROFESSIONAL EXPERIENCE**

Co-Founder, ANALYTIC FOCUS<sub>LLC</sub>, January, 2002 to present.

Director, ARPC, November, 1999 to December, 2001.

Director, PricewaterhouseCoopers LLP, January 1997 to November, 1999.

Chief Statistician, Federal Deposit Insurance Corporation / RTC, 1991 to 1996.

Chief Statistician, Opinion Research Corporation, 1989 to 1991.

Chief Statistician, National Center for Education Statistics, US Dept. of Education, 1986 to 1989.

Bureau of the Census: Assistant Division Chief, International Statistical Programs Center, 1984 to 1986; Staff Liaison for Statistical Litigation Support, 1983 to 1984; Chief, Survey Design Branch, Statistical Methods Division, 1978 to 1983; Acting Chief, Survey Analysis and Evaluation Branch, Demographic Surveys Division, 1976 to 1978; Office of the Chief, Statistical Research Division, 1975 to 1976

Survey Research Center, Oregon State University: Manager, 1974 to 1975

Institute for Social Research, U. of Michigan: Assistant Study Director, 1972 to 1974.

## **PROFESSIONAL ASSOCIATIONS**

Adjunct Full Professor, Statistics, University of Alabama - Birmingham, 2002-present.

Associate Professor, Statistics, George Washington University, 1993 - 1998.

Visiting Research Professor, Survey Research Laboratory, U. of Illinois, 1983 - 1989.

Consultant, Dept. of Community Psychiatry, Johns Hopkins U., July 1985 - Dec 1987.

## **PROFESSIONAL SOCIETIES - MEMBERSHIPS**

American Statistical Association (ASA)

American Association for Public Opinion Research (AAPOR)

International Association of Assessment Officers

## **PROFESSIONAL SOCIETIES - POSITIONS**

President, Research Industry Coalition, 1999-2000

Council Member, Research Industry Coalition, Representative from ASA, 1995-2000

President, Washington/Baltimore Chapter of AAPOR, 1998

Program Chair, American Association for Public Opinion Research, 1991-2

Program Chair, Section on Survey Research Methods, ASA, 1989-90

Secretary-Treasurer, AAPOR, 1985-1986

Associate Secretary-Treasurer, AAPOR, 1984-1985

Editorial Board, Public Opinion Quarterly, 1980-1984

Editorial Board, Marketing Research, 1989-2000

Chair, Conference Committee, AAPOR, 1982-1989

Chair, Committee on Privacy and Confidentiality, ASA, 1980-1981

**PUBLICATIONS**

Strumpel, Burkhard; Cowan, Charles; Juster, F. Thomas; and Schmiedeskamp, Jay; editors, Surveys of Consumers 1972-73, Contributions to Behavioral Economics, Ann Arbor: The Institute for Social Research, 1975.

Duncan, Greg, and Cowan, Charles D., "Labor Market Discrimination and Nonpecuniary Work Rewards" in Surveys of Consumers 1972-73, Contributions to Behavioral Economics, Ann Arbor: The Institute for Social Research, 1975.

Curtin, Richard T. and Cowan, Charles D. "Public Attitudes Toward Fiscal Progress" in Surveys of Consumers 1972-73, Contributions to Behavioral Economics, Ann Arbor: The Institute for Social Research, 1975.

Cowan, Charles D., and Spoeri, Randall K., "Statistical Distance Measures and Test Site Selection: Some Considerations", Proceedings of the Computer Science and Statistics: Eleventh Annual Symposium on the Interface, 1978.

Bushery, John R., Cowan, Charles D., and Murphy, Linda R., "Experiments in Telephone-Personal Visit Surveys", Proceedings of the American Statistical Association, Section on Survey Research Methods, 1978.

Spoeri, Randall K., and Cowan, Charles D., "On the Use of Distance Measures in Test Site Selection: A Practical Application Using Census Data", Proceedings of the American Statistical Association, Section on Business and Economic Statistics, 1978.

Hogan, Howard, and Cowan, Charles D., "Imputations, Response Errors, and Matching in Dual System Estimation", Proceedings of the American Statistical Association, Section on Survey Research Methods, 1980.

Schwartz, Sidney H., Cowan, Charles D., and Sausman, Kenneth R., "Optimization in the Design of a Large-Scale State Sample", Proceedings of the American Statistical Association, Section on Survey Research Methods, 1980.

Cowan, Charles D., "Modifications to Capture-Recapture Estimation in the Presence of Errors in the Data" presented at the meetings of the American Statistical Association, Biometrics Section, 1982 (no proceedings).

Cowan, Charles D. "Interviews and Interviewing", The Social Science Encyclopedia, Routledge and Kegan Paul, Publishers, The Netherlands, 1984.

Wei, L. J. and Cowan, Charles D. "Selection Bias", Encyclopedia of Statistical Science, John Wiley and Sons, New York, N.Y., 1984.

Cowan, Charles D. and Malec, Donald J. "Capture-Recapture Models When Both Sources Have Clustered Observations", Journal of the American Statistical Association, June 1986, Vol. 81, # 394, pp. 347-353, and Proceedings of the American Statistical Association, Section on Survey Research Methods, 1984.

Cowan, Charles D. The Effects of Misclassification on Estimates from Capture-Recapture Studies. Unpublished doctoral dissertation, The George Washington University, September 1984.

