

**EDUCATION**

Massachusetts Institute of Technology, ASP Fellow, Math/Statistics, 1999

Harvard University, Master in Public Policy, concentration: empirical methods (statistics/econometrics), 1992

- Kennedy Fellowship (3 of 170 students)
- Social Policy Research Fellowship (3 of 170 students)

Yale University, Bachelor of Arts, Sociology and Psychology (with honors), 1987

**SKILLS / EXPERIENCE SUMMARY**

- **Consulting:** Over 15 years consulting & practice mgmt. experience in highly technical consulting firms
- **Industries:** venture capital, mortgage banking, credit card, telecom, retail pricing, advertising/marketing
- **Statistics/Econometrics/Analytical Modeling – Selected methodologies:** recurrent events & survival analysis (proportional & non-proportional hazards); hypothesis testing, algorithmically efficient exact inference, extensive Monte Carlo, & multiple comparisons; discrete choice & limited dependent variable modeling (logit, probit, & tobit related); time-series cross-section, ARIMA, GARCH; classification algorithms (CART, CHAID, Hybrid); neural nets; optimizing resampling methods (permutation tests, bootstrap, jackknife); statistical sampling, power analysis; nonparametric regression; robust statistics
- **SAS:** Over 15 years daily experience – Base SAS, SAS/STAT, SAS/ETS, and Advanced SAS Macro
  - Beyond guru-level expertise implementing original statistical/econometric/algorithmic solutions that are *orders of magnitude faster than existing SAS Procs*, using both SAS and other languages (C++)
  - Presented paper at national SAS conference, voted **Best Paper for Statistics and Pharmacokinetics**
  - Author of **PermutelIt™** -- a proprietary compiled SAS macro that performs many permutation tests and multiple comparisons adjustments often *orders of magnitude faster than existing SAS Procs*
  - Sole inventor of **Patent Pending SAS code** that performs fast permutation tests on large data samples
  - **SAS courses:** Enterprise Miner, advanced prog. techniques, coding optimization, & advanced macro

**PROFESSIONAL EXPERIENCE****DataMineIt****www.DataMineIt.com****President, Senior Statistical Data Miner****2002 – present**

Provide profitable statistical data mining and econometric analysis to the industry and consulting sectors.

- **Venture Capital Fund:** As the Director of Quantitative Strategies, developing, directing, and implementing the firm's portfolio selection and asset allocation investment algorithms using a unique, proprietary dataset containing tens of thousands of exit-related financing rounds spanning 20 years.
- **Economic Consulting Firms:** For multiple firms on very large litigations, conducting econometric (time-series cross-section) and other empirical analyses of large pricing and revenue datasets.
- **Fortune 100 financial institution:** For \$1B+ P&L liability in rewards points, a) ensured robust estimation of complex statistical measures by deriving and implementing an original algorithm that obtains the mathematically optimal solution to automated re-aggregation of "thin data" segments in large-data production runs; b) proposed & implemented econometric modeling of points redemptions with recurrent events models; c) automated model selection procedures for logistic regressions, turning hours of manual coding intervention into seconds of automated runtime; d) single-handedly designed formal presentations of new methodologies & empirical findings for sr. management (up to CIO of all international markets).
- **Large marketing firm:** ensured efficient (re)allocation of advertising dollars across advertising media via econometric time-series estimation (market mix study) of the effects of spending on customer patronage.
- **Fortune 50 financial institution:** For portfolios comprising over 8 million mortgages and over ½ trillion USD, improved the estimation of creditworthiness, and thus profitability, by a) performing original econometric modeling of credit risk and delinquency behavior using a wide range of proportional and non-proportional hazards, time series, count data and logistic regression models; b) increased the speed of established company SAS macros by orders of magnitude (from over a week to minutes) and created original statistical SAS Macros faster than SAS's own precompiled procedures (SAS Procs), thus allowing the implementation of previously runtime-prohibitive analyses; c) analyzed complex credit class rules and quantified the impacts of proposed improvements to them; d) single-handedly developed, designed, and delivered formal presentations of empirical findings to senior management.

**Andersen LLP, Economic Consulting Group****Senior Manager / Experienced Manager****2000 – 2002 / 1998 – 2000**

Conducted and supervised applied microeconomic, statistical, and econometric analyses in economic litigation consulting and the implementation of statistical data mining for diverse business consulting services.

## J.D. Opdyke – Page 2 of 4

### ANDERSEN, LLP: SUPERVISORY / TRAINING EXPERIENCE:

Provided key business development as one of original senior managers building a new firm practice (1<sup>st</sup> hire into Boston office, 3<sup>rd</sup> team member nationally). Growth to 30 team members upon departure 4 years later to start own firm. Developed and led statistics/econometrics trainings; hired, trained, and evaluated consultants.

