MICHAEL KWAK

CONTACT

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EDUCATION

2011, *MA in Economics*, New York University
2004, *BA in Economics*, Columbia University

PROFESSIONAL EXPERIENCE

2019 - Present, *Executive Vice President*, Compass Lexecon
2016 - 2019, *Senior Vice President*, Compass Lexecon
2012 - 2016, *Vice President*, Compass Lexecon
2005 - 2012, *Senior Director*, FTI Consulting
2004 - 2005, *Registered Representative*, Bear Stearns & Company
2001 - 2002, *Senior Account Executive*, Josephthal & Co.
1996 - 2001, *Account Executive*, National Securities LLC

SELECT CASES

Valuation & Financial Analysis

- A Co-led the finance team in a matter in bondholders owning billions of dollars of Puerto Rican debt along with an insurer of Puerto Rican debt sought to lift the automatic temporary stay arising from the Puerto Rico Oversight Management and Economic Stability Act (PROMESA).
    - Conducted event studies to assess the observable economic impact on various Commonwealth issued bonds.

- Led the New York finance team in a dispute between the Abu Dhabi Investment Authority and a major US based banking institution. This dispute involved a damage claim related to the ADIA's investment into mandatory convertible notes.
    - Analyzed observable market metrics such as the ABX and the commercial paper market to assess the timeline of the financial crisis relative to the ADIA investment to assess disclosed risks.
    - Analyzed the bank's actions to address its capital position in the period prior to the Lehman bankruptcy on September 15, 2008.

- Directed the New York based component of the broader finance team for the matter Starr International Company Inc. v. The United States that was responsible for assessing the market impact and commercial reasonability of the Government rescue of AIG.
    - Conducted regression-based event study analysis to assess the impact of the Government intervention in AIG on shareholder value.
    - Conducted balance sheet solvency analyses to assess to likelihood of shareholder recovery but-fur intervention.
    - Conducted analysis of risk adjusted market yields for lending to AIG.
- Directed the finance team that was engaged by a multinational banking institution to develop and implement a stress testing methodology for a US subsidiary bank. These stress tests required to valuation of fixed income, equity, and derivative exposures.

- Developed and implemented a stress testing framework and methodology that mapped macroeconomic indicators to observable market indicators (e.g., Libor, Ted spread, VIX) to simulate conditional outcomes based upon estimated response functions reliant on common risk factors reflecting underlying bank portfolio sensitivities.
- The simulations were employed to estimate 'what-If' and 'but-for' response functions for the various assets classes in order to model regulatory capital stress scenarios representative of economic and corresponding market conditions as reflected by macroeconomic indicators.

- Directed a statistical team to assess to environmental impact and associated financial exposure related to a major US oil spill.
    - Using environmental data and generally accepted biological mortality models, constructed Monte Carlo based risk models to assess the probability of injury to natural resources such as marine stocks and wetlands as well as associated financial exposure.
    - Using observed behavioral data, constructed Monte Carlo models to assess the impact on tourist behavior related to the natural disaster.

- Directed a statistical team to assess the suitability and foreseeability of the embedded risk contained in subprime RBMS securities as related to the investment portfolio of an offshore property and casualty insurance company.
    - Constructed default and loss severity models to assess exposure to credit risk, extension risk, liquidity risk, and spread risk.
    - Assessed the foreseeability of embedded risk in subprime RMBS as measured by market indicators.

- Directed a statistical team to estimate the fair market value of an exotic structured note portfolio with a notional value in excess of 15 billion dollars. Work was conducted on behalf of the creditors as part of the bankruptcy filing of Lehman Brothers. Valuations were conducted using path dependent Monte Carlo simulation models that incorporated the econometric analysis of historic market data as well as market implied forward prices.
    - Conducted ARIMA based time series analysis of all underlying assets to identify potential heteroskedasticity and to identify distinct regime shifts in the data.
    - Conducted the non-parametric estimation of the distribution of returns for all underlying assets.
    - Conducted the estimation of historic return correlations of all underlying assets.
    - Calculated the delta neutral market implied forward prices for underlying assets.
    - Constructed Monte Carlo simulation models that incorporated the contractual features for each structured product as well as the expected return, volatility, and correlations of all underlying assets.
    - Interpreted the cumulative distribution of simulated values for each structured note to estimate reasonable value.

Discrimination

- A Directed a statistical team analyzing age discrimination in the firing practices of a major US auto maker. Case involved charges of age discrimination from a neutral employment practice resulting in disparate impact and treatment under ADEA on members of a protected class.
    - Constructed logistic regression models to assess the impact of age on the conditional probability of being selected for termination while controlling for business organization levels and worker performance.
    - Conducted ordered Probit models on performance ratings and age to assess the relationship between worker performance rating and age.
    - Conducted cohort cluster and conditional probability analyses to assess the promotion cycle of workers.

