

TAB A

15 February 2008

**CURRICULUM VITAE**

**Jeffrey S. Zax**

University of Colorado at Boulder  
Dept. of Economics  
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**Appointments**

Hunan University:

Adjunct Professor, December 2007 to present

Department of Economics, University of Colorado at Boulder:

Associate Chair, Undergraduate Program, August 2006 to present

Professor, August 1996 to present

Associate Professor, August 1990 through August 1996

Department of Economics, The Graduate School and University Center, City University of New York:

Associate Professor, September 1989 through August 1991

Assistant Professor, March 1985 through August 1989

Department of Economics, Queens College, City University of New York:

Associate Professor, September 1989 through August 1991

Assistant Professor, January 1984 through August 1989

Lecturer, September 1983 through January 1984

National Bureau of Economic Research:

Research Economist, September 1983 through August 1991

## Education

Ph.D. June, 1984 in Economics, Harvard University

B.A. June, 1976 Magna Cum Laude in Economics, Harvard University

## Papers in Refereed Journals

Zax, Jeffrey S. (2005) "The statistical properties and empirical performance of double regression", Political Analysis, Vol. 13, No. 1, January, 57-76.

Mocan, H. Naci, Erdal Tekin and Jeffrey S. Zax (2004) "Demand for medical care in urban China", World Development, Vol. 32, No. 2, February, 289-304.

Li, Haizheng and Jeffrey S. Zax (2003) "Labor supply in urban China", Journal of Comparative Economics, Vol. 31, No. 4, December, 795-817.

Rees, Daniel I., Jeffrey S. Zax and Joshua Herries (2003) "Interdependence in worker productivity", Journal of Applied Econometrics, Vol. 18, No. 5, September/October, 585-604.

Zax, Jeffrey S. (2003) "Residential location theory and the measurement of segregation", Annales d'Economie et de Statistique, Special issue on Discrimination and Unequal Outcomes, Nos. 71/72, July/December, 189-219.

Zax, Jeffrey S. and Daniel I. Rees (2002) "IQ, academic performance, environment and earnings", The Review of Economics and Statistics, Vol. 84, No. 4, November, 600-616.

Zax, Jeffrey S. (2002) "Comment on 'Estimating the extent of racially polarized voting in multicandidate contests' by Bernard Grofman and Michael Migalski", Sociological Methods & Research, Vol. 31, No. 1, August, 73-84.

Lynch, Jim and Jeffrey S. Zax (2000) "The rewards to running: Prize structure and performance in professional road racing", Journal of Sports Economics, Vol. 1, No. 4, November, 323-340.

Zax, Jeffrey S. (1997) "Latent demand for urban housing in the People's Republic of China", Journal of Urban Economics, Vol. 42, No. 3, November, 377-401.

Zax, Jeffrey S. and John F. Kain (1996) "Moving to the Suburbs: Do Relocating Companies Leave Their Black Employees Behind?", Journal of Labor Economics, Vol. 14, No. 3, July, 472-504.

Zax, Jeffrey S. and Mark S. Skidmore (1994) "Property Tax Rate Changes and the Rate of Development", Journal of Urban Economics, Vol. 36, No. 3, November, 314-332.

Zax, Jeffrey S. (1994) "When is a Move a Migration?", Regional Science and Urban Economics, Vol. 24, No. 3, June, 341-360.

Zax, Jeffrey S. (1991) "The Substitution Between Moves and Quits", The Economic Journal, Vol. 101, No. 409, November, 1510-1521.

Zax, Jeffrey S. (1991) "Compensation for Commutes in Labor and Housing Markets", Journal of Urban Economics, Vol. 30, No. 2, September, 192-207.

Ichniowski, Casey and Jeffrey S. Zax (1991) "Right to Work Laws, Free Riders and Unionization in the Local Public Sector", Journal of Labor Economics, Vol. 9, No. 3, July, 255-275.

Zax, Jeffrey S. and Casey Ichniowski (1991) "Excludability and the Effects of Free Riders: Right-to-Work Laws and Local Public Sector Unionization", Public Finance Quarterly, Vol. 19, No. 3, July, 293-315.

Zax, Jeffrey S. and John F. Kain (1991) "Commutes, Quits and Moves", Journal of Urban Economics, Vol. 29, No. 2, March, 153-165.

Zax, Jeffrey S. (1990) "Race and Commutes", Journal of Urban Economics, Vol. 28, No. 3, November, 336-348.

Zax, Jeffrey S. (1990) "Reform City Councils and Municipal Employees", Public Choice, Vol. 64, No. 2, February, 167-177.

Zax, Jeffrey S. (1990) "Election Methods, Black and Hispanic Council Membership", Social Science Quarterly, Vol. 71, No. 2, June, 339-355.

Zax, Jeffrey S. and Ichniowski, Casey (1990) "Bargaining Laws and Unionization in the Local Public Sector", Industrial and Labor Relations Review, Vol. 43, No. 4, April, 447-462.

Ichniowski, Casey and Jeffrey S. Zax (1990) "Today's Associations, Tomorrow's Unions", Industrial and Labor Relations Review, Vol. 43, No. 2, January, 191-208.

Zax, Jeffrey S. (1989) "Initiatives and Government Expenditures", Public Choice, Vol. 63, No. 3, December, 267-277.

