

## **Economics 399: The Demography and Economics of Aging**

### Course Description

The elderly are a rapidly growing proportion of the population in developed countries and in many developing countries. Many social and economic issues associated with the growing elderly share of the population are drawing increasing attention. These include the financing of public pensions, the early average age at retirement from the labor force, financing health care costs of the elderly, the adequacy of savings for retirement, financing of long term care, and others. This course will provide an opportunity for graduate students to become familiar with the literature on these issues and to study some of the issues in depth. The course will be conducted as a seminar, with presentations by the instructor and students.

After an introductory overview, the first main topic will be the demography of aging, with a focus on understanding the forces behind the current trend toward an aging population, and analyzing trends in fertility, mortality, and morbidity that will affect the future distribution of the population by age and health. The second main topic will be retirement from the labor force. The large economics and demography literatures on this subject will be surveyed, with an emphasis on identifying the key trends and facts and how these are explained in models of retirement. The remainder of the course will focus on topics that will be determined by student interest, to be chosen from among Social Security, pensions, medical care, health, savings and wealth, inter-generational transfers, living arrangements, and long term care.

### Prerequisites

The prerequisites for the course are graduate standing and enough training in economics to be comfortable with extensive readings in the economics literature.

### Assignments and Grades

Students will be expected to attend the seminar regularly, make two presentations, and write a research paper on a topic related to the course. The course grade will be determined by quality of the presentations (25%), and quality of the paper (75%).

Office Hours: Tues. & Thurs. 2:00-3:15, and by appointment. 206 Gardner, 6-3962, david\_blau@unc.edu.

### Readings

One copy of all assigned readings will be available for photocopying in a box in the 200 suite at the east end of Gardner Hall. You may borrow a copy for xeroxing, and should return it promptly so other students will have access to it. Journal articles can be obtained in electronic or hard

copy from Davis Library, or from the box in Gardner. Two reference works will be on reserve in Davis Library: Linda Martin and Samuel Preston (eds.) The Demography of Aging (National Academy Press, 1994); and Mark Rosenzweig and Oded Stark (eds.) Handbook of Population and Family Economics, Volumes 1A and 1B (North Holland, 1997). Several of the assigned readings will be from these books.

### **Outline of the reading list and topics**

1. Introduction and Overview
2. Demography of Aging
3. Labor Force Participation and Retirement
  - A. Trends and Description
  - B. Effects of Social Security
  - C. Effects of Pensions
  - D. Effects of Health
  - E. Effects of Disability Insurance
  - F. Effects of Health Insurance
4. Social Security
  - A. Description
  - B. Theory
  - C. Reform
5. Health, Medical Care, and Health Insurance
  - A. Health and Disability
  - B. Medical Care and health Insurance
6. Wealth and Saving
  - A. Saving for Retirement
  - B. Saving *and* Retirement
7. Economic Status and Well-Being of the Elderly
8. Intergenerational Transfers
9. Private pensions
10. Living Arrangements and Long Term Care

## Reading List

### 1. Introduction and Overview

Hurd, Michael, "Research on the Elderly: Economic Status, Retirement, and Consumption and Savings," Journal of Economic Literature, 28, 1990: 565-637.

Hurd, Michael. "The Economics of Individual Aging," in Mark Rosenzweig and Oded Stark (eds.) Handbook of Population and Family Economics Vol. 1B, Amsterdam: North Holland, 1997: 891-966.

Cutler, David M., James Poterba, Louise Sheiner, and Lawrence Summers, "An Aging Society: Opportunity or Challenge?" Brookings Papers on Economic Activity, Microeconomics 1990 (1): 1-56.

U.S. Bureau of the Census. Sixty-Five Plus in America, Current Population Reports, Special Studies, P23-190, Washington, DC: U.S. Government Printing Office, 1996.

Federal Interagency Forum on Aging Related Statistics. Older Americans 2004: Key Indicators of Well-Being, Washington, DC: U.S. Government Printing Office, 2004.

Himes, Christine L. "Elderly Americans," Population Bulletin, 56 (4), December 2001: 3-40.

Altman, Stuart H., and David I. Shactman. "Overview: Issues and Options for an Aging Population," in Altman, Stuart H., and David I. Shactman (eds.). Policies for an aging society Baltimore: Johns Hopkins University Press, 2002: 3-33.

