



# Michael P. Ward, Ph.D.

## WELCH CONSULTING

12424 Wilshire Boulevard, Suite 600  
Los Angeles, CA 90025  
310.260.4855  
MWard@welchcon.com

## EDUCATION

Ph.D., Economics  
University of Chicago  
Chicago, Illinois. 1978

M.A., Economics  
University of Chicago  
Chicago, Illinois. 1972

B.A., Economics  
University of California -  
Santa Barbara  
Santa Barbara, California. 1969

## PROFESSIONAL EXPERIENCE

Principal  
Welch Consulting  
Los Angeles, California  
2016 - Present

Senior Vice President and Sr. Analyst  
Welch Consulting  
Los Angeles, California  
2003 - 2016

Vice President and Senior Analyst  
Welch Consulting  
Los Angeles, California  
1984 - 2003

Senior Economist  
Unicon Research Corporation  
Los Angeles, California  
1984 - 2008

Consultant  
The Rand Corporation  
Santa Monica, California  
1984 -1991

Census Advisory Committee on  
Population Statistics  
1983-1988

Senior Economist  
The Rand Corporation  
Santa Monica, California  
1980-1984

Consultant  
Unicon Research Corporation  
Santa Monica, California  
1979 - 1984

Michael Ward is a Principal of Welch Consulting and is resident in their Los Angeles office. He has testified on statistical and economic matters in a broad range of litigation settings in both federal and state courts. His testifying experience includes statistical analysis of employment practices in age, race and gender discrimination cases, class action wage and hour litigation, as well as issues bearing on economic loss in single-plaintiff employment cases.

Dr. Ward received his Ph.D. in economics from the University of Chicago, where he was a National Science Foundation Fellow. Before joining Welch Consulting, he was Senior Economist at RAND, where he directed federally-funded research on women's employment patterns and wages, job turnover rates for young men, the U.S. private pension plan system, and the earnings and retirement decisions of older workers. Dr. Ward also taught on the faculty of the University of California at Santa Barbara and the University of California, Los Angeles. He is a member of the American Economic Association, The American Statistical Association, American Compensation Association and the Society of Labor Economists. Dr. Ward has served as a reviewer for most of the major economics journals and on peer review panels of the National Institutes of Health and the National Science Foundation. He has also served as chairman of the U.S. Census Advisory Committee on Population Statistics and authored numerous professional articles dealing with the statistical analysis of economic data.

## SELECTED CASEWORK

**Expert Witness, Employment Discrimination:** Case involved claims of race discrimination in pay and promotion against entry-level managers of a national package delivery company. Analyzed pay and employment histories across organizational units of the company for the purpose of showing lack of common pattern. Prepared report and gave deposition testimony in support of motion opposing class certification.

**Expert Witness, Employment Discrimination:** Nationwide class action alleging discrimination against African-Americans in promotion at an aerospace firm. Developed statistical analysis of promotion practices. Testified at trial regarding alternative statistical measures of promotion.

**Expert Witness, Employment Discrimination:** Case regarding claims of discrimination against minority groups in promotion of protective services officers. Analyzed promotion process through ranks and outcome of testing and interview processes. Prepared numerous affirmative and rebuttal reports and testified at trial.

**Consultant, Employment Discrimination:** Claims of a nationwide pattern and practice of race discrimination against a food products manufacturer. At class-certification stage, developed extensive statistical analysis of pay and promotion differences across job groups and divisions of the company showing widely varying outcomes.

**Consultant, Employment Discrimination:** Allegations of a nationwide pattern and practice of discrimination against women and minorities at a major electronics retailer. Developed statistics on hiring, pay, promotion and assignment. Prepared statistics showing variations in outcomes for minorities across jobs and departments and year to assist with class certification issues.



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### PROFESSIONAL EXPERIENCE (continued)

Postdoctoral Fellow  
Department of Economics  
University of California  
Los Angeles, California  
1978 - 1980

Lecturer  
Department of Economics  
University of California, Los Angeles  
1975 - 1978

Consultant  
The Rand Corporation  
Santa Monica, California  
1975 - 1980

Acting Assistant Professor  
Department of Economics  
UC - Santa Barbara  
Santa Barbara, California  
1973 - 1975

### SELECTED CASEWORK (continued)

**Expert Witness, Employment Discrimination:** Case regarding claims of discrimination in pay and promotion of Asian American engineers at an aerospace firm. Analyzed initial pay at hire and pay changes and isolated year-specific cohort effects in salaries at hire. Presented findings in testimony at trial.