Zax, Jeffrey S. (1989) "Quits and Race", Journal of Human Resources, Vol. 24, No. 3, Summer, 469-493.

Zax, Jeffrey S. (1989) "Is There a Leviathan in Your Neighborhood?", The American Economic Review, Vol. 79, No. 3, June, 560-567.

Zax, Jeffrey S. (1989) "Employment and Local Public Sector Unions", Industrial Relations, Vol. 28, No. 1, Winter, 21-31.

Zax, Jeffrey S. (1988) "Fringe Benefits, Tax Exemptions and Implicit Subsidies", Journal of Public Economics, Vol. 37, No. 2, November, 171-183.

Zax, Jeffrey S. (1988) "Wages, Nonwage Compensation and Municipal Unions", Industrial Relations, Vol. 27, No. 3, Fall, 301-317.

### **Papers in Edited Volumes**

Zax, Jeffrey S. and Yin He (forthcoming) "Chinese factor markets and intra-national integration", Regional Disparities in China, World Bank Press.

Zax, Jeffrey S. (2007) "Efficiency in China's urban labor markets", Chapter 10 in Urbanization in China: Critical Issues in an Era of Rapid Growth, Song, Yan and Chengri Ding, eds., Lincoln Institute of Land Policy, Cambridge, 209-234.

Zax, Jeffrey S. (2003) "Housing reform in urban China", in How Far Across the River? Chinese Policy Reform at the Millenium, Hope, Nicholas C., Dennis Tao Yang and Mu Yang Li, editors, Stanford University Press, Palo Alto, 313-350.

Zax, Jeffrey S. (2000) "The evolution of entrepreneurial activity in urban China, 1988-1995", in China's Labor Market and Problems of Employment, Wang, Yuguo and Aimin Chen, editors, The Southwest University of Finance and Economics Press, Chengdu, China, 481-500 (Chinese).

Yang, Guifang Lynn, and Jeffrey S. Zax (2000) "Gender-linked income differences in transitional urban China", in China's Labor Market and Problems of Employment, Wang, Yuguo and Aimin Chen, editors, The Southwest University of Finance and Economics Press, Chengdu, China, 566-584 (Chinese).

Li, Haizheng, and Jeffrey S. Zax (2000) "Economic transition and labor supply in urban China", in China's Labor Market and Problems of Employment, Wang, Yuguo and Aimin Chen, editors, The Southwest University of Finance and Economics Press, Chengdu, China, 217-233 (Chinese).

Zax, Jeffrey S. (1998) "Immigration, race and space", in Help or Hindrance? The Economic Implications of Immigration for African Americans, Daniel S. Hamermesh and Frank D. Bean, eds., Russell Sage Foundation, 222-252.

Zax, Jeffrey S. (1988) "The Effects of Jurisdiction Types and Numbers on Local Public Finance", in Fiscal Federalism: Quantitative Studies, Harvey S. Rosen, ed., National Bureau of Economic Research and the University of Chicago Press, 79-103.

Zax, Jeffrey S. and Casey Ichniowski (1988) "The Effects of Public Sector Unions on Payroll, Employment and Municipal Budgets", in When Public Sector Workers Unionize, Richard B. Freeman and Casey Ichniowski, eds., National Bureau of Economic Research and the University of Chicago Press, 323-361.

Freeman, Richard B., Casey Ichniowski and Jeffrey S. Zax (1988) "Collective Organization in the Public Sector", in When Public Sector Workers Unionize, Richard B. Freeman and Casey Ichniowski, eds., National Bureau of Economic Research and the University of Chicago Press, 365-398.

#### **Published Book Reviews**

Zax, Jeffrey S. (2003) "Review of Urban Inequality: Evidence from Four Cities", edited by Alice O'Connor, Chris Tilley and Lawrence D. Bobo, Journal of Economic Literature, Vol. 41, No. 1, March, 238.

#### **Papers Under Journal Review**

Lynch, James G. and Jeffrey S. Zax, "The effects of prizes on contestant selection and performance: The case of Arabian horse racing" with James G. Lynch, revisions requested by the Journal of Labor Economics.

Zax, Jeffrey S. "The statistical properties of single regression estimates of voting behavior when turnout is unknown", submitted to Political Analysis.

Zax, Jeffrey S. "Fifty years of Goodman's Identity: Its implications for regression-based inference", revisions to the American Journal of Sociology.

Zax, Jeffrey S., "Comment on 'EI extended model and the fear of ecological fallacy', by Baodong Liu", submitted to Sociological Methods and Research, 31 October 2007.

## Working Papers

"Housing allocations, welfare and inequality in early and mid-reform urban China", December 2007.

"Indications of market integration and efficiency in Chinese agriculture", with Yin He, October, 2007.

"Comment on 'Bloc voting, polarization, and the Panethnic Hypothesis: The case of Little Saigon', by Christian Collet", October 2007.

"Colorado's Enterprise Zone Program: Impacts on Establishment-Level Employment and Earnings per Worker", with Devon Lynch, February 2007.

"Levels and changes in residential segregation, measured correctly", with John Gardner, October 2004.

"Do households vote with their feet?", with Valeriy D. Gauzhstein, July 2004.

"Commodification of urban Chinese housing in mid-reform", July 2004.

