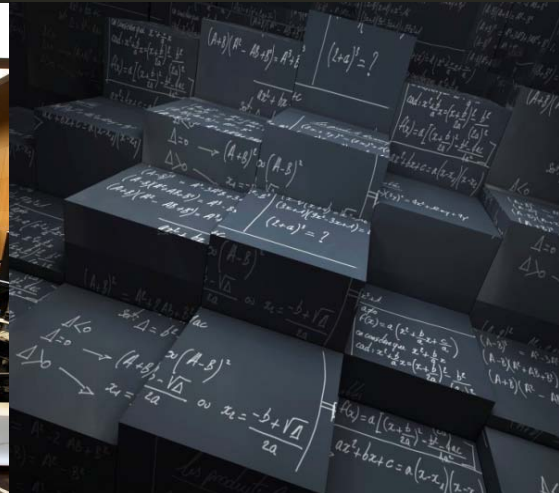
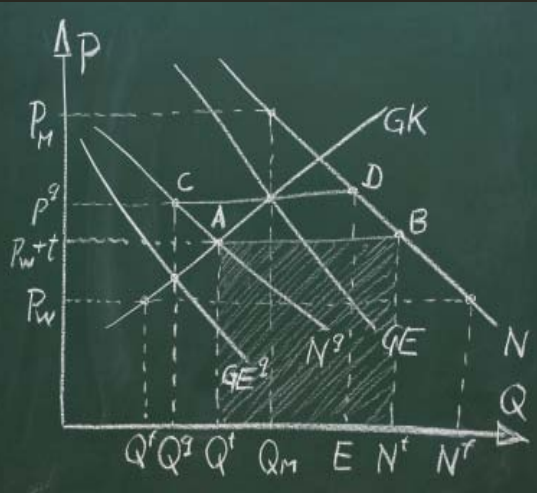


# Finance and Markets



From Analysis to Insight

# ADVANCED ANALYTICAL CONSULTING GROUP

## **About Advanced Analytical Consulting Group (AACG)**

Founded by former Senior Managers and national leadership of the Economics and Statistical Consulting Group of Deloitte's Financial Advisory Services in 2009, AACG provides economic, statistical, and computing consulting for business decisions and litigation. AACG assists business clients with strategic and operational consulting based on in-depth quantitative analysis of corporate data and the client's position in the market. AACG provides expert testimony, support for academic experts, and assistance in identifying the right expert from academic and business settings. Economists at AACG have served clients on matters in Afghanistan, Australia, Belgium, Britain, Canada, Cambodia, India, Indonesia, Kazakhstan, South Korea, Malaysia, Mexico, New Zealand, Peru, Qatar, Russia, Singapore, Thailand, Trinidad and Tobago, United Arab Emirates, U.S., and Venezuela.

Central Image Front Cover: Frankfurt Stock Exchange

# Finance and Markets

*The turmoil in financial markets has created a constellation of disputes, including Government enforcement actions, criminal investigations and shareholder suits among others. These disputes require a broad range of expertise, skills, and perspectives to understand completely and explain effectively. The downturn in the housing markets drove a series of problems with collateralized debt obligations (CDOs). The performance of the CDOs further impacted investors and investment plans through mutual fund investments, retirement accounts and pensions. The economic meltdown has also been associated with a general stress on economic markets, resulting in declining stock market performance and various 10b-5 shareholder litigations as well as manipulation of major financial measures such as LIBOR.*

An understanding of the changing performance of financial assets and their implications for complex litigation rests on knowledge of five broad areas:

- 1) theoretical and empirical research in finance,
- 2) practices and methods applied by participants in these markets,
- 3) regulations and monitoring activities that set the bounds for operating within financial markets,
- 4) statistical/econometric analysis,
- 5) large-scale data capabilities needed to process and investigate relationships embedded in hundreds of millions of financial transactions.

Advanced Analytical Consulting Group (AACG) combines these diverse skill sets to provide a full range of evidence about the inner workings of these financial markets.