Gruber, Jonathan, and David A. Wise. "An International Perspective on Policies for an Aging Society," in Altman, Stuart H., and David I. Shactman (eds.). Policies for an aging society Baltimore: Johns Hopkins University Press, 2002: 34-59.

### 2. Demography of Aging

Lee, Ronald, "The Formal Demography of Population Aging, Transfers, and the Economic Life Cycle," in Martin, Linda, and Samuel Preston (eds.) Demography of Aging Washington D.C.: National Academy Press, 1994.

Weil, David N. "The Economics of Population Aging," in Mark Rosenzweig and Oded Stark (eds.) Handbook of Population and Family Economics Vol. 1B, Amsterdam: North Holland, 1997: 967-1014.

Preston, Samuel, "Demographic Change in the United States, 1970-2050," in A. Rappaport and S. Schieber (eds.) Demography and Retirement: The Twenty-First Century, Westport, CT: Praeger, 1993.

Lee, Ronald and Shripad Tuljapurkar. "Stochastic Forecasts for the United States: Beyond High, Medium, and Low," Journal of the American Statistical Association 89, Dec. 1994: 1175-89.

Lee, Ronald and Shripad Tuljapurkar. "Stochastic Forecasts for Social Security," in David Wise (ed.) Frontiers in the Economics of Aging, Chicago, University of Chicago Press, 1998: 393-430.

Lee, Ronald. "Long Term Population Projections and the US Social Security System," Population and Development Review 26 (1), March 2000: 137-143.

Lee, Ronald, and Jonathan Skinner. "Will Aging Baby Boomers Bust the Federal Budget?" Journal of Economic Perspectives 13 (1), Winter 1999: 117-140.

Lee, Ronald, and Ryan Edwards, "The Fiscal Effects of Population Aging in the U.S.: Assessing the Uncertainties," in Tax Policy and the Economy, Volume 16. James Poterba (ed.), Cambridge: MIT Press, 2002.

Lee, Ronald, and Jonathan Skinner. "Assessing Forecasts of Mortality, Health Status, and Health Costs During Baby Boomers' Retirement," in Eric Hanushek and Nancy Marita (eds.) Assessing Knowledge of Retirement Behavior, Panel on Retirement Income Modeling, Commission on National Statistics, National Research Council, Washington D.C.: National Academy Press, 1996.

Manton, Kenneth, and Eric Stallard, "Medical Demography: Interaction of Disability Dynamics and Mortality," in Martin, Linda, and Samuel Preston (eds.) Demography of Aging, Washington D.C.: National Academy Press, 1994.

Manton, Kenneth, Eric Stallard, and Burton Singer. "Methods for Projecting the Future Size and Health Status of the Elderly Population," in David Wise (ed.) Studies in the Economics of Aging, Chicago: University of Chicago Press, 1994.

Preston, Samuel, and Paul Taubman, "Socioeconomic Differences in Adult Mortality and Health Status," in Martin, Linda, and Samuel Preston (eds.) Demography of Aging Washington D.C.: National Academy Press, 1994.

Day, Jennifer Cheeseman, "Population Projections of the United States by Age, Sex, Race, and Hispanic Origin: 1995 to 2050," U.S. Bureau of the Census, Current Population reports, P25-1130, U.S. Government printing Office, 1996.

Board of Trustees, Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds. "The 2004 Annual Report of the Board," U.S. Government Printing Office, March 2004.

Manton, Kenneth, Eric Stallard, and H. Dennis Tolley. "Limits to Human Life Expectancy: Evidence, Prospects, and Implications," Population and Development Review 17 (4), Dec. 1991: 603-637.

Olshansky, Jay, and Bruce A. Carnes. "Demographic Perspectives on Human Senescence," Population and Development Review 20 (1), March 1994: 57-80.

Olshansky, Jay, and Bruce A. Carnes. "Ever Since Gompertz," Demography 34 (1), Feb. 1997: 1-15.

Tuljapurkar, S., N. Li, and C. Boe, "A Universal Pattern of Mortality Decline in the G7 Countries," Nature 405, June 15, 2000: 789-92.