"Permanent, transitory and life-cycle inequality", October 2002.

"Marriage, divorce, income and military marriage incentives", with David W. Flueck, April 2002.

"Economic transition and the labor market in China" with Haizheng Li, March 2002.

"Demand, supply and race in small business credit markets", December 2001.

"Bank credit and minority-owned small businesses in metropolitan Denver", November 2000.

"Gender-linked income differences in transitional urban China" with Guifang Lynn Yang, June 1999.

"The evolution of entrepreneurial activity in urban China, 1988-1995", May 1999.

"ERISA, pension diversification and the welfare of workers and retirees", with Mehmet M. Tutuncu, February 1998.

"Fertility behavior and the absence of 'missing females' in urban China", with Kathleen Greer Rossman, September 1997.

“Compensation for holding up half the sky? Gender-based income differences in urban China” with Lynn Yang, October 1996.

“Investment in education in urban China”, May 1996.

“The economic consequences of comparable worth policies”, with Kristyn N. Howard, February 1996.

“Analysis of client treatments for Colorado Child Welfare Service”, with Margaret Irish, February 1996.

“Involvement and reinvolvement: Child abuse and neglect in Colorado”, with Natalie Mullis, February 1996.

“Human capital in a workers' paradise: Returns to education in urban China”, August 1995.

“Maltreatment case loads and county characteristics in Colorado”, with Margaret Irish, May 1995.

“The stability of jobs in the local public sector”, with Jonathan S. Leonard, April 1995.

“When should economics majors take the introductory statistics course?”, with Douglas L. Jeavons and Larry D. Singell, January 1994.

“The effects of nonwage compensation on measured income distribution, income tax progressivity and returns to education”, October 1993.

“Optimal worker portfolios: Pensions, ESOPs and anti-ESOPs”, with Mehmet M. Tutuncu, May 1992.

“The effects of political voice on union formation among municipal employees”, November 1990.

“Progressive taxation and regressive subsidies: Income tax exemptions and nonwage compensation”, November 1989.

“The economic effects of function numbers in local government tiers”, July 1988.

### **Textbook in Progress**

Introductory Econometrics: Intuition, Proof and Practice.

## **Service as Editor and Referee**

Coeditor, Chinese Economic Review, January 2005 and continuing.

Referee for Journals: The American Economic Review, Asian Economic Journal, Contemporary Policy Issues, Economic Inquiry, Economic Journal, Economica, Economics of Governance, European Economic Review, International Economic Review, Industrial and Labor Relations Review, Industrial Relations, International Journal of Business and Economics, Journal of Applied Econometrics, Journal of Comparative Economics, Journal of Human Resources, Journal of Labor Economics, Journal of Law and Economics, Journal of Policy Analysis & Management, Journal of Political Economy, Journal of Public Economics, The Journal of Real Estate Finance and Economics, Journal of Regional Science, Journal of Sports Economics, Journal of the European Economic Association, Journal of Theoretical Politics, Journal of Urban Economics, Labour Economics: An International Journal, National Tax Journal, Papers in Regional Science, Public Choice, Public Finance Review, Publius, Regional Science and Urban Economics, Regional Science Perspectives, Review of Economics and Statistics, Review of Income and Wealth, Social Science Quarterly, Southern Economic Journal, Urban Affairs Review, Urban Geography and the World Bank Economic Review, August 1990 to present.

Referee for Foundations: National Science Foundation, Russell Sage Foundation, Research Grants Council of Hong Kong, August 1990 to present

## **Professional Memberships**

Member of the American Economic Association

Member of the Association for Public Policy Analysis and Management

Member of the Chinese Economists Society

Member of the Society of Labor Economists

## **Grants**

Principal Investigator, "Colorado Department of Transportation Safety Program Problem ID", State of Colorado Department of Transportation, 6/16/2006-6/15/2007.

Principal Investigator, "Colorado Department of Transportation Safety Program Problem ID and Annual Report", State of Colorado Department of Transportation, 6/16/2005-6/30/2006.

Principal Investigator, "Colorado Department of Transportation Safety Program Problem ID and Annual Report", State of Colorado Department of Transportation, 12/8/2004-6/30/2005.

Principal Investigator, "Colorado Department of Transportation Safety Program Annual Report", State of Colorado Department of Transportation, 11/5/2003-6/30/2004.

Principal Investigator, "Election Cycles, Balanced Budget Requirements and Tax Limitations in State Governments", Council on Research and Creative Work, University of Colorado, 7/1/1991-6/30/1992.

Principal Investigator, "Nonwage Compensation and Enterprise Performance", PSC-CUNY Award #668406, 7/1/1988-6/30/1989.

Principal Investigator, Social Science Research Council Dissertation Fellowship, no. SS-25-83-04, 12/1/1982-2/29/1984.

### **Awards and Honors**

Biography included in Who's Who in Economics, 4<sup>th</sup> Edition.

Biography included in Marquis Who's Who in America, 57<sup>th</sup> and 58<sup>th</sup> editions.

Biography included in Marquis Who's Who in American Education, 6<sup>th</sup> edition.

Biography included in Marquis Who's Who in the East, 23<sup>rd</sup> edition.

Biography included in Marquis Who's Who in Finance and Business, 35<sup>th</sup> edition.

