



# Predictive and Econometric Modeling



Organizations often require economic and data analytic consulting services to understand the impact of contemplated activities, emerging trends, and new legislation and regulations. Organizations also use these services to evaluate alternative strategies and support decisions such as which accounts customers or donors to target.

The Economic & Statistical Consulting (ES) professionals in KPMG LLP's (KPMG) Economic & Valuation Services (EVS) practice provides a variety of data analysis services to private and public sector clients. ES professionals have advanced analytical capabilities and sophisticated problem-solving skills. We bring these skills to bear to help clients evaluate data to extract information, obtain relevant results, and make decisions. Our services leverage the skills of our team, which includes statisticians, database analysts and econometricians.

## The KPMG approach

We work closely with clients to identify their issues, assess the data available to address the issues, and apply complex analytical techniques to suggest alternatives. Our professionals help businesses, trade associations, law firms, government agencies, and other clients by providing a wide range of services including:

- Predictive modeling
- Econometric modeling
- Risk modeling
- Simulation modeling
- Statistical sampling and analysis
- Economic, statistical, and econometric litigation consulting
- Econometric and statistical model reviews
- Survival analysis.

## Our team

Recognizing the complexity of the problems that our clients face, ES brings together a team of multidisciplinary and highly experienced professionals. We are a highly qualified team of PhDs with many others on our team having advanced degrees in one of the following fields: economics, statistics, operations research, finance and applied mathematics. Our team also has deep experience with standard statistical platforms, such as SAS, Stata, and Access, as well as other programming languages. Our staff complements the knowledge and experience that our clients bring to a problem, providing our clients with a valuable team member.

## Our experience

Across engagements, the assistance provided by ES professionals has varied considerably. We have performed complex analytical research and provided expert testimony. In other cases, we have undertaken basic background research, database development, or analytical support on behalf of our clients.



## Representative engagements

- **Fraud monitoring and detection**
  - Used predictive modeling to help to develop and enhance a large federal agency's ongoing fraud detection capabilities. The enhanced framework allows for more effective fraud detection monitoring and better allocation of resources.
- **Improper Payments Elimination and Recovery Act (IPERA) assistance**
  - Used statistical and econometric methods to estimate improper payments of various types. Our assistance allowed the client to develop better estimates of improper payments.
- **Analysis of potential discrimination in extending consumer credit, grants, and other awards**
  - Jointly with KPMG's Regulatory Risk practice, our team has assisted numerous financial institutions and other entities with developing statistical analyses used to evaluate the consistency in extending credit or making various types of awards across demographic groups. Our analyses are used by the entities to evaluate potential discrimination risk.
- **Econometric modeling and sample design—process improvement**
  - Recently assisted a large federal agency with refining its modeling approach in assessing total unpaid tax. The proposed enhancements would allow the agency to more accurately assess unpaid tax.
- **Investment portfolio risk and return analysis—performance audit**
  - Assisted a large federal agency with a pension fund investment portfolio risk and return analysis using Monte Carlo simulations. The analysis allowed the agency to get a better understanding of the portfolio risk and return trade-off and, ultimately, to support informed allocation decision-making.

- **Data collection, statistical surveys**

- For a large federal agency, developed and implemented a national survey of Money Service Businesses. The agency used the results for policy analysis.
- For a large federal agency, estimated the probability of acquiring broadcast licenses including whether race or sex influenced awards. The agency used the results to evaluate the consistency and fairness of the license award process.
- For one of the largest school districts in the United States, developed and implemented a survey of key stakeholders. The district used the survey results to support its ongoing accountability and progress reporting initiative.

## Other experience

- Program outcome measures
- Evaluation of errors in Medicare claims
- Statistical support in 'lookback' file reviews
- Customer/accounts segmentation based on observed characteristics or behaviors



## Contact us

To learn more about KPMG's Economic & Statistical Consulting capabilities, please contact one of the following ES professionals:

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