Oeppen, Jim, and James Vaupel, "Broken Limits to Life Expectancy," Science 296 (5570), 2002: 1029-1030.

Lee, Ronald, "The Demographic Transition: Three Centuries of Fundamental Change," Journal of Economic Perspectives 17 (4), Fall 2003: 167-190.

Bongaarts, John, "Long-range trends in adult mortality," Demography 42 (1), Feb. 2005: 23-50.

#### **4. Labor Force Participation and Retirement**

##### *A. Trends and Description*

Ransom, R.L. and R. Sutch. "The Decline of Retirement in the Years Before Social Security: U.S. Retirement Patterns, 1870-1940," in R. Ricardo-Campbell and E. Lazear (eds.) Issues in Contemporary Retirement, Stanford, CA: Hoover Institution Press, 1988.

Burkhauser, R. and J. Quinn. "Retirement and Labor Force Behavior of the Elderly," in Linda Martin and Samuel Preston (eds.) Demography of Aging, National Academy Press, 1994.

Costa, Dora. The Evolution of Retirement: An American Economic History, 1880-1990, Chicago: University of Chicago Press, 1998.

Peracchi, Franco, and Finis Welch: "Labor Force Transitions of Older Workers," Journal of Labor Economics 12 (2), 1992: 210-242.

Ruhm, Christopher, "Secular Changes in the Work and Retirement Patterns of Older Men," Journal of Human Resources, 30 (2), Spring, 1995: 362-385.

Lazear, Edward, "Retirement from the Labor Force," in O. Ashenfelter and R. Layard (eds.) Handbook of Labor Economics, Volume 1, New York: Elsevier Science Publishers, 1986.

Lumsdaine, Robin, and Olivia Mitchell. "New Developments in the Economic Analysis of Retirement," in O. Ashenfelter and D. Card (eds.) Handbook of Labor Economics, Volume 3C, New York: Elsevier Science Publishers, 1999. 3261-3308.

Quinn, Joseph F. "Changing Retirement Trends and Their Impact on Elderly Entitlement Programs," in Altman, Stuart H., and David I. Shactman (eds.) Policies for an Aging Society, Baltimore: Johns Hopkins University Press, 2002: 293-315.

Purcell, Patrick J. "Older Workers: Employment and Retirement Trends," Congressional Research Service Report RL30629, September, 2005.

Gendell, Murray. "Trends in Retirement Age in Four Countries, 1965-95," Monthly Labor Review, 121 (8), August 1998: 20-30.

### *B. Effect of Social Security*

Crawford, Vincent P. And David M. Lilien. "Social Security and the Retirement Decision," Quarterly Journal of Economics 96 (3) August 1981: 505-529.

Hurd, M. and M.J. Boskin. "The Effect of Social Security on Retirement in the Early 1970s," Quarterly Journal of Economics 99, November 1984: 767-790.

Kahn, James A., "Social Security, Liquidity, and Early Retirement." Journal of Public Economics 35, 1988:97-117.

Burtless, Gary and Moffitt, Robert A., "The Joint Choice of Retirement Age and Postretirement Hours of Work." Journal of Labor Economics 3, 1985:209-236.

Krueger, Alan B. and Pischke, Jorn-Steffen., "The Effect of Social Security on Labor Supply: A Cohort Analysis of the Notch Generation." Journal of Labor Economics 10 (4) 1992: 412-37.

Blau, David M. "Labor Force Dynamics of Older Men," Econometrica 62 (1), 1994: 117-156.

Citro, Constance (ed.). Modeling the Impact of Public and Private Policies on Retirement Behavior and Income Washington D.C.: National Academy of Sciences, 1996.

Samwick, Andrew. "New Evidence on Pensions, Social Security, and the Timing of Retirement," Journal of Public Economics 70, 1998: 207-236.

Baker, Michael, and Dwayne Benjamin, "How Do Retirement Tests Affect the Labor Supply of Older Men?" Journal of Public Economics 71 (1), Jan. 1999: 27-51

Blau, David M. "Social Security and the Labor Supply of Older Married Couples," Labour Economics 4, Dec. 1997: 373-418.

Friedberg, Leora. "The Labor Supply Effects of the Social Security Earnings Test," Review of Economics and Statistics 82 (1), Feb. 2000: 48-63.

