

Martin R. Holmer

Professional Experience

- 1996– Policy Simulation Group, Inc.
 President
- 1992–96 HR&A (Hamilton, Rabinovitz & Alschuler, Inc.)
 Principal and Head of HR&A Policy Simulation Group
- 1992–93 Wharton School, University of Pennsylvania
 Research Associate and Lecturer
- 1987–92 Federal National Mortgage Association (Fannie Mae)
 Vice President for Asset/Liability Strategy
- 1986–87 E.F. Hutton & Company
 Vice President for Mortgage Securitization
- 1984–86 U.S. Department of Health and Human Services
 Senior Economic Advisor to Deputy
 Assistant Secretary for Health Policy
- 1980–84 U.S. Department of Health and Human Services
 Director of Income Security Policy Research
- 1974–80 U.S. Department of Health and Human Services
 Senior Economist, Income Security Policy Research Office
- 1969–74 Emmanuel College, Boston, Massachusetts
 Instructor, Department of Economics

Educational Background

- 1975 Ph.D., Economics, Massachusetts Institute of Technology
 - Major:* Mathematical Economics
 - Minors:* Monetary Economics, Public Economics,
 Econometrics, International Economics
 - Honors:* Woodrow Wilson Fellowship, U.S. Department of
 Labor Manpower Dissertation Fellowship
- 1967 B.A., Mathematics and Economics, University of Kansas
 - Honors:* Phi Beta Kappa,
 Degree with Honors in Economics

Selected Technical and Managerial Capabilities

Stochastic Simulation Modeling of Social Security

Developed, for 1994–95 Social Security Advisory Council’s Technical Panel on Assumptions and Methods (working with Social Security and Medicare actuaries), a conceptual framework and partial implementation of a long-run stochastic simulation model that provides quantitative estimates of the uncertainty facing the OASDI programs. Completed development of the simulation model under a competitively-awarded contract from the Social Security Administration and used the model to analyze for the Advisory Council the expected return and risk effects of policies that invest a fraction of OASI trust funds in equities rather than the customary special-issue Treasury bonds. Under a subsequent series of contracts from the EBRI, AARP, GAO, and the SSA Office of Policy, the model, which is called SSASIM, has been extended to include lifetime cohort measures such as money’s worth rate of return, individual account reform analysis capabilities, an embedded neoclassical economic growth model with links to the broader Social Security model, and an related micro model, called GEMINI, in which social security benefits are estimated for a representative cohort sample of individuals.

Asset-Liability Management Policy Analysis

Developed, for World Bank and a Philippine government-sponsored housing-finance and provident-saving agency, an assessment of current financial projection capabilities and plans for developing an enhanced model for assessing alternative asset-liability management policies. Developed for Fannie Mae a risk-based capital-adequacy model for use in assessing an existing government-sponsored mortgage insurance agency in the Philippines. Participated with World Bank and Fannie Mae staff in the planning for a secondary mortgage-market corporation in the Philippines.

Stochastic Simulation Modeling of Private Health Insurance Markets

Developed, for RAND as part of the Robert Wood Johnson Foundation’s State Initiatives Program, a conceptual framework and computer implementation of a stochastic simulation model of health insurance market dynamics. The model provides the capability for analyzing market-oriented reforms by explicitly representing the uncertainty facing plans, establishments, and families as they make private health insurance decisions from year to year.

Stochastic Simulation Modeling of Lifetime Pension Coverage

Developed, for Department of Labor's Employee Benefits Security Administration (EBSA), a microsimulation model of the impact of government policy on employer-sponsored pensions that characterizes the pension- and job-related behavior of both individuals and employers. In the current version of the model, which is called PENSIM, employers' behavior concerning job offerings and pension sponsorship interact in the model with individual job mobility behavior to determine lifetime pension coverage. The microsimulation methods used in PENSIM are similar to those being used at Statistics Canada in the LifePath model to extrapolate current patterns of behavior into lifetime statistics for a birth cohort. Data from both SIPP and PSID are used to estimate hazard functions for life events that are included in PENSIM. Employee Benefit Survey data are used to estimate a pension characteristics imputation model that is included in PENSIM to assign pensions to individuals.