Biography included in Who's Who Among American Teachers, 2004-2005.

Biography included in International Educator of the Year 2004.

Biography included in America's Registry of Outstanding Professionals 2002-2003.

Biography included in the Directory of American Scholars, 2001.

Stanford Calderwood Teaching Excellence Award from the Department of Economics at the University of Colorado at Boulder, May 2000.

Stanford Calderwood Teaching Excellence Award from the Department of Economics at the University of Colorado at Boulder, April 1993.

Fulbright Lecturer at the University of Ghana, Legon, Ghana, January-April 1990.

### **Additional Experience**

Consultant to the Attorney General of Arizona the statistical analysis of voting patterns, February 2008 and continuing.

Consultant to the City of Euclid, Ohio, March through August 2007.

Consultant to the Colorado Gaming Association, March 2007.

Consultant to the World Bank, May and June 2005.

Consultant to the Attorney of Adams County, April through May 2004.

Consultant to the Attorney General of South Dakota regarding the statistical analysis of voting patterns, March 2002 through June 2005.

Consultant to the State of Wyoming Legislative Service Office regarding labor market issues in the educational sector, July 2002 through November 2002.

Consultant to the Mountain States Legal Foundation regarding the statistical analysis of voting patterns, April 2002 through June 2002.

Consultant to the City of Valdez, Alaska, regarding economic integration and racial block voting, October 2001 through December 2001.

Expert witness for the Attorney General, the State of Montana, regarding racial and ethnic block voting, July 2001 through November 2001.

Consultant to the Attorney General of South Dakota regarding the statistical analysis of voting patterns, May 2000 through October 2000.

Expert witness for the Office of the Colorado State Attorney General regarding the effects of parental notification on adolescent abortions, September 1999 through June 2000.

Consultant to Sycare regarding evaluation of community mental health center performance, April 1999 through October 1999.

Consultant to BBC Research & Consulting and the State of Colorado Workforce Coordinating Council regarding evaluation of State-sponsored training programs, June 1998 through September 1998.

Consultant to the City Attorney of the City and County of Denver regarding the provision of bank credit to small minority-owned businesses, September 1997 through August 1998.

Expert witness for the Office of the Colorado State Attorney General regarding the effects of ballot position on voting behavior, March 1997 through May 1998.

Expert witness for the Attorney General, the State of Montana, regarding racial and ethnic block voting, November 1996 through August 1998.

Consultant to BBC Research & Consulting and the State of Colorado Economic Development Commission regarding the State's strategic plan for economic development, September 1996 through February 1997.

Expert witness for the Department of Attorney General, the State of Michigan, regarding variations in impacts of pollutants across ethnic groups, July 1996 through May 1997.

Consultant to the Forward Estes Park Foundation regarding local economic development issues, May 1996 through September 1996.

Consultant to the Department of Health Care Policy and Financing, Office of Public and Private Initiatives, the State of Colorado, regarding the evaluation of hospital performance, March 1996 through August 1996.

Consultant to the Department of Human Services, Office of Self Sufficiency Programs, the State of Colorado, regarding the evaluation of microentrepreneur training programs, January through September 1996 and January through August 1997

Principal contractor to the Piton Foundation for statistical analysis of child abuse incidence and treatment in Colorado, September 1994 through February 1996.

Expert witness for the Office of the Colorado State Attorney General regarding racial block voting in state legislative elections, October 1993 through June 1994.

Instructor in Introductory Mathematics for Economists, at the Economics Institute, Boulder, Colorado, August 1993.

Principal Investigator, review of econometric literature regarding the economic implications of health care reform for the Office of the Governor of the State of Colorado, April through July 1993.

Instructor in Masters' level Mathematics for Economists at the Economics Institute, Boulder, Colorado, March through May 1993.

Consultant to the Official Unsecured Creditors' Committee of Castle Pines North Metropolitan District, Colorado, regarding the effects of property tax rate increases on the rate of residential development, June 1992 through May 1993.

Advisor to the Cost and Quality Study of Early Care and Education project, at the University of Colorado at Denver Department of Economics, Spring 1992 through Fall 1994.

Instructor in Intermediate Microeconomics at the Economics Institute, Boulder, Colorado, May 1992.