Gruber, Jonathan, and David A. Wise (eds.). Social Security and Retirement Programs Around the World: Micro-estimation Chicago: University of Chicago Press for the NBER, 2004.

Baker, Michael; Gruber, Jonathan; Milligan, Kevin. "The Retirement Incentive Effects of Canada's Income Security Programs," Canadian Journal of Economics, 36 (2), May 2003: 261-90.

Song, Jae G. "Evaluating the Initial Impact of Eliminating the Retirement Earnings Test," Social Security Bulletin, 65 (1), 2003-2004: 1-15.

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Gruber, Jonathan, and Peter Orszag. "Does the Social Security Earnings Test Affect Labor Supply and Benefit Receipt?" National Tax Journal, 56 (4), December 2003: 755-73.

Blundell, Richard; Meghir, Costas; Smith, Sarah. "Pension Incentives and the Pattern of Early Retirement," Economic Journal, March 2002: C153-70.

Disney, Richard; Smith, Sarah. "The Labour Supply Effect on the Abolition of the Earnings Rule for Older Workers in the United Kingdom," Economic Journal, 112 (478) March 2002: C136-52.

Baker, Michael. "The Retirement Behavior of Married Couples: Evidence from the Spouse's Allowance," Journal of Human Resources, 37 (1), Winter 2002:1-34.

Krueger, Alan B., and Bruce D. Meyer. "Labor Supply Effects of Social Insurance," in Alan Auerbach and Martin Feldstein (eds.) Handbook of Public Economics Volume 4, 2002, New York: Elsevier: 2327-2392.

### *C. Effect of Pensions*

Stock, James H., and Wise, David A., "Pensions, the Option Value of Work and Retirement." Econometrica 58(5), 1990:1151-1180.

Anderson, Patricia A., Alan L. Gustman, and Thomas L. Steinmeier. "Trends in Male Labor Force Participation and Retirement: Some Evidence on the Role of Pensions and Social Security in the 1970s and 1980s," Journal of Labor Economics 17 (4), Part 1, Oct. 1999: 757-783.

Samwick, Andrew. "New Evidence on Pensions, Social Security, and the Timing of Retirement," Journal of Public Economics, 70 (2) November 1998: 207-36.

Chan, Sewin; and Ann Huff Stevens. "Do Changes in Pension Incentives Affect Retirement? A Longitudinal Study of Subjective Retirement Expectations," Journal of Public Economics, 88 (7-8), July 2004: 1307-33.

Friedberg, Leora; Webb, Anthony. "Retirement and the Evolution of Pension Structure," Journal of Human Resources 40 (2), Spring 2005: 281-308.

Brugiavini, Agar; Peracchi, Franco; Wise, David A. "Pensions and Retirement Incentives: A Tale of Three Countries: Italy, Spain and the USA," Giornale degli Economisti e Annali di Economia, 61 (2), December 2002: 131-69.

#### *D. Effect of Health*

Bound, J. "Self-Reported and Objective Measures of Health in Retirement Models," Journal of Human Resources 26, Summer 1991: 106-138.

Chirikos, T.N. "The Relationship Between Health and Labor Market Status," Annual Review of Public Health 14, 1993: 293-312.

Bound, John, Michael Scoenbaum, Todd Stinebrickner, and Timothy Waidmann. "The Dynamic Effects of Health on the Labor Force Transitions of Older Workers," Labour Economics, 6 (2), June 1999:179-202.

Bound, John; and Timothy Waidmann. "Accounting for Recent Declines in Employment Rates among Working-Aged Men and Women with Disabilities," Journal of Human Resources, 37 (2) Spring 2002: 231-50.

Blau, David M. and Donna B. Gilleskie. "The Effect of Health on Labor Force Transitions of Older Men," S. Polachek (ed.) Research on Labor Economics, Greenwich CT: JAI Press, 2001.

Bound, John, Todd Stinebrickner, and Timothy Waidmann. "Health, Economic resources, and the work decisions of older men," Working paper, University of Michigan, March 2005.

McGarry, Kathleen, "Health and retirement: do changes in health affect retirement expectations?" Journal of Human Resources 39 (3), Summer 2004: 624-48.