International Pension Reform Advice and Analysis

Advised Philippine government and international agencies on pension reform issues. Developed a microsimulation model of individual income tax policy and compliance behavior that interacts with a microsimulation model of defined-contribution pension plan policy and participation behavior to estimate the tax revenue implications of alternative tax treatments of the pension contributions. Model database is the 1997 Survey of Income and Expenditures.

Advised Republic of Yemen and IMF officials on pension reform issues. Developed actuarial projection model of Yemen's civil-service pension and used that model to estimate the long-run financial implications of various reform strategies.

Litigation Support and Expert Witness in Mortgage Derivative Cases

Provided, for U.S. Department of Labor's Office of the Solicitor, legal research and expert witness concerning the prudence of a pension fund's investment in risky mortgage derivative securities.

Also, served as an expert witness in another pension fund prudence case heard in U.S. District Court, Northern District of New York.

Stochastic Simulation Modeling of Pension Insurance

Developed, for U.S. government's Pension Benefit Guaranty Corporation (PBGC), a conceptual framework for estimating the present value of expected PBGC claims and premium income under alternative economic, actuarial, and policy assumptions. The conceptual framework has been implemented as a stochastic simulation model — the Pension Insurance Modeling System (PIMS) — that combines economic modeling of the incidence of corporate bankruptcy, actuarial modeling of pension obligations that recognizes moral hazard effects, and financial modeling of the effects of fluctuations in interest rates on corporate debt and pension assets and liabilities. PIMS is being used to support both policy analysis and accrual budgeting activities at PBGC.

Portfolio Optimization Modeling

Designed and implemented for Fannie Mae a portfolio optimization system to support asset-liability management of a large, highly-leveraged portfolio of mortgage securities. The Asset/Liability Management Strategy (ALMS) System combines binomial lattice and options-based methods to estimate security prices and holding-period returns with expected utility maximization methods to optimize portfolio composition. The ALMS System handles portfolios containing a variety of mortgage securities as well as non-callable and callable bonds, interest-rate swaps, caps and floors, and bond options. The System is implemented as a suite of client/server applications using Sybase relational database tools on a network of forty Unix workstations. This distributed implementation permits parallel processing of financial calculations with a virtually linear speed-up that reaches supercomputer throughput levels using only a dozen workstations. The ALMS System has been used to justify to top management and then shareholders an increased reliance on callable debt (from zero to forty percent in a few years) as a strategy for increasing the risk-adjusted return on equity. It has also been used to design and test portfolio hedging transactions.

Research Management

Experience managing staffs of technical professionals conducting intramural research as well as the design and execution of an extramural research program. This experience, which has been gained in both the public and private sectors, includes: developing, defending, and conducting federal government research programs; initiating and completing large corporate projects; and

building from scratch a consulting practice consisting of domestic and international clients in both the public and private sectors.

Software Development

Extensive experience with both doing and managing the development of complex computer programs in Unix as well as PC environments. Designed and implemented an innovative distributed application using client/server techniques on a network of Unix workstations that operates in a large corporate computing environment. Extensive experience with object-oriented design of simulation programs that are implemented in the C++ language.

Relational Database Modeling

Designed and implemented numerous relational database systems using both Unix and PC relational database management systems, ranging from Sybase to SQLite.

Cross-Section Econometric Estimation

Designed, estimated, developed, and utilized for U.S. Department of Health and Human Services a health insurance and services demand simulation model to assess the government cost and economic impact of alternative policies in the area of tax treatment of employer-sponsored health insurance. The model consists of two modules: a health-insurance demand model based on econometric estimates using a cross-section of experimental plan choice data and a health-services demand model based on econometric estimates of cross-section data on utilization and cost from the RAND Health Insurance Experiment. The model provides estimates of how a change in tax policy or available health insurance plans alters patterns of plan choice and services utilization in the population. It also produces estimates of health insurance plan premiums that are superior to conventional actuarial estimates because they recognize adverse selection and moral hazard effects. The model was used extensively to prepare the HHS Secretary's report to Congress on cafeteria plans and flexible spending accounts, and a mainframe variant has been used subsequently by RAND in various health policy research projects.

Times-Series Econometric Estimation

Designed and estimated for U.S. Social Security Administration a macroeconomic vector-autoregressive (VAR) model of cyclical fluctuations in interest, inflation, and unemployment rates, which is embedded in a long-run, stochastic policy simulation model of the OASI and DI programs. Designed and

estimated for U.S. Department of Health and Human Services a multiple-equation quarterly time-series model to predict national AFDC program recipients and benefit costs as a function of economic conditions, demographic trends, and the nature of program policy. A state-specific variant of the forecasting model was used for annual budget projections by departmental staff.