**Expert Witness, Employment Discrimination:** Collective action age discrimination claims at an aerospace firm. Analyzed layoff patterns by department and position and found age patterns in layoffs differed widely across units of the company and that voluntary layoffs explained aggregate differences in exits of employees over 55.

**Expert Witness, Employment Discrimination:** Collective action age discrimination in reorganization process. Analyzed reorganization of marketing workforce and found that sub-groups of employees, distinguished by level of responsibility, performance rating, and future requirements in the local business area, were retained in an age neutral fashion.

**Expert Witness, Employment Discrimination:** Claims of age discrimination in layoffs at a high-tech manufacturing company. Analyzed layoffs and demonstrated variation in layoff rates by division and occupation group were consistent with the company's change in business direction. Further found that involuntary layoffs were based on performance reviews prepared in years prior to layoff.

**Expert Witness, Employment Discrimination:** Collective action age discrimination claims in plant closure. Showed that the lack of recent hiring at the at-issue plant was the cause of its higher average age and that, company-wide, the average age of new hires was rising along with the average age of the entire workforce.

**Expert Witness, Employment Discrimination:** Class action claims of gender discrimination at a research company. Demonstrated that all pay differences were due to differences in pay at hire. Analyzed prior careers of researchers, as shown on resumes, to show that the type and amount of experience statistically explained gender differences in pay at hire.

**Expert Witness, Employment Discrimination:** Class action allegations of gender discrimination in pay and promotions at an aerospace firm. Decomposed pay differences into those due to pay changes and those that existed when hired. For a sample of employees, showed that relevant experience prior to hire explained statistical differences in pay at hire and analyzed gender differences in promotions.

**Expert Witness, Wage & Hours:** Class action claims of off-the-clock work and missed meals for mortgage loan officers. Showed that most putative class members were paid for some overtime and virtually all reported meal breaks, found significant variation in the reporting of overtime across offices, and that time records were also broadly consistent with telephone log-on and log-off records.



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### SELECTED CASEWORK (continued)

**Expert Witness, Wage & Hours:** Class action claims of unpaid work time due to delayed exit from work site at national big-box retailer. Conducted random sample of security video and timed the delay to establish very brief average delay.

**Expert Witness, Wage & Hours:** Class action claims of off-the-clock work and time-shaving. Used time clock records to show that substantial overtime was paid and that the amount of overtime varied significantly across stores. Showed that manager edits to time records increased hours paid as frequently as they lowered hours paid.

**Expert Witness, Wage & Hours:** Class action claims of work during rest breaks for package delivery company. At the class certification stage, showed that most electronic time records of work occurred in the first or last minutes of the break and that interruptions were infrequent. Also showed that interrupted breaks were concentrated among relatively few employees.

### PUBLICATIONS

"Problems in Assessing Employment Discrimination," with Robert S. Follett and Finis Welch. *American Economic Review*, May 1993

"Job Mobility and the Careers of Young Men," with Robert H. Topel, *Quarterly Journal of Economics* 107, no. 2 (May 1992):439-73.

"Women in the Labor Market and in the Family," with James P. Smith, *Journal of Economic Perspectives* 3, no. 1 (Winter 1989): 9-23.

"Implementing Comparable Worth: Conceptual Issues and Impacts," with John Raisian and Finis R. Welch. In *Three Worlds of Labor Economics*, edited by G. Mangum and P. Philips. Armonk, New York: M.E. Sharp, Inc., 1988.

"Pay Equity and Comparable Worth," with John Raisian and Finis Welch. *Contemporary Policy Issues* 4, no. 2 (April 1986):4-20.

"The Statistical Measurement of Poverty." Vol. 1, Conference on the Measurement of Noncash Benefits, Proceedings. Williamsburg, VA: Department of Commerce, Bureau of the Census, December 12-14, 1985.

"Comparable Worth: Issues, Evidence, and Impacts," with John Raisian and Finis Welch. Los Angeles: Welch Consulting, March 1985.