## **How We Can Help**

### ***Finance***

Economists and financial experts working with AACG have extensive experience in the study of finance, financial instruments, financial markets, and trading. Our experts include a former Chief Economist of the Securities and Exchange Commission ("SEC"), academics who have published extensively in finance, housing and mortgages, and consulting economists who have served as experts in litigations for, and against, the SEC and in private litigation. In addition, our experts have worked within companies that were directly involved in trading in the financial markets.

## **Housing and Mortgage-Related Matters**

AACG experts have published articles in, and served as editors of, academic journals related to finance and real estate, and authored reports related to mortgage institutions such as GNMA. Our research includes detailed analysis of how private information and incentives impact mortgage contracts.

Financial and economic experts now at AACG have estimated potential damages to investors resulting from the collapse of a hedge fund with investments in collateralized mortgage obligations (CMOs) and other sub-prime instruments. The analysis examined how the portfolio was hedged and tracked security prices during the class period. Additionally, we determined potential losses of the hedged portfolio over the class period had the hedge fund not invested in particular CMO.

## **LIBOR**

London interbank offer rate (“LIBOR”) is one of the most widely cited and used measures of nearly risk free interest in the world. It is used in interbank transactions and as a reference point for intercompany business deals unrelated to banks. AACG has been involved in LIBOR litigation. Our experts include former a former SEC chief economist, a managing director of a major bank, a hands-on trader of international currency, and economists and statisticians who have experience analyzing market manipulation, large volume trading data and LIBOR during the periods of alleged manipulation.

## **10b-5 Litigation**

Economists and financial experts at AACG have served as expert witnesses in 10b-5 studies for the valuation of companies in private actions and for the SEC. Our staff has also supported academic experts in all facets of 10b-5 securities litigation including: conducting an event study, determining the significance of event days, calculating but-for prices, estimating damages, and examining intra-day price changes to distinguish between the impact on stock prices of the alleged fraudulent event and other unrelated news events.

## **Financial Markets and Trading**

AACG experts have significant experience, both practical and academic, in financial markets, financial engineering, and valuation and possess broad-ranging trading expertise. Our financial experts have held significant positions at major banks, such as Managing Director or Founding and Managing Partner, at major investment banks and trading/brokerage firms. Our experts combine hands-on trading experience with academic insights and rigor to allow them to provide expert testimony grounded in both practical and theoretical consideration of valuation, execution, and trading behavior.

## **ERISA Litigation**

The economic downturn has adversely affected pension assets and laid bare the exposure many pension plans have to volatile investments, such as hedge funds. It also has brought about a prolonged period of low interest rates, which is forcing many retirement plans to reduce their

expected rates of return. Low rates of return, along with new regulation, have also led 401(k) participants and sponsors to scrutinize their plans' fees. Economic and Finance experts at AACG

studied the exposure of defined benefit plans to hedge funds, defined benefit plan funding, revenue-sharing arrangements in 401(k) and other defined contribution plans, pension cash-outs, comparative fee levels in 401(k) plans and Individual Retirement Accounts, and fiduciary issues.

## **Markets and Trading**

Economic and finance experts at AACG have studied a series of topics related to market trading behavior in the areas of late trading, rapid trading and market making. AACG's work in this area often combines an understanding of the market microstructure observed in financial markets and market makers with the ability to analyze large-scale data found in high volume trading.

Our experts have presented their work to, and on behalf of, the New York Attorney General, SEC, and Financial Institution Regulatory Authority. Our analyses also have been used by private institutions to monitor trading behavior among their fund managers. We have developed monitoring tools and protocols to identify inappropriate trading behavior, such as front-running, portfolio pumping/window dressing and other trading behaviors that suggest that an individual portfolio manager, group, or an entire firm is trading inappropriately. We help hedge fund and mutual fund clients develop tests that fit the regulatory environment and that are rigorous enough to demonstrate to investors that they have the right controls in place to protect investments.

## ***Statistical Analysis and Large-Scale Data Analysis***

### **Statistical Analysis**

Statistical analyses and econometric models are often central in scientifically identifying how financial markets react to actions of market participants. Further, econometric models are often used to quantify the magnitude of damage caused by a specific market behavior. AACG's experts have significant experience with statistical and econometric models in academic research, business/trading applications and litigation related to financial markets. Our experts have developed statistical models to identify trading behaviors, such as front-running, window dressing and other patterns of trading used to manipulate the measured performance of portfolios. We have also performed numerous stock market event studies that employ regression analyses to identify the existence and magnitude of stock market manipulations.