- Directed a team to assess worker interest for promotion to the position of manager in a major US restaurant chain to analyze claims of a pattern or practice of discrimination against women in violation of Title VII of the Civil Rights Act of 1964.
    - Calculated the necessary sample size and sampling methodology to statistically test worker interest in promotions by gender.

- Created an interest survey to assess worker interest (labor supply) and worker qualifications (employer based labor demand).
- Directed the implementation and collection of survey data.
- Conducted an econometric analysis to assess expected manager promotion rates with respect to gender.

Wage and Hours

- Directed a statistical team to estimate the exposure related to worker misclassification under the FLSA for a major US investment bank. Case involved the misclassification of financial advisors and the related overtime exposure.
    - Directed the extraction of data from disparate corporate database warehousing systems for compensation, commissions, phone records, computer logs, and HR data.
    - Conducted an analysis of the distribution of broker work time based on phone, security card, and computer log data.
    - Conducted an analysis of the distribution of compensation over the relevant class period.
    - Developed a Monte Carlo based simulation model estimating expected overtime exposure. This model incorporated expected work hours, the historic distribution of compensation, expected state by state class participation rates, overtime basis calculations on a state by state basis, and expected statues of limitations.

- Directed a statistical team to estimate the exposure related to worker misclassification under the FLSA for a major US retailer. Case involved the misclassification of shift managers and the related overtime exposure.
    - Assisted in the development of a time-in-motion study to assess the number of hours spent working by position in exempt and non-exempt work.
    - Developed a Monte Carlo based simulation model estimating expected overtime exposure. This model incorporated expected work hours by position based on a time-in-motion study, the historic distribution of compensation, expected state by state class participation rates, overtime basis calculations on a state by state basis, and expected statues of limitations.

Lost Earnings

- Estimated lost lifetime earnings for 46 individuals not participating in September 11th Victim's Compensation Fund. Work was done on behalf of multiple defendants as part of settlement negotiations for victims in Virginia and Pennsylvania.
    - Developed individualized human capital models to estimate expected lost lifetime earnings based on an individual's: age, gender, position at the time of death, and education.
    - Estimated the expected lost contributions to household services based on age, gender, and family composition.
    - Estimated each individual's expected lifetime personal consumption based on, age, gender, and family composition.
    - Where relevant, constructed valuation models to value the loss of expected stock options, restricted stock, and limited partnership shares.

Statistical Analysis

- Involved with the statistical assessment of large national medical charges database. Issues involved representativeness and impact of data collection practices on insurance reimbursement.
    - Conducted an analysis of the distribution of medical charges by procedure and geography over time in order to assess the representativeness of named plaintiffs.

- Analyzed and reviewed the stochastic/risk model of construction contingency put forth by Silverstein Properties in the insurance mediation for the cost estimates for the World Trade Center rebuild.
    - Constructed a Monte Carlo simulation model of the expected construction costs to rebuild the World Trade Center incorporating the cost distributions of, and the risk event probabilities of expected risks.

TESTIMONY AND AFFIDAVITS

- *Robert and Michael Touisse, Claimants v. Coastal Development and Michael Fields, Respondents*. New York State Arbitration. The case involved the valuation of past and future principal and interest payments secured by casino gaming revenue. Expert report filed on June 20, 2016. Expert testimony provided at arbitration on July 5, 2016.

- *CIBC World Markets Corp., Claimant v. Michael Sassano, Respondent*. FINRA Arbitration, Case No. 2005-02827. Case involved allegations of unpaid commission related to total return swap transactions. Expert witness testimony given at mediation on October 28, 2008.

PUBLICATIONS

"Why Is Prejudgment Interest in IP Cases Based on Risk-Free Treasury Bonds?" By Dr. Charles Diamond PhD., Michael Kwak and Robert Fuite, CFA. New York State Bar Association. "Bright Ideas." A Publication of the Intellectual Property Law Section of the New York State Bar Association. Fall 2006 vol. 15 No. 2.

"Coming RIFtide of ADEA Class Actions." By Dr. Charles Diamond, PhD., Michael Kwak and Robert Fuite, CFA. *Compensation and Benefits Review*, May 2007.

GUEST LECTURES

- "Why NYU Courant Institute of Mathematical Sciences, Advanced Topics in Applied Math: Dynamic Computational Statistics Models for Socio-economic & Geo-political Systems, Guest Lecturer, Spring 2012.
  Topic: Monte Carlo Simulation of the Gamma-Poisson distribution and its relationship to other distributions.

- NYU Courant Institute of Mathematical Sciences, M.Sc. Program in Financial Mathematics; Guest Lecturer, Fall 2011.
  Topic: Valuing complex structured products with path dependent Monte Carlo Simulation.

ACADEMIC HONORS

2001 - 2004, *Deans Honor List, each semester*, Columbia University
2004, *summa cum laude*, Columbia University
2004, *Phi Beta Kappa*, Columbia University
Recipient of C. Lowell Harris Scholarship in Economics, Columbia University