"The Prospects for Military Enlistments: An Assessment," with George J. Borjas, Robert F. Cotterman, John Raisian and Finis R. Welch. Los Angeles: Unicon Research Corporation, March 1985.

"Time-Series Growth in the Female Labor Force," with James P. Smith. *Journal of Labor Economics* 3, no. 1 (January 1985 Supplement):S59-S90.

"Women's Wages and Work in the Twentieth Century," with James P. Smith. Prepared for the National Institute of Child Health and Human Development, Rand report #R-3119-NICHD. Santa Monica: The Rand Corporation, October 1984.

"The Acceleration in Women's Wages," with James P. Smith. August 1984, mimeo.



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### PUBLICATIONS (continued)

"Forecasting the Wages of Young Men: The Effects of Cohort Size," with Hong W. Tan. Prepared for the Department of the Army, Rand report #R-3115-ARMY. Santa Monica: The Rand Corporation, May 1985.

"The Retention of High Quality Personnel in the U.S. Armed Forces," with Hong W. Tan. Prepared for the Office of the Secretary of Defense/Manpower, Installations and Logistics, Rand report #R-3117-MIL. Santa Monica: The Rand Corporation, February 1985.

"Job Transitions of Young Men," with Robert H. Topel, The Rand Corporation, Santa Monica, WD-2127-DoL, January 1984.

"Early Career Mobility and the Duration of Jobs," with Robert H. Topel. August 1983, mimeo.

"Social Security and the Retirement Decision," The Rand Corporation, Santa Monica, WD-1756-DoL, December 1982.

"State Taxes on Coal: A Compendium of 1982 Statutes," co-authored, The Rand Corporation, Santa Monica, WD-1582-DoE, August 1982.

"A Dynamic Model of Marital Dissolution," co-authored, The Rand Corporation, Santa Monica, April 1982.

"Coal Severance Taxes: The Effect of Western States' Tax Policy on the U.S. Coal Market." Prepared for the U.S. Department of Energy, Rand report #R-2848-DOE. Santa Monica: The Rand Corporation, January 1982.

"Completed Fertility and Its Timing," with William P. Butz. *Journal of Political Economy* 88, no. 5 (October 1980):917-40.

"Asset Accumulation and Family Size," with James P. Smith. *Demography* 17, no. 3 (August 1980):243-60.

"Will US Fertility Remain Low? A New Economic Interpretation," with William P. Butz, *Population and Development Review* 5, no. 4 (December 1979):663-88.

"Baby Boom and Bust: A New View," with William P. Butz. *American Demographics* (September 1979):11-17.

"Labor Markets and Fertility: A Demographically Disaggregate Model of U.S. Postwar Experience," with William P. Butz. Prepared for the Social Security Administration, U.S. Department of Health, Education, and Welfare, Rand note #N-1304-SSA. Santa Monica: The Rand Corporation, September 1979.

"Countercyclical U.S. Fertility and its Implications," with William P. Butz. *Social Security Bulletin* 42, no. 8 (August 1979):38-43.

"Difficulties with Testing for Causation," with Rodney L. Jacobs and Edward E. Leamer. *Economic Inquiry* 17, no. 3 (July 1979):401-13.

"The Emergence of Countercyclical U.S. Fertility," with William P. Butz. *American Economic Review* 69, no. 3 (June 1979):318-28. (First published for the National Institute of Child Health and Human Development, Department of Health, Education and Welfare, Rand report #R-1605-NIH. Santa Monica: The Rand Corporation, June 1977.)

"A Theoretical and Empirical Model of Marital Instability," Final Report, NICHD Grant, June 1978.



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### PUBLICATIONS (continued)

"Energy and Jobs: A Long Run Analysis," with John Cogan and M. Bruce Johnson. Original paper 3, International Institute for Economic Research, introduction by H.S. Houthakker. Ottawa, IL: Green Hill Publishers, Inc., July 1976.

### SEMINARS/PRESENTATIONS

March 1986. "Private Pensions and the Labor Market." Presented at the Labor Economics Workshop, University of California, Los Angeles.