### ANDERSEN, LLP: TELECOMMUNICATIONS:

- Wrote and implemented permutation test statistical software for an RBOC to satisfy the operations support services (OSS) performance measurement regulatory requirements of multiple state PUCs and §271 of the Telecommunications Act of 1996. Code is five times faster than pre-compiled code written by a highly regarded statistical software firm consulted on the project. **(SAS, PROC StatXact)**
- Conducted a comprehensive statistical analysis and data audit of the retail and resale markets of an RBOC to satisfy state and federal (§271 of the Telecommunications Act of 1996) regulatory requirements **(SAS)**
  - selected and implemented rigorous parametric and nonparametric statistical methods for parity testing on the full range of §271-related OSS performance measure data (hundreds of performance measures)
  - hired and managed a team of consultants during initial phase of data/statistical parity analysis
  - developed a statistical algorithm for a mandated, computationally intensive statistical test (permutation test) which cut computer runtime from well over a week into hours – program is over 80 times faster than a competing consulting firm’s attempt at implementing the same test
  - wrote a statistical affidavit detailing the appropriate implementation of permutation tests within the context of OSS parity testing
  - performed root cause statistical analyses to determine causes of disparate service provision to CLECs
  - wrote technical appendix of a statistical affidavit filed with multiple state public service commissions
  - managed the implementation of strict quality control guidelines verifying data integrity
- For audit of a large Bell Company, estimated cost of ISP traffic relative to CLEC local exchange revenue
- Determined and implemented a range of statistical sampling methods for an RBOC potentially facing large fines regarding its call-monitoring practices **(SAS)**
- Employed many parametric and nonparametric statistical sampling and testing methods for two RBOCs requiring, under regulatory mandate, a performance measure sampling methodology **(SAS)**

### ANDERSEN, LLP: PRICING / RETAIL:

- Created a comprehensive firm-wide pricing tool for a multibillion dollar global professional services firm. Project manager for the data analysis component requiring identification, cleaning, and merging of disparate internal financial and client data to perform modeling for price prediction and strategy. Methods used include hedonic regression, neural nets, and the application of resampling methods to tobit models. For each model, constructed GUI interfaces that accepted project and client characteristics as input, and as output, predicted prices (with user-defined confidence intervals). **(SAS, Statistica, Excel)**
- Increased profit margins for the largest privately owned retail organization in the country as project manager of the data mining component of a comprehensive product, customer, and pricing and profitability analysis. Developed and implemented a data warehouse system linking point-of-sale data (half a billion records annually) with databases across multiple systems (store, merchandise, store account, and department) to perform: a) multivariate customer segmentation utilizing various classification algorithms; b) econometric modeling of purchasing behavior; and c) sales margin, price point, geographic, competitor, departmental, and product class analyses. **(SAS, Angoss (KnowledgeSEEKER), SPSS (AnswerTree))**
- For an audit of a retail manufacturer, estimated total dollars correctly invoiced by designing and implementing nonparametric stratified bootstrap algorithms applied to ratio estimators. **(SAS, S-Plus)**
- Increase profit margins for a national retail department store as the project manager for the data mining component of a comprehensive product, customer, and pricing analysis. Performed multivariate customer segmentation utilizing various classification algorithms, as well as competitor, price point, profit margin, geographic, departmental and product class analyses. **(SAS, SPSS (AnswerTree))**

## J.D. Opdyke – Page 3 of 4

- Critiqued an opposing expert's time-series – cross-section econometric analysis of an event study in retail litigation with alleged damages of over half a billion dollars (**SAS**)

### ANDERSEN, LLP: LITIGATION / REGULATION:

- Project manager of an evaluation of statistical sampling techniques of a Department of Justice audit of a city's administration of federally funded programs; case settled favorably based mainly on analysis (**SAS**)
- Project manager of a 65,000 individual class action lawsuit requiring extensive database construction, statistical and data analysis, and damages scenario analyses (**SAS**)
- Project manager of an IRS binding arbitration case. Conducted all analysis for Expert Report & Decision
- Performed demographic analyses in support of smoking-related tobacco class action litigation (**SAS**)
- Performed statistical analyses for an electric utility estimating incremental benefits of improved metering accuracy from generation to transmission, and transmission to distribution (**SAS, Mathematica**)

### Charles River Associates, Inc.

Senior Associate

1996 - 1998

Associate

1993 - 1996

As an associate and later as a project manager, performed statistical programming for antitrust litigation and merger cases (including Continental & Northwest v. American) requiring large database construction for predatory pricing and price elasticity studies, the measurement of market concentration, and the calculation of various measures of market power (**SAS**). Also, directed the applied econometric analysis of a large ridership forecast project for a multi-billion dollar airport access monorail system in New York City (**SAS**); conducted the statistical analysis that served as the foundation for a capitated price contract between an international pharmaceutical company and a national managed-care organization (**SAS**); and used a wide range of empirical methods in comparables analyses evaluating non-market transactions in transfer pricing studies.

### National Bureau of Economic Research

Research Analyst

1991 - 1992

Performed statistical analyses and econometric modeling as a labor economics researcher. (**Gauss, SAS**)

### Harvard University, John F. Kennedy School of Government

Teaching Assistant, Econometrics, Advanced Section (TSP)

Spring, 1992

Research Assistant, Wiener Center for Social Policy (**SAS**)

Winter, 1991

**JOURNAL REFEREE:** *Quantitative Finance*, Taylor and Francis, Inc.;  
*The American Statistician*, American Statistical Association;  
*Telecommunications Policy*, Elsevier Ltd.