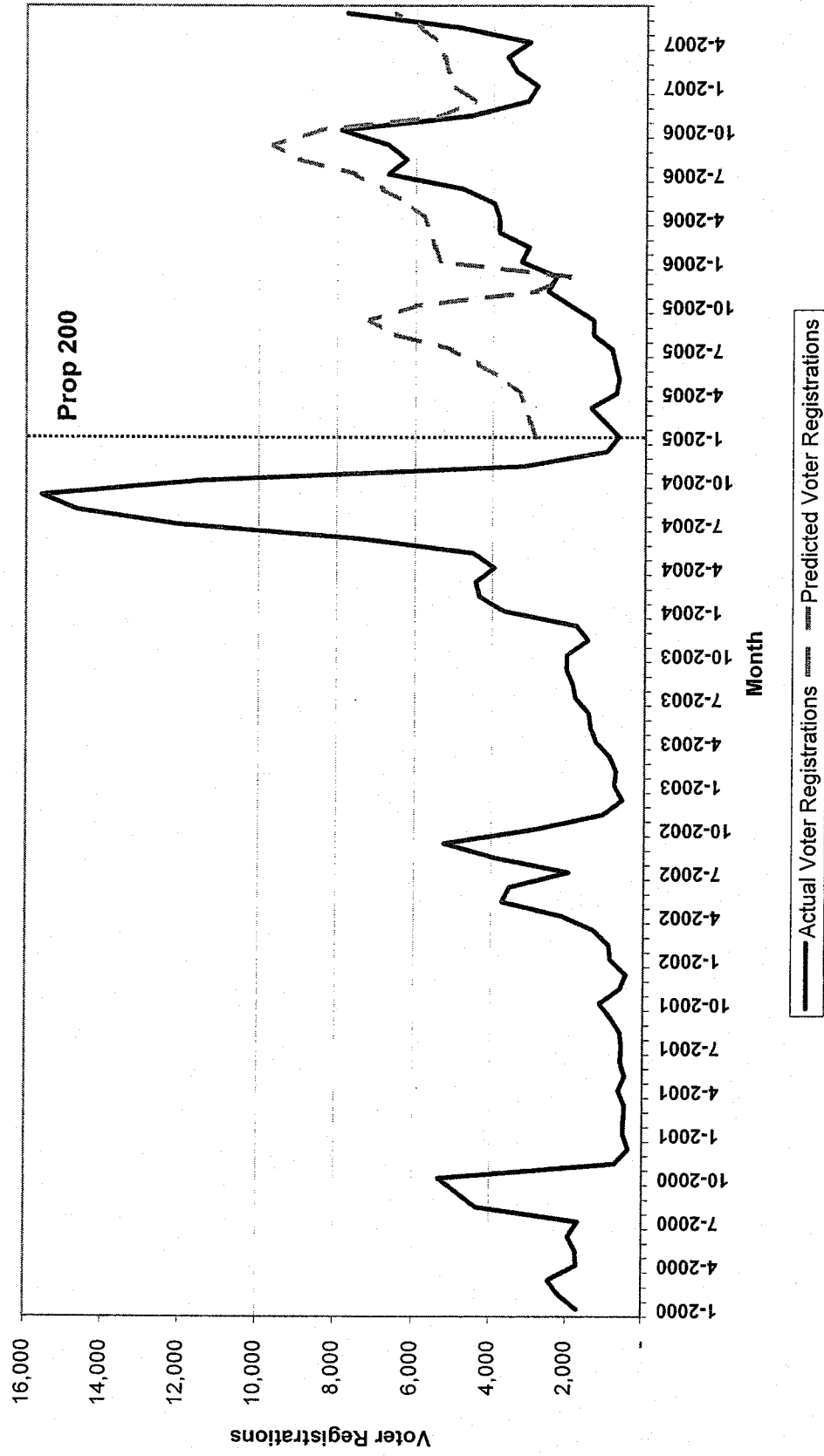
Instructor in Intermediate Microeconomics and Introductory Mathematics for Economists, for the Economics Institute's program at the Ministry of Finance, Jakarta, Indonesia, May 1991.

Expert witness for the Del Valle School District, Texas, regarding the effects of different districting schemes on minority membership of the School Board, October 1990 through February 1991.

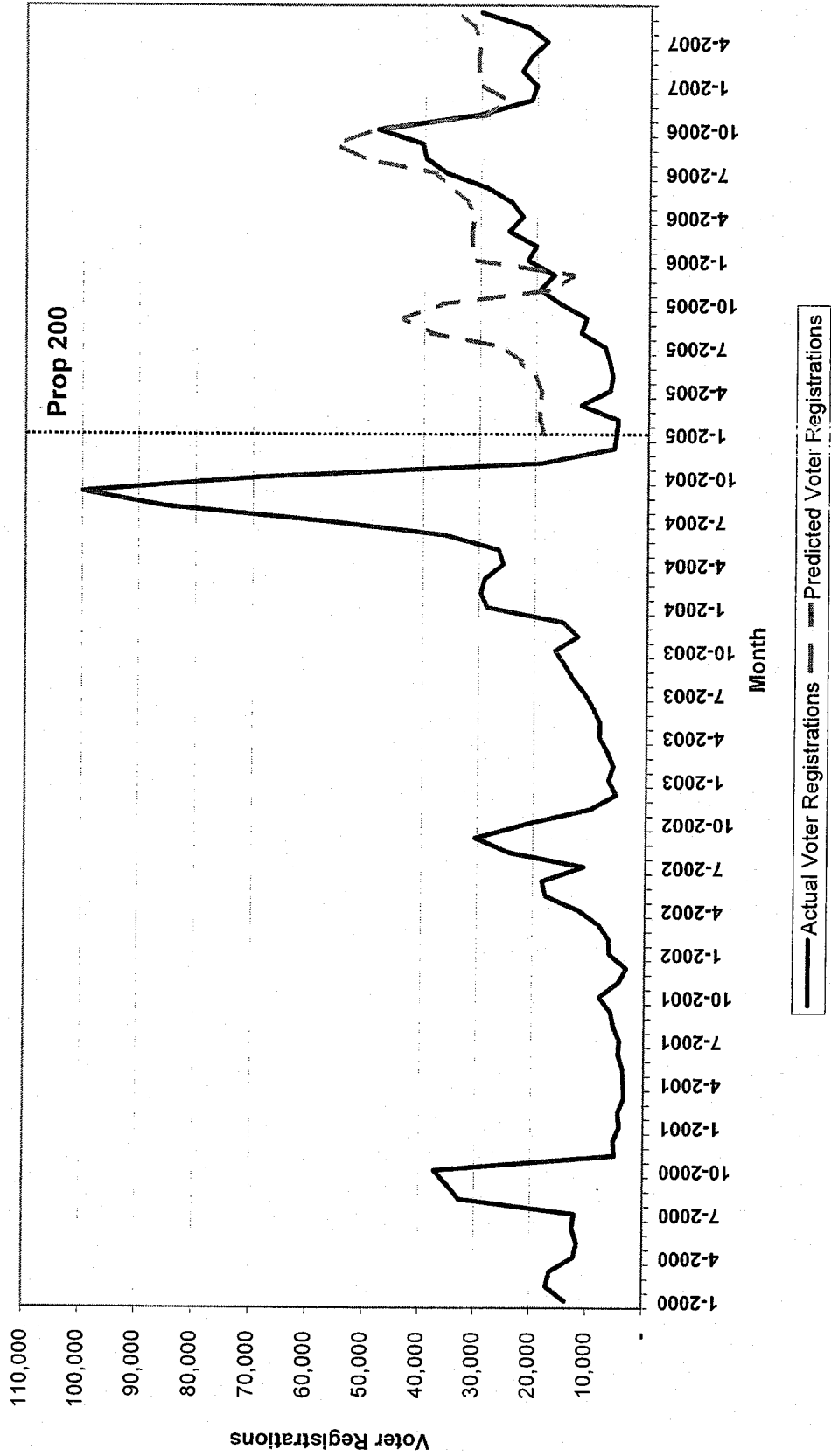
Instructor in applied econometric analysis, Institute of Economics, Chinese Academy of Social Sciences, Beijing, People's Republic of China, December 1988 and June 1990.