Regional Input-Output Modeling

Developed for U.S. Department of Health and Human Services an economic simulation system that integrates a tax-transfer microeconomic simulation model of the household sector (based on Census sample survey data) with a multi-regional input-output model of the business sector to provide estimates of the direct and indirect economic effects of changes in tax, income-transfer, or expenditure policy. A grant to Boston College supported further development of the integrated system, which was subsequently used by the Joint Economic Committee of the U.S. Congress, and which led to an offer by Data Resources, Inc. (DRI) to buy the system from Boston College.

Selected Articles and Reports

SSASIM Guide, Policy Simulation Group Report, continuously updated.
<<http://www.polsim.com/guide.pdf>>

PENSIM Overview, Policy Simulation Group Report, continuously updated.
<<http://www.polsim.com/overview.pdf>>

GEMINI Guide, Policy Simulation Group Report, continuously updated.
<<http://www.polsim.com/guide2.pdf>>

“Simulation Analysis of the Decision to Annuitize Pension Balances,” Policy Simulation Group Working Paper prepared for the Department of Labor, September 2003.
<<http://www.polsim.com/annuity.pdf>>

Characteristics of Pension Plans in the United States, 1996–98 with Asa Janney, Policy Simulation Group Report prepared for the Department of Labor, December 2003.
<<http://www.polsim.com/penchar.pdf>>

“Methods for Stochastic Trust Fund Projection,” Policy Simulation Group

Working Paper prepared for the Social Security Administration, January 2003.

[⟨http://www.polsim.com/stochsim.pdf⟩](http://www.polsim.com/stochsim.pdf)

“Expert Report of Martin R. Holmer” for Clover in *Ulico Casualty Company v. Clover Capital Management, Inc.*, October 15, 2001.

[⟨http://www.polsim.com/Clover-report.pdf⟩](http://www.polsim.com/Clover-report.pdf)

“The Value of Social Security Disability Insurance,” *AARP Public Policy Institute Issue Paper #2001-09*, Washington, DC: AARP, June 2001.

[⟨http://www.polsim.com/divalue.pdf⟩](http://www.polsim.com/divalue.pdf)

“The Accidental Pension: Miracle Cure or Retirement Roulette?” with Richard P. Hinz and Joseph S. Piacentini, U.S. Department of Labor working paper presented at the IZA Conference on Pension Reform and Labor Markets, Berlin, Germany, May 19, 2001.

“Stochastic Simulation of Economic Growth Effects of Social Security Reform,” in Olivia S. Mitchell (editor), *Prospects for Social Security Reform*, Philadelphia: University of Pennsylvania Press for the Pension Research Council, 1999.

“Integrated Asset-Liability Management: An Implementation Case Study,” in William T. Ziemba and John M. Mulvey (editors), *World Wide Asset and Liability Modeling*, Cambridge University Press, 1998.

[⟨http://www.polsim.com/ialm.pdf⟩](http://www.polsim.com/ialm.pdf)

“Rule 26(a)(2)(B) Report of Martin R. Holmer” for U.S. Department of Labor in *Herman v. Hassenmiller, . . . , Connecticut Plumbers and Pipefitters Pension Plan*, September 30, 1997.

[⟨http://www.polsim.com/ConnPipe-report.pdf⟩](http://www.polsim.com/ConnPipe-report.pdf)

“Alternative Models of Choice Under Uncertainty and Demand for Health Insurance,” with Susan Marquis, *Review of Economics and Statistics*, August 1996, 78(3), pp. 421–427.

“Demographic Results from SSASIM, a Long-Run Stochastic Simulation Model of Social Security,” in Report of the Technical Panel on Assumptions and Methods, in *Report of the 1994-1995 Advisory Council on Social Security, Volume II*, Washington, DC: U.S. Government Printing Office, 1996,

Appendix A, pp. 183–222.

“Stochastic Simulation of Trust Fund Asset Allocation,” with Christopher Bender in *Report of the 1994-1995 Advisory Council on Social Security, Volume II*, Washington, DC: U.S. Government Printing Office, 1996, pp. 431–450.