Cowan, Charles D. "Misclassification of Categorical Data", Proceedings of the American Statistical Association, Section on Survey Research Methods, 1985.

Cowan, Charles D., Biemer, Paul P., Magnani, Robert J., and Turner, Anthony G., Evaluating Censuses of Population and Housing, Statistical Training Document, ISP-TR-5, U.S. Department of Commerce, Bureau of the Census, 1985.

Cowan, Charles D., Turner, Anthony G., and Stanecki, Karen "Design of the Somali Post Enumeration Survey (1986-1987)", Proceedings of the American Statistical Association, Section on Survey Research Methods, 1986.

Cowan, Charles D., Breakey, William R., and Fischer, Pamela J. "The Methodology of Counting the Homeless", Proceedings of the American Statistical Association, Section on Survey Research Methods, 1986.

Cowan, Charles D. and Malec, Donald J. "Sample Allocation for a Multistage, Multilevel, Multivariate Survey", Proceedings of the Fourth Annual Research Conference (ARC IV), U.S. Bureau of the Census, 1988.

Frey, Carolin M., McMillen, Marilyn M., Cowan, Charles D., Horm, John W., and Kessler, Larry G.. "Representativeness of the Surveillance, Epidemiology, and End Results Program Data: Recent Trends in Mortality Rates", Journal of the National Cancer Institute, Vol. 84, No. 11, June 3, 1992.

Cowan, Charles D., Breakey, William R., and Fischer, Pamela J. "The Methodology of Counting the Homeless, A Review" in Homelessness, Health, and Human Needs. Institute of Medicine, National Academy Press, National Academy of Sciences, Washington, D.C., 1988.

Cowan, Charles D., "Standards for Statistical Surveys in the Federal Government: Practices in the Center for Education Statistics", Proceedings of the American Statistical Association, Section on Survey Methods Research, 1988.

Sudman, Seymour, Sirken, Monroe G., and Cowan, Charles D., "Sampling Rare and Elusive Populations", Science, Vol. 240, pp. 991-996, May 20, 1988.

Cowan, Charles D., "Mall Intercepts and Clinical Trials: The Philosophy of Inference from Different Types of Research Designs" in Marketing Research: A Magazine of Management & Applications, Vol. 1, No. 1, March 1989.

Cowan, Charles D., "Mall Intercepts: Principles of Design for Research" in Proceedings of the Seventh Annual Advertising Research Foundation Research Quality Workshop, September, 1989.

Cowan, Charles D., "Estimating Census and Survey Undercounts Through Multiple Service Contacts" in Housing Policy Debate: Counting the Homeless: The Methodologies, Policies, and Social Significance Behind the Numbers, Volume 2, Issue 3, pp. 869-882, 1991.

Cowan, Charles D., "Ratio vs. Regression Estimators in a Large Scale Survey of S&L's" in Proceedings of the Section on Survey Research Methods, American Statistical Association, 1992.

Cowan, Charles D., "A Longitudinal Survey and Reality Check for the Value of Financial Assets" in Proceedings of Statistics Canada Symposium 92: Design and Analysis of Longitudinal Surveys, November 1992.

Cowan, Charles D., and Wittes, Janet, "Intercept Studies, Clinical Trials, and Cluster Experiments: To Whom Can We Extrapolate?" in Controlled Clinical Trials, Vol.15, pp.24-29, 1994.

Cowan, Charles D., and Klena, Matthew K. "Use of the EM Algorithm for Allocation of Proceeds from Auctions and Bulk Sales" in Proceedings of the Section on Business and Economic Statistics, American Statistical Association, 1995.

Cowan, Charles D., "Coverage, Sample Design, and Weighting in Three Federal Surveys" in Journal of Drug Issues, October, 2001.

Cowan, Charles D., "Use of Mass Appraisals in Toxic Tort Litigation Involving Loss of Value" in Proceedings of the International Association of Assessment Officers, October, 2002.

Cowan, Adrian M. and Cowan, Charles D., "Default Correlation: An Empirical Investigation of a Subprime Lender", The Journal of Banking and Finance, March 2004.

Cowan, Charles D. and Cowan, Adrian M., "A Survey Based Assessment of Financial Institution Use of Credit Scoring for Small Business Lending", SBA Report 283, Nov. 2006

Keith, Scott W. , Wang, Chenxi, Fontaine, Kevin R. , Cowan, Charles D. and Allison, David B. , "Body Mass Index and Headache Among Women: Results From 11 Epidemiologic Datasets", Obesity, Volume 16, Issue 2 (February 2008) 16: 377-383; doi:10.1038/oby.2007.32

Cowan, Adrian M. and Cowan, Charles D., "The Dynamics of Credit Quality and Implications for the Pricing of Small Business Loans", The International Journal of Banking and Finance, 2007/08 (March) Vol. 5. Number 2:2008: 31-60

Brock, David W., Thomas, Olivia, Cowan, Charles D., Hunter, Gary R., Gaesser, Glenn A., and Allison, David B., Association between Physical Inactivity and Prevalence of Obesity in the United States, Journal of Physical Activity and Health, January, 2009

Cowan, Charles D., and Cowan, Adrian M., "Quasi-Likelihood Estimation of Loan Portfolio Defaults in the Presence of Default Correlation and Autocorrelation", The European Journal of Finance (forthcoming, 2009)