TAB B

**Chart 1**  
**Hispanic Arizona Voter Registrations**  
**Actual and Predicted Registrations Following Prop 200**



**Chart 2**  
**Non-Hispanic Arizona Voter Registrations**  
**Actual and Predicted Registrations Following Prop 200**



TAB C

Chart 1: Chart 1 from Dr. Lanier's report, modified

**Chart 1**  
**Hispanic Arizona Voter Registrations**  
**Actual and Predicted Registrations Following Prop 200**

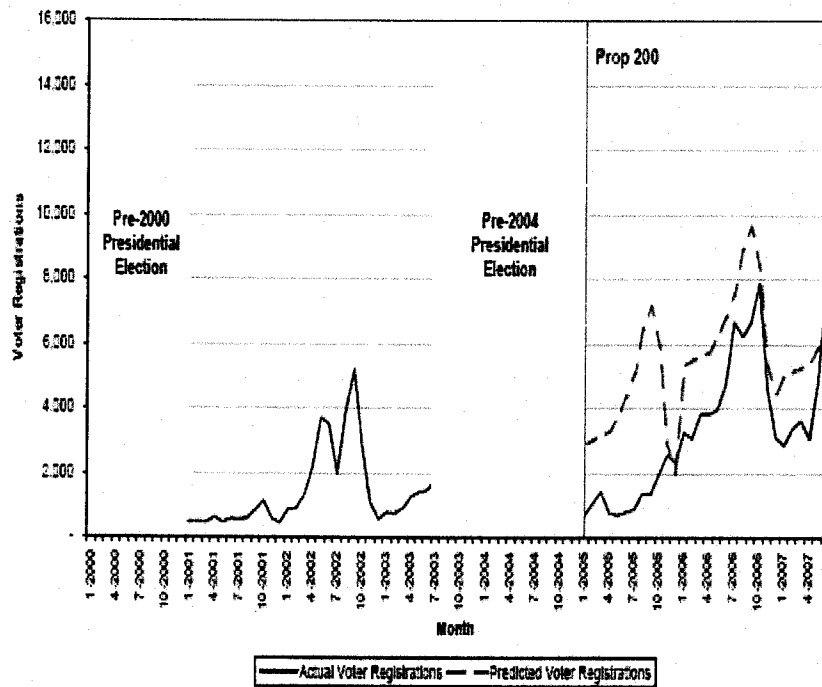
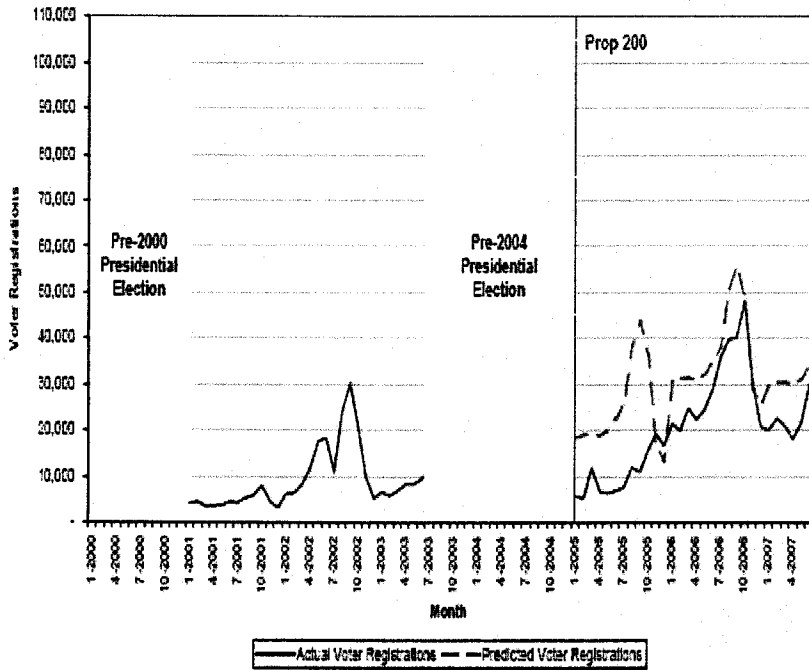