“The Productivity of Financial Intermediation and the Technology of Financial Product Management” with Stavros Zenios, *Operations Research*, November-December 1995, *43*(6), pp. 970–982.

“A Stochastic Programming Model for Money Management” with B. Golub, et al., *European Journal of Operational Research*, September 1995, *85*(2), pp. 282–296.

“The Effects of Small Group Reform on Employers’ Decisions to Offer Health Insurance: Some Preliminary Results” with Stephen Long and Susan Marquis, paper presented at American Economics Association meetings, Washington, DC, January 7, 1995.

“The Asset/Liability Management Strategy System at Fannie Mae,” *Interfaces*, May-June 1994, *24*(3), pp. 3–21.

“Stochastic-Programming Models for Portfolio Optimization of Mortgage-Backed Securities: A Comprehensive Research Guide” with Raymond McKindall and Stavros Zenios in R.L. D’Ecclesia and S.A. Zenios (editors), *Operations Research Models in Quantitative Finance, Contributions to Management Science*, Springer-Verlag, 1994.

“Variance Reduction in Corporate Bankruptcy Simulation,” paper presented at joint Institute of Management Science and Operations Research Society meetings, Phoenix, AZ, November 1, 1993.

“Designing Callable Bonds using Simulated Annealing” with Dafeng Yang and Stavros Zenios, Wharton Decision Sciences Report 93-07-02, July 1993.

“Simulating Health Expenditures Under Alternative Insurance Plans” with Joan Buchanan, Emmett Keeler, and John Rolph, *Management Science*, September 1991, *37*(9), pp. 1067–1090.

“Tax Policy Toward Health Insurance and the Demand for Medical Services”

with Howard Chernick and Daniel Weinberg, *Journal of Health Economics*, March 1987, 6(1), pp. 1–25.

“Choice Under Uncertainty and the Demand for Health Insurance” with Susan Marquis, RAND Corporation N-2516-HHS, September 1986.

“A Federal Case Against Flexible Spending Accounts” with Stuart Schmid, *Business and Health*, March 1986.

“A Study of Cafeteria Plans and Flexible Spending Accounts” with Stuart Schmid, *Commerce Clearing House*, August 1985. (reprint of a DHHS study report mandated by Congress).

“Structure, Precision and Validity of a Health Insurance and Services Demand Model,” Technical Appendix to DHHS *A Study of Cafeteria Plans and Flexible Spending Accounts*, April 1985.

“Tax Policy and the Demand for Health Insurance,” *Journal of Health Economics*, December 1984.

“A Microeconomic Simulation Model for Analyzing the Regional and Distributional Effects of Tax-Transfer Policy: An Analysis of the Program for Better Jobs and Income” with Robert Haveman, Kevin Hollenbeck, and David Betson, in Haveman and Hollenbeck (editors), *Microeconomic Simulation Models for Public Policy Analysis, Volume 2: Sectoral, Regional, and General Equilibrium Models*, New York: Academic Press, 1980.

“Urban, Regional and Labor Supply Effects of a Reduction in Federal Income Tax Rates” in Norman Glickman (editor), *The Urban Impacts of Federal Policy*, Baltimore: Johns Hopkins University Press, 1980.

“The Urban and Regional Impact of the Carter Administration’s 1979 Welfare Reform Proposal” with Howard Chernick, DHHS working paper, June 1979.

“Preliminary Analysis of the Regional Economic Effects of Federal Procurement,” DHHS working paper presented at Committee on Urban Public Economics meetings, June 1977.

“Why Have Transfer Programs Grown So Rapidly?,” DHHS working paper

presented at Committee on Urban Public Economics meetings, October 1976.

“Reasons for the Growth in the Food Stamp Program,” DHHS working paper presented at Western Economics Association meetings, June 1976.

“Aid to Families with Dependent Children” in “The Cyclical Behavior of Income Transfer Programs: A Case Study of the Current Recession,” Technical Analysis Paper No. 7, DHHS Office of Income Security Policy, October 1975.

“Preliminary Report on a U.S. AFDC Forecasting Model,” DHHS working paper, August 1975.

“The Economic and Political Causes of the ‘Welfare Crisis’,” Ph.D. dissertation, Massachusetts Institute of Technology, June 1975.

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