December 12-14, 1985. "The Statistical Measurement of Poverty." Unicon Research Corporation, Los Angeles, California, December 1985. Presented at the Bureau of the Census Conference on the Measurement of Noncash Benefits, Williamsburg, Virginia.

June 1985. "Comparable Worth." Presented at the Annual Meeting of the Law and Society Association, San Diego, California.

January 1985. "Women's Wages." Presented to the Institute of Industrial Relations, University of California, Los Angeles.

January 1985. Statement on "Male-Female Wage Differentials, April 1985." Presented to the Comparable Worth Task Force, California State Legislature.

January 1985. "Comparable Worth." Presented at the Applied Economics Workshop, University of California, Los Angeles.

May 1984. "Early Career Mobility and the Duration of Jobs." Presented at the Labor Economics Seminar, University of California, Los Angeles.

February 1984. "Social Security and the Retirement Decision," Presented to the Graduate School of Business, University of Chicago, Illinois.

December 1983. "Social Security and the Retirement Decision." Presented to the U.S. Department of Labor, Washington, D.C.

July 1983. "Job Transition Among Young Men." Presented to the Western Economic Association, Seattle, Washington.

June 1983. "Time Series Changes in the Female Work Force." Presented at the Conference on International Comparisons of Women's Employment Trends, Sussex, England.

May 1983. "Long Term Trends in Women's Wages and Employment." Presented at the Labor Economics Workshop, University of California, Los Angeles.

April 1983. "Retention of High Quality Personnel." Board of Directors, The Rand Corporation, Washington, D.C.

April 1983. "Forecasting the Wages of Young Men." Presented to the Population Association of America, Pittsburgh, Pennsylvania.

February 1983. "Cohort Size and Earnings." Presented at the Labor Economics Workshop, University of California, Los Angeles.

Fall 1982. "Social Security and Retirement." University of California, Los Angeles.

June 1982. "Coal Severance Taxes." Presented to the Western Tax Association, Los Angeles, California.



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## SEMINARS/PRESENTATIONS (continued)

Spring 1982. "Modeling the Retirement Decision." University of California, Los Angeles.

April 1982. "A Dynamic Model of Marital Dissolution." Presented to the Population Association of America.

April 1979. "The Timing Component of U.S. Fertility Rates." Presented to the Population Association of America, Philadelphia, Pennsylvania.

August 1978. "Time Series Model of U.S. Labor Markets." Presented to the Econometric Society, Chicago, Illinois.

June 1978. Discussant, session on Topics in Labor Economics, Western Economic Association, Las Vegas, Nevada.

June 1978. Discussant, session on Negative Income Tax Experiment, Western Economic Association, Hawaii.

December 1977. "Timing and Spacing of Fertility." Presented to the American Economic Association, New York.

June 1977. Discussant, session on Econometric Methodology, Western Economic Association, Anaheim, California.

September 1976, Discussant, session on Energy Economics, Econometric Society Meetings, Atlantic City, New Jersey.

## PROFESSIONAL ACTIVITIES

Reviewer:

*American Economic Review*  
*Demography*  
*Economic Inquiry*  
*International Economic Review*  
*Journal of Human Resources*  
*Journal of Money Credit and Banking*  
*Journal of Political Economy*  
*Journal of the American Statistical Association*  
*National Science Foundation Proposals*  
*Quarterly Journal of Economics*

Member:

*American Bar Association*  
*American Compensation Association (World at Work)*  
*American Economics Association*  
*American Statistical Association*  
*Society of Labor Economists*

## HONORS AND AWARDS

National Science Foundation Fellowship, 1971-1973  
Ingersoll Economics Fellowship, University of Chicago, 1969-1970  
Phi Beta Kappa, University of California, Santa Barbara, 1969

### ABOUT WELCH CONSULTING

Welch Consulting has more than 30 years experience assisting clients of every size in matters involving employment issues and complex business litigation across a broad spectrum of industries and public sector entities. Our track record in producing rigorous analyses meeting the highest standards of accuracy, clarity and punctuality makes Welch Consulting a consistent choice for industry leading companies and the nation's preeminent law firms.

Welch Consulting has offices in Los Angeles, Texas and Washington DC.

For more information about our professionals and services visit us online at [www.welchcon.com](http://www.welchcon.com)