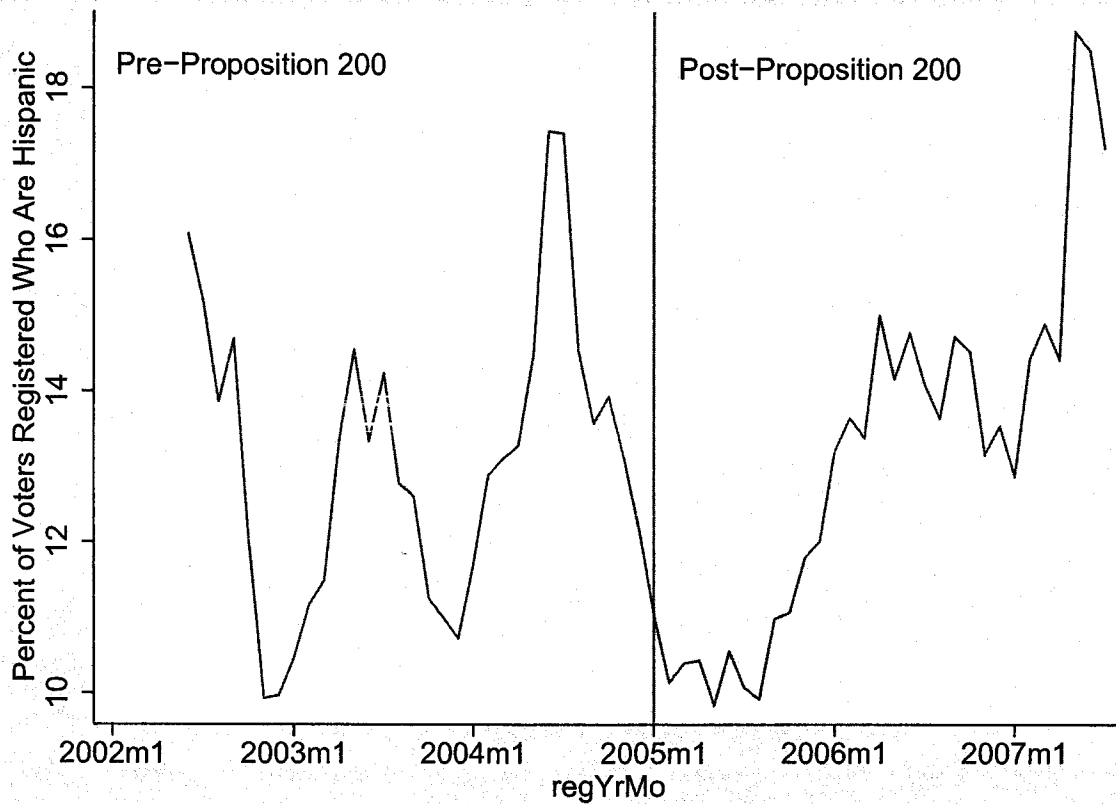
Chart 2: Chart 2 from Dr. Lanier's report, modified

Chart 2  
Non-Hispanic Arizona Voter Registrations  
Actual and Predicted Registrations Following Prop 200



TAB D

Figure 1: Arizona Monthly Average Hispanic Voter Registration, June 2002-July 2007



lower than their share of the total state population and at rates even lower than the previous mid-term general election cycle in 2002.

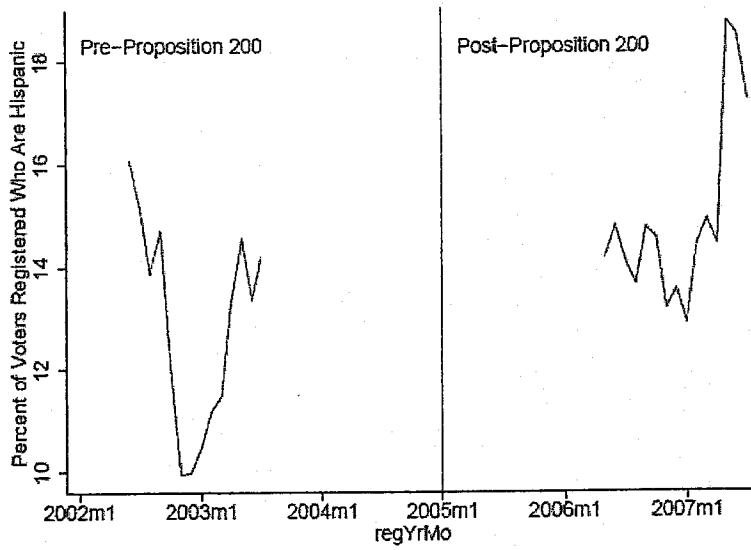
An unexpected bump in the Hispanic registration rate is seen in the late spring and early summer of 2007 - unanticipated because 2007 was not a general election year. This spike of registration rates for Hispanics beyond 18 percent for several months pulls the rate of Hispanic registration for the 31 months following January 2005 to levels nearly equivalent to the 31 months preceding January 2005.