### WORKING PAPERS

"The Statistics of Information Ratios"

"A New Fibonacci Series Identity with Algorithm and Application"

### PEER REVIEWED PUBLICATIONS

"Comparing Sharpe Ratios: So where are the  $p$ -values?," *Journal of Asset Management*, Vol 8(5), Dec 2007

"A Powerful and Robust Nonparametric Statistic for Joint Mean-Variance Quality Control," first submission November 14, 2005 – *under review*.

"A Single, Powerful, Nonparametric Statistic for Continuous-data Telecommunications 'Parity Testing'," *Journal of Modern Applied Statistical Methods*, Vol. 4, No. 2, November, 2005.

"Misuse of the 'modified'  $t$  Statistic in Regulatory Telecommunications," *Telecommunications Policy*, Vol. 28, No. 11, 821-866, 2004.

"Fast Permutation Tests That Maximize Power Under Conventional Monte Carlo Sampling for Pairwise and Multiple Comparisons," *Journal of Modern Applied Statistical Methods*, Vol. 2, No. 1, May, 2003.

"The Use of Regression Techniques in Transfer Price Analysis," with R. Hartman and D. Wright, *European Taxation*, International Bureau of Fiscal Documentation, TP, Suppl. No. 18, July, 1996.

## PUBLICATIONS

- “A Powerful and Robust Nonparametric Statistic for Joint Mean-Variance Quality Control,” **2005 Proceedings of the American Statistical Association**, Section on Quality and Productivity, Minneapolis, MN: American Statistical Association, forthcoming – February, 2006.
- “Misuse of the ‘modified’  $t$  statistic in Regulatory Telecommunications,” **2003 Proceedings of the American Statistical Association**, Business & Economics Statistics Section, San Francisco, CA: American Statistical Association, February, 2004.
- “Fast Two-Sample Permutation Tests, Even When One Sample is Large, That Efficiently Maximize Power Under Crude Monte Carlo Sampling,” **2002 Proceedings of PharmaSUG** (National Pharmaceutical SAS Users Group), Statistics and Pharmacokinetics – Reporting and Analysis Section, May 5-8, 2002. **Winner – Voted Best Paper**, Statistics/Pharmacokinetics – Reporting/Analysis Section

## PRESENTATIONS

- “Easily Implemented Confidence Intervals and Hypothesis Tests for Sharpe Ratios Under General Conditions,” **JSM 2006 – Joint Statistical Meetings**, Seattle, Washington, August 6-10, 2006.
- “A Nonparametric Statistic for Joint Mean-Variance Quality Control,” **JSM 2005 – Joint Statistical Meetings**, Minneapolis, Minnesota, August 7-11, 2005.
- “Misuse of the ‘modified’  $t$  statistic in Regulatory Telecommunications,” **JSM 2003 – Joint Statistical Meetings**, San Francisco, California, August 3-7, 2003.
- “Fast Two-Sample Permutation Tests, Especially for Multiple Comparisons and Even When One Sample is Large, That Efficiently Maximize Power Under Conventional Monte Carlo Sampling and Allow for Simultaneous Permutation-Style P-value Adjustments,” **MCP 2002 – The 3<sup>rd</sup> International Conference on Multiple Comparisons**, Bethesda, Maryland, August 5-7, 2002.
- “Fast Two-Sample Permutation Tests, Even When One Sample is Large, That Efficiently Maximize Power Under Crude Monte Carlo Sampling,” **PharmaSUG 2002** (National Pharmaceutical SAS Users Group), Statistics and Pharmacokinetics – Reporting and Analysis Section, May 5-8, 2002. **Winner – Voted Best Paper**, Statistics and Pharmacokinetics Section.
- Presented before 35 selected members of i) the Public Service Commissions of twelve states, ii) a regulatory research institute with oversight authority, and iii) a telecommunications consulting firm with administrative oversight authority, the executive summary of a 100-page proposal I authored to perform a 13-state telecommunications Operations Support Services performance audit of a Regional Bell Operating Company (see <http://www.nrri.ohio-state.edu/oss/admin/vendorprop/andersen/andersen.htm>).
- Presented before 20 representatives of four Regional Bell Operating Companies the statistical foundations, application, and regulatory remedy (fine) implications of utilizing permutation tests in telecommunications OSS performance measurement “parity testing.”

## PATENTS

- **Fast Two-Sample Permutation Tests**, Patent pending, Filing Date: August 30, 2001  
A statistical program for performing fast, multiple two-sample permutation tests, even when one of the samples is large (millions of observations).

## PROFESSIONAL ASSOCIATIONS

- American Statistical Association
- The Econometric Society
- American Finance Association

## OTHER AWARDS / SCORES

- GRE Quantitative: 800
- LSAT: 99<sup>th</sup> Percentile
- Harvard Book Award
- National Merit Finalist