*E. Effect of Disability Insurance*

Parsons, D.O. "The Decline in Male Labor Force Participation," Journal of Political Economy 88 February, 1980: 117-134.

Parsons, D.O. "The Male Labour Force Participation Decision: Health, Reported Health, and Economic Incentives," Economica 49, February 1982: 81-91.

Bound, John. "The Health and Earnings of Rejected Disability Insurance Applicants," American Economic Review 89 (3), June 1989: 482-503.

Bound, John, and Timothy Waidmann. "Disability Transfers, Self-Reported Health, and the Labor Force Attachment of Older Men: Evidence from the Historical Record," Quarterly Journal of Economics, 107 (4), Nov. 1992: 1393-1419.

Gruber, Jonathan, and Jeffrey D. Kubik. "Disability Insurance Rejection Rates and the Labor Supply of Older Workers," Journal of Public Economics, 64, April 1997: 1-23.

Bound, John, and Richard V. Burkhauser. "Economic Analysis of Transfer Programs Targeted on People with Disabilities," in O. Ashenfelter and D. Card (eds.) Handbook of Labor Economics, Volume 3C, New York: Elsevier Science Publishers, 1999. 3417-3528.

Benitez-Silva, Hugo, Moshe Buchinsky, Hui Man Chan, John Rust, and Sofia Sheidvasser. "An Empirical Analysis of the Social Security Disability Application, Appeal, and Award Process," Labour Economics, 6 (2), June 1999:147-78.

Gruber, Jonathan. "Disability Insurance Benefits and Labor Supply," Journal of Political Economy 108 (6), Dec. 2000: 1162-84.

Krueger, Alan B., and Bruce D. Meyer. "Labor Supply Effects of Social Insurance," in Alan Auerbach and Martin Feldstein (eds.) Handbook of Public Economics Volume 4, 2002, New York: Elsevier: 2327-2392.

Chen, Susan, and Wilbert van der Klaauw. "The Effect of Disability Insurance on Labor Supply of Older Individuals in the 1990s," Working paper, UNC-CH Department of Economics, January 2004.

*F. Effect of Health Insurance*

Madrian, B.C. "The Effect of Health Insurance on Retirement," Brookings Papers on Economic Activity, Microeconomics, 1, 1994: 181-232.

Lumsdaine, R.L., J.H. Stock, and D.A. Wise. "Pension Plan Provisions and Retirement: Men and Women, Medicare, and Models," in D.A. Wise (ed.) Studies in the Economics of Aging, University of Chicago Press, 1994.

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Rust, John, and Christopher Phelan. "How Social Security and Medicare Affect Retirement Behavior in a World of Incomplete Markets," Econometrica 65 (4), July 1997: 781-832.

Blau, David, and Donna Gilleskie. "Retiree Health Insurance and the Labor Force Behavior of Older Men in the 1990s," Review of Economics and Statistics 85 (1), February 2001.

Gruber, Jonathan; "Health Insurance, Labor Supply, and Job Mobility: A Critical Review of the Literature" NBER Working Paper 8817, 2002.

Currie, Janet, and Madrian, Brigitte C. "Health, Health Insurance, and the Labor Market," in O. Ashenfelter and D. Card (eds.) Handbook of Labor Economics, Volume 3C, New York: Elsevier Science Publishers, 1999. 3309-3416.

French, Eric, and John Bailey Jones. "The Effect of Health Insurance and Self-Insurance on Retirement Behavior," Working Paper, SUNY-Albany, March 2004.

Blau, David, and Donna Gilleskie. "The Role of Retiree Health Insurance in the Employment Behavior of Older Men," NBER Working Paper 10100, 2003.

Blau, David, and Donna Gilleskie. "Health Insurance and Retirement of Older Married Couples," Working paper, UNC-CH Department of Economics, December 2005, forthcoming in Journal of Applied Econometrics.

#### **4. Social Security**

##### *A. Description*

Boskin, Michael, John Shoven, and others, "Social Security: A Financial Appraisal Across and Within Generations," National Tax Journal 40 (1), March 1987: 19-34.

Gruber, Jonathan, and David Wise (ed.). Social Security and Retirement Around the World, Chicago: University of Chicago Press, 1999.

Diamond, Peter A. "Social Security," American Economic Review 94 (1), March 2004: 1-24.