### **Large-Scale Data Analysis**

Empirical evidence relating to financial markets often requires analysis of hundreds of millions of transactions. Experts at AACG have performed analyses on large-scale financial market data in various settings, including matters involving rapid trading and investigations of portfolio manipulation.

## Related Services

### Valuations of Asset and Companies

AACG experts have also provided valuations of assets and companies in situations where market prices are not available or where thin trading or issues of liquidity may impact the price of the asset. We have performed this type of valuation work for privately held companies, public companies and for the SEC.

### Selected Experts

**Chester Spatt, Ph.D., Prof. of Finance, Carnegie Mellon University:** Prof. Spatt is a former Chief Economist for the SEC. He is currently the Pamela R. and Kenneth B. Dunn Professor of Finance and the Director of the Center for Financial Markets at the Tepper School of Business at Carnegie Mellon University. He is the recipient of numerous National Science Foundation research grants and has published widely in academic journals related to finance and financial markets. He was a founder and Executive Editor of *Review of Financial Studies* and served as an academic referee for dozens of scientific journals. His research includes incentive conflicts associated with bundled financial claims and analyses of mortgage contracting.

**Tim Weithers, Ph.D., Executive Director, Chicago Trading Company:** Dr. Weithers is currently an Executive Director of Chicago Trading Company (CTC). He has testified in Federal Court about complex financial securities and trading strategies and practices. His areas of expertise include derivatives (options, forwards, futures, swaps—he wrote the lead chapter of *The Handbook of Equity Derivatives*), foreign exchange (an area in which he has authored a popular book on *Foreign Exchange: A Practical Guide to the FX Markets*), finance, and economics, and he has lectured about credit default swaps (CDSs). He taught at the graduate level at Fordham University and for years in The University of Chicago's Financial Mathematics Program, where he also served as its Associate Director.

For over 20 years, Dr. Weithers has worked in the financial industry, starting with O'Connor and Associates (a premier option trading firm), NationsBanc-CRT, Swiss Bank Corporation (SBC), and UBS (which he left, as Managing Director, in 2006). He received his Ph.D. in Economics (concentration in Mathematical Economics) from The University of Chicago.

**Dr. Kumar** has extensive experience in economic consulting and specializes in the application of economic and financial theory to questions arising in business disputes, securities/derivatives, transfer pricing and corporate finance litigation. She has expertise in damages quantification spanning a variety of contexts and industries, business valuation, securities and structured finance litigation. She is proficient in the use of sophisticated statistical modeling and econometric techniques.

Dr. Kumar has been engaged as a testifying expert in securities, valuation and damages-related matters, and as a consulting expert in a wider range of litigation including tax and transfer pricing, financial antitrust, statistical sampling and wage and hour-related suits. Dr. Kumar holds a B.Sc. in mathematics and economics from London School of Economics and Political Science and a Ph.D. in finance from MIT Sloan School of Management

**Daniel S. Levy, Ph.D., National Managing Director, AACG:** Dr. Levy has performed financial research and presented his work related to finance and financial markets to the SEC, FINRA, and the New York State Attorney General and served as an expert in financial valuation of public and private corporations. His research has been used in disputes related to late trading, rapid trading, market micro-structure and 10b-5 matters. He has provided expert reports and testified in various matters in both the United States and Canada.

Dr. Levy has served as the Global Leader of Arthur Andersen's Economic and Statistical Consulting Group, as well as the Global Director of Economics and Statistics for Deloitte Financial Advisory Services LLP. He has also held economic research positions at Charles River Associates, the RAND Corporation and Needham Harper Worldwide. He earned a Ph.D. from the Department of Economics at The University of Chicago.

Phone: 617 338 AACG (2224)

AACG.com

For more information, contact:

Daniel S. Levy, PhD  
*National Managing Director*  
617 338 2224  
DanLevy@AACG.com

Pavithra Kumar, PhD  
*Principal*  
617 338 2224  
PavithraKumar@AACG.com