Since Arizona consists of 15 counties with tremendous variability in population size, it is also important to parse out the registration rates of Hispanics for each of these 15 counties in the time period under consideration. It can be seen that the eighth county in Figure 2 most

TAB E

**Chart 3: Figure 1 from Dr. Espino's report, modified**

Figure 1. Arizona Monthly Average Hispanic Voter Registration, June 2000 - July 2007



TAB F

for comparability, I rescale all the vertical axes in Figure 2 to take on the range of the county with the most variability across time - Greenlee County. This rescaled plot is shown in Figure 3.

Figure 3: Arizona Monthly Average Hispanic Voter Registration, June 2002-July 2007, by County on Same Scale

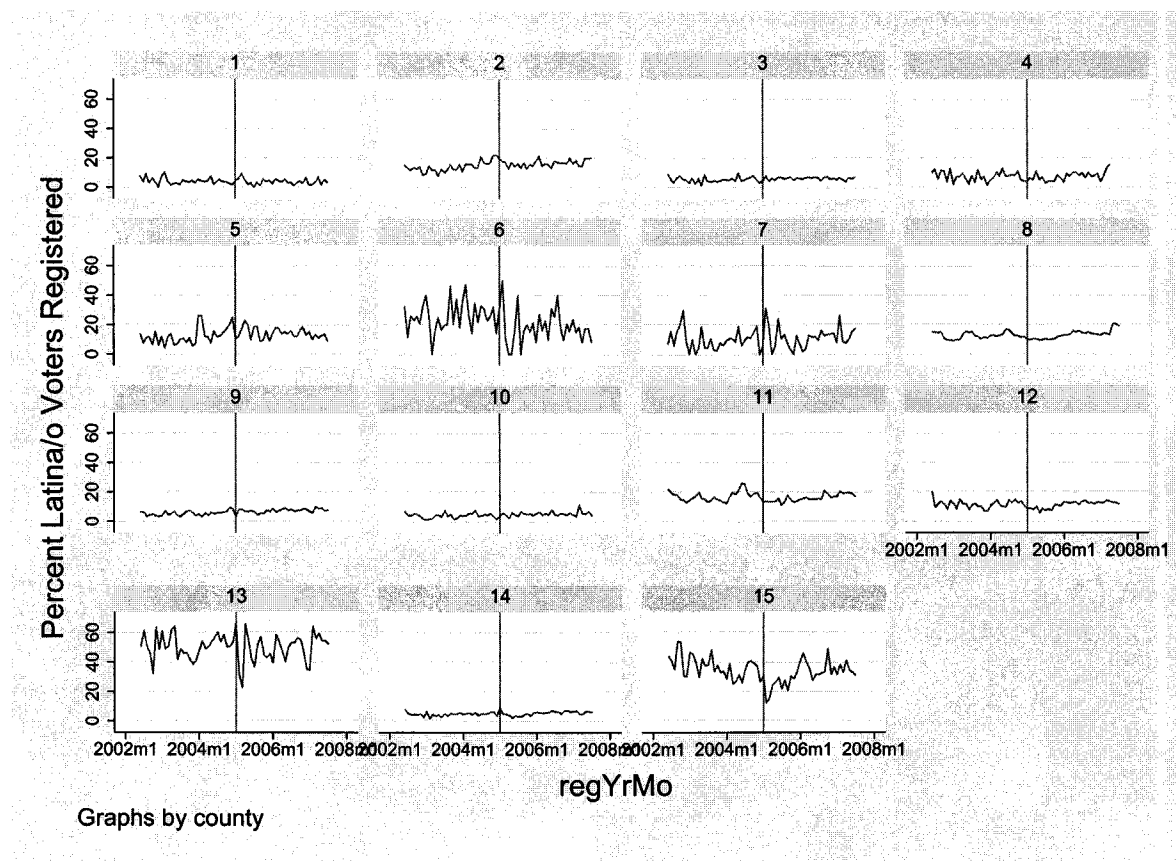


Figure 3 allows us to more clearly detect whether any individual county demonstrates a substantial shift in the rate of Hispanics being registered to vote. Counties 6 and 15 - Greenlee and Yuma - stand out as being counties with particularly dramatic shifts in the rate of Hispanics being registered before and after the implementation of Proposition 200's identification requirements. If the threshold to registering to vote is experienced equally by all individuals irrespective of race or ethnicity, then we should see straight lines across these monthly average plots. That is most definitely not the case for Greenlee and Yuma Counties.

TAB G

**Chart 4: Figure 3 from Dr. Espino's report, modified in Zax's first report**

Figure 3. Arizona Monthly Average Hispanic Voter Registration, June 2000 - July 2007, by County on Same Scale