*B. Theory*

Diamond, Peter A. And James A. Mirrlees. "A Model of Social Insurance with Variable Retirement," Journal of Public Economics 10 1978: 295-336.

Sheshinski, Eytan. "A Model of Social Security and Retirement Decisions," Journal of Public Economics 10 1978: 337-360.

Crawford, Vincent P. And David M. Lilien. "Social Security and the Retirement Decision," Quarterly Journal of Economics 96 (3) August 1981: 505-529.

Feldstein, Martin, and Jeffrey Leibman. "Social Security," in Alan Auerbach and Martin Feldstein (eds.) Handbook of Public Economics Volume 4, 2002, New York: Elsevier: 2245-2326.

Diamond, Peter A. Taxation, Incomplete Markets, and Social Security: The 2000 Munich Lectures; Munich Lectures in Economics. Cambridge and London: MIT Press, 2003.

*C. Reform*

Feldstein, Martin, "The Missing Piece in Policy Analysis: Social Security Reform," American Economic Review 86 (2), May 1996: 1-14.

Kotlikoff, Laurence, "Privatization of Social Security: How It Works and Why It Matters," In James Poterba (ed.) Tax Policy and the Economy, MIT Press, 1996.

Samwick, Andrew A. "Social Security Reform in the United States," National Tax Journal 52 (4), Dec. 1999: 814-842.

Feldstein, Martin, and Jeffrey Leibman (eds.). The Distributional Effects of Social Security Reform, Chicago: University of Chicago Press, 2001.

Geanakoplos, John, Olivia S. Mitchell, and Stephen P. Zeldes. Social Security Money's Worth." in Prospects for Social Security reform, Pension Research Council Publications. Philadelphia: University of Pennsylvania Press, 1999: 79-151.

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Diamond, Peter A.; and Peter R. Orszag. Saving social security: A balanced approach Washington, D.C.: Brookings Institution Press, 2004.

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Diamond, Peter; Geanakoplos, John. "Social Security Investment in Equities," American Economic Review, 93 (4), September 2003:1047-74.

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Feldstein, Martin, "Structural reform of Social Security," Journal of Economic Perspectives 19 (2), Spring 2005: 33-55.

Feldstein, Martin, "Rethinking Social Insurance," American Economic Review 95 (1), March 2005: 1-24.

## **5. Health, Medical Care and Health Insurance**

### *A. Health*

Crimmins, E. and D. Ingegneri (1993). "Trends in Health Among the American Population," in A. Rapaport and S. Schieber (eds.) Demography and Retirement: The Twenty-First Century, Westport, CT: Praeger: 225-253.

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Freedman, Vicki, Linda Martin, and Robert Schoeni. "Recent trends in Disability and Functioning among Older Adults in the United States," Journal of the American Medical Association 288 (24), December 25, 2002: 3137-46.

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Hayward, Mark D., and Gorman, Bridget K. "The Long Arm of Childhood: The Influence of Early-Life Social Conditions on Men's Mortality," Demography 41 (1), February 2004: 87-107.

#### *B. Medical Care and Health Insurance*

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Palumbo, Michael G. "Uncertain Medical Expenses and Precautionary Saving Near the End of the Life Cycle," Review of Economic Studies, 66 (2), April 1999: 395-421.

Geppert, Jeffrey, and Mark McClellan. "Trends in Medicare Spending Near the End of Life," in David A. Wise (ed.) Themes in the Economics of Aging, Chicago: University of Chicago Press for the NBER, 2001: 201-216.

Cutler, David M. And Ellen Meara. "The Concentration of Medical Spending: An Update," in David A. Wise (ed.) Themes in the Economics of Aging, Chicago: University of Chicago Press for the NBER, 2001: 217-240.

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Skinner, Jonathan; Fisher, Elliott; Wennberg, John E. "The Efficiency of Medicare," in David Wise (ed.) Analyses in the Economics of Aging Chicago: U. of Chicago Press for the NBER:129-57.

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## **6. Wealth and Saving**

### *A. Saving for Retirement*

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Hurd, Michael, "Wealth Depletion and Life-Cycle Consumption by the Elderly," in David Wise (ed.) Topics in the Economics of Aging, Chicago: University of Chicago Press, 1992.

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