

### OVERVIEW

For more than 25 years, Mr. Sirgo has provided data science and economic consulting expertise using machine learning and other statistical methods combined with a unique ability to visualize, present, translate, and communicate patterns in complex and large data to address various business applications.

### EXPERIENCE

#### PRODUCT LIABILITY ESTIMATION

- Estimate the liability from future bodily injury claims to project the cost to resolve current and future claims, evaluate insurance recovery, estimate reserves, and facilitate corporate restructure using epidemiological models of disease incidence and historical claims data in the following contexts:
  - Companies that manufactured, installed and/or distributed asbestos-containing products;
  - Alleged failure of safety equipment (respirators, heat protective clothing, and aqueous film-forming foam) resulting in coal workers' pneumoconiosis, and silicosis;
  - Estimate the risk profile related to the hair straightener products market and the potential for litigation resulting from claims alleging uterine cancer and ovarian cancer;
  - Designed and implemented a model forecasting the total US liabilities arising from claims alleging non-Hodgkins lymphoma and multiple myeloma cancers resulting from occupational and residential exposure to glyphosate-based herbicides; and
  - Analyzed the claiming information for a population of claimants alleging that a company's products had contributed to lead poisoning.
- Created a probabilistic model to estimate the costs associated with the September 11th Victim Compensation Fund established by the James Zadroga 9/11 Health and Compensation Act and provided related analyses at the direction of the VCF Special Master.
- Supported expert testimony and provided advisory services on behalf of the Court-appointed Future Claims Representative in the Takata airbag bankruptcy matter. Developed algorithms to estimate the indemnity associated with claims arising from recalled Takata airbag inflators on behalf of the Court-appointed Future Claims Representative.

## LABOR AND EMPLOYMENT

- Computed overtime damages under the Fair Labor Standards Act for plaintiffs who worked at Border Patrol Academies prior to the time Customs and Border Protection started paying overtime from millions of records of payroll data.
- Analyzed hundreds of millions of daily shift entries associated with allegations of uncompensated overtime work-related activities performed by plaintiffs at the US Department of Veterans Affairs.
- Performed analyses of payroll data pertaining to employees of the US Federal Bureau of Prisons in response to settlement proposals related to late overtime payments and failure to pay non-custody officers for working through meal periods when pressed into custody officer duty.

## BUSINESS INTERRUPTION LOSS

- Used statistical analyses to quantify, validate and critique opposing expert's estimate of lost patient encounters resulting from a cyber-attack on a healthcare provider.
- Applied time series analyses to estimate the loss associated with a window and siding manufacturer's inability to obtain orders from customers resulting from a ransomware attack.

## STATISTICAL SAMPLING

- Created a library of sampling functions to be used by a team of 15 statisticians using S-Plus including a novel optimization algorithm based upon Neyman Allocation in stratified random samples, as well as sample size and estimation methods using the hypergeometric distribution.
- Estimated the share and dollar amount of valid payments for Medicare claims from stratified random samples as part of providers' self-disclosure protocol.
- Designed and estimated samples using two-stage cluster design to achieve highly precise estimates of the stock basis associated with the mergers of corporations for several transactions.
- Designed stratified samples for the US Department of Justice estimating the percentage granted citizenship by the Immigration and Naturalization Service despite being statutorily barred.

## MORTGAGE BANKING COMPLIANCE-RELATED ISSUES

- Evaluated whether a mortgage originator's lending practices were fraudulent including suggestions that borrower financial information was misrepresented and/or that unaffordable loans were made.
- Validated an institution's model used for estimating general reserves, loan loss reserving methodology and risk rating methodology. Offered specific recommendations for improvements in implementing the model and strengthening controls.
- Provided technical and analytical support to the development of a Responsible Lending Risk Management Program for a large national mortgage lender. Assisted the Responsible Lending business unit with on-site due diligence reviews, reviewed and assessed their testing for federal and state high-cost lending compliance of its originating lenders.
- Performed model validation of a major mortgage lender's prepayment, retention, and models as part of a company-wide initiative to validate key models used for asset valuation and risk management. Identified key model risks associated with the lender's development and implementation of its models and offered specific recommendations to management to reduce and/or mitigate various apparent model risks.
- Assisted with a fair lending compliance self-assessment for an originator of residential mortgage loans. Closely scrutinized the statistical validity of the lender's analysis of loan pricing, and assessed the scope, design, and effectiveness of the lender's current fair lending testing program relative to: (1) its compliance risk management objectives; (2) Interagency Fair Lending Examination Procedures; and (3) the fair lending testing programs of other lenders.
- Developed original scripting using S-Plus, R and Visual Basic to calculate the refunds owed borrowers to no longer meet the criteria for a high-cost home loan under the state law or regulation.
- Designed statistically-based reviews of loans to identify fraud or violations of regulations and evaluated underwriting related issues, conducted comprehensive reviews of mortgage pricing practices and prepared targeted appraisal integrity reviews.

## ECONOMETRIC/STATISTICAL MODELING

- Performed a validation of a bank's approach to detecting fraudulent credit card authorizations based on model developed using artificial intelligence trained on billions of transactions.
- Developed, estimated, and provided econometric assistance to mortgage lenders in the areas of fair lending, loan underwriting and pricing, steering and loan loss reserving methodology.
- Maintained and updated a quarterly-based retail price monitoring system written in Visual Basic for a major mortgage lender.
- Completed economic and statistical analyses to determine whether a bank's subsidiary's policies and practices resulted in racial disparities in the cost of mortgage credit paid to the subsidiary.
- Imported and prepared large volumes of loan origination data for statistical analyses from several banks in the Seventh District of the Federal Reserve System.

## EDUCATION

University of Chicago  
M.A., Regulatory Economics  
University of Pennsylvania  
B.A., Economics

## PREVIOUS EMPLOYMENT

Nathan Associates, Inc.  
Navigant Consulting, Inc.  
PricewaterhouseCoopers LLP  
KPMG Peat Marwick LLP  
Federal Reserve Bank of Chicago

## COMPUTER SKILLS

Programming languages: R, SAS, SQL, Stata, Visual Basic  
Applications: R Markdown, Shiny, Plotly, HTML Widgets

## PUBLICATIONS AND SPEAKING

Speaker: “Current Statistics in US Mesothelioma Diagnoses and Mortality” European Asbestos Forum Global Asbestos Conference. November/December 2023.

Speaker: “How to Achieve Finality from Contingent Liabilities” with K. Pasquale and H. Sullivan. FARA Recovery Webinar. January 2022.

Speaker: “COVID-19 Deaths and Future Mesothelioma Diagnoses” with D. Blydenburgh, A. Brody, and M. Zellmer. Perrin National Asbestos Litigation Conference. September 2021.

Speaker: “The Third Wave of Asbestos Liabilities”, with K. Hartley and W. Wilt. Casualty Loss Reserve Seminar, Casualty Actuarial Society. Atlanta, Georgia. September 2015.

“The Benefits of Probabilistic Cost Analysis for Quantifying Risk in Asbestos-related Disease Expenses”, with J. Horewitz, B. Henthorn, and K. Hartley. Environmental Claims Journal, 27:4, 348-358. 2015.

“Matrixx V. Siracusano: Supreme Court Gets Statistical”, with L. Wilde and J. Williamson. Law360, December 2011.

“Forecasting Mesothelioma: Improvements in the Nicholson Methodology Are Better Predictors of the Recent Past,” with J. Horewitz. John Liner Review, Vol. 23 No. 1. Spring 2009.

“Choosing Among Statistical Estimators,” with J. Pollner and L. Schweitzer. Compliance Today, Volume 3, Number 5, May 2001.

“Achieving Meaningful Audit Results Despite Insufficient Sample Size,” with J. Pollner and L. Schweitzer. Report on Medicare Compliance, Volume 10, Number 17, May 17, 2001.

“Evaluating RAT-STATS,” with J. Pollner and L. Schweitzer. Today’s Corporate Compliance, Volume 2, Number 9, September 2000.