This PDF is a selection from a published volume from the National Bureau of Economic Research

Volume Title: Social Security Policy in a Changing Environment

Volume Author/Editor: Jeffrey Brown, Jeffrey Liebman and David A. Wise, editors

Volume Publisher: University of Chicago Press

Volume ISBN: 978-0-226-07648-5

Volume URL: http://www.nber.org/books/brow08-1

Conference Date: October 19-22, 2006

Publication Date: June 2009

Chapter Title: List of Contributors, Indexes

Chapter Author: Jeffrey R. Brown, Jeffrey Liebman, David A. Wise

Chapter URL: http://www.nber.org/chapters/c12466

Chapter pages in book: (447 - 459)

Contributors

Alan J. Auerbach Department of Economics 508-1 Evans Hall, #3880 University of California, Berkeley Berkeley, CA 94720-3880

John Beshears Department of Economics Littauer Center Harvard University Cambridge, MA 02138

Andrew Biggs American Enterprise Institute 1150 Seventeenth Street, NW Washington, DC 20036

Axel Börsch-Supan Mannheim Research Institute for the Economics of Aging Building L13, 17 University of Mannheim D-68131 Mannheim, Germany

Jeffrey R. Brown
Department of Finance
340 Wohlers Hall, MC-706
University of Illinois at UrbanaChampaign
1206 South Sixth Street
Champaign, IL 61820-9080

Clark Burdick
Office of Research, Evaluation, and
Statistics
Social Security Administration
400 Virginia Avenue, Suite 300
Washington, DC 20254-0001

James J. Choi Yale School of Management 135 Prospect Street P.O. Box 208200 New Haven, CT 06520-8200

David M. Cutler Department of Economics Harvard University 1875 Cambridge Street Cambridge, MA 02138

Douglas W. Elmendorf The Brookings Institution 1775 Massachusetts Avenue, NW Washington, DC 20036

Martin Feldstein Department of Economics Harvard University Cambridge, MA 02138 Jason Furman The Brookings Institution 1775 Massachusetts Avenue, NW Washington, DC 20036

John Geanakoplos Department of Economics Yale University PO Box 208281 New Haven, CT 06520-8281

Edward L. Glaeser Department of Economics 315A Littauer Center Harvard University Cambridge, MA 02138

Gopi Shah Goda Robert Wood Johnson Scholars Harvard University 1730 Cambridge Street, S410 Cambridge, MA 02138

Michael Hurd RAND Corporation 1776 Main Street Santa Monica, CA 90407

Dirk Krüger Department of Economics University of Pennsylvania 3718 Locust Walk Philadelphia, PA 19104

David Laibson
Department of Economics
Littauer M-12
Harvard University
Cambridge, MA 02138

Ronald Lee Departments of Demography and Economics University of California, Berkeley 2232 Piedmont Avenue Berkeley, CA 94720

Jeffrey Liebman
John F. Kennedy School of
Government
Harvard University
79 John F. Kennedy Street
Cambridge, MA 02138

Alexander Ludwig
Mannheim Research Institute for the
Economics of Aging
L13, 17, Room 307
University of Mannheim
68131 Mannheim, Germany

Erzo F.P. Luttmer John F. Kennedy School of Government, Mailbox 25 Harvard University 79 John F. Kennedy Street Cambridge, MA 02138

Brigitte C. Madrian John F. Kennedy School of Government Harvard University 79 John F. Kennedy Street Cambridge, MA 02138

George G. Pennacchi Department of Finance University of Illinois 1206 South Sixth Street Champaign, IL 61820

James M. Poterba National Bureau of Economic Research 1050 Massachusetts Avenue Cambridge, MA 02142-1347

Joshua Rauh Graduate School of Business University of Chicago 5807 South Woodlawn Avenue Chicago, IL 60637

Allison B. Rosen
Departments of Internal Medicine and
Health Policy and Management
300 North Ingalls, Suite 7E10
University of Michigan
Ann Arbor, MI 48109

Andrew A. Samwick Department of Economics 6106 Rockefeller Hall Dartmouth College Hanover, NH 03755-3514 John B. Shoven Department of Economics Room 132 Stanford University 579 Serra Mall at Galvez Street Stanford, CA 94305-6015

Jonathan Skinner Department of Economics 6106 Rockefeller Hall Dartmouth College Hanover, NH 03755

Sita Nataraj Slavov Department of Economics Occidental College 1600 Campus Road Los Angeles, CA 90041

Kent Smetters
Insurance and Risk Management
Department
3000 Steinberg Hall—Dietrich Hall
The Wharton School, University of
Pennsylvania
3620 Locust Walk
Philadelphia, PA 19104-6302

James P. Smith RAND Corporation 1776 Main Street P.O. Box 2138 Santa Monica, CA 90401-3208 Steven F. Venti Department of Economics 6106 Rockefeller Center Dartmouth College Hanover, NH 03755

Scott J. Weisbenner
Department of Finance
340 Wohlers Hall, MC-706
University of Illinois at UrbanaChampaign
1206 South Sixth Street
Champaign, IL 61820

David W. Wilcox Federal Reserve Board 20th and C Streets, NW Washington, DC 20551

David A. Wise John F. Kennedy School of Government Harvard University 79 John F. Kennedy Street Cambridge, MA 02138

Stephen P. Zeldes Graduate School of Business Columbia University 3022 Broadway New York, NY 10027-6902

Author Index

Altig, D., 389 Ameriks, John, 259 Amin, Kaushik I., 104n29 Anderson, Keaven M., 430 Anderson, Michael W., 45 Arendt, Jacob N., 426 Attanasio, O., 390 Auerbach, Alan, 69, 70, 79, 96, 388, 389 Bell, Felicitie C., 100 Bellman, Steven, 167 Belt, Bradley, 364 Benartzi, Shlomo, 180, 187, 191 Bergstresser, Daniel, 364n6 Beshears, John, 164, 180, 360 Blake, David, 79, 99n20 Bodie, Zvi, 142, 258 Bodurtha, James N., 104n29 Boehme, Natalie, 136n5 Bohn, Henning, 79, 233 Booth, Heather, 45 Borch, Karl H., 233 Börsch-Supan, Axel, 79, 335, 387, 388, 390,

Abadie, Alberto, 167

Ahser, Makul, 68

Alho, Juha M., 46

400, 402n7

Brooks, Robin, 335, 390

Burman, Leonard, 356n3

Brown, Jeffrey R., 187 Bucks, Brian K., 316n18

Abel, Andrew B., 233, 389

Campbell, John Y., 221, 233, 256, 258, 319n20
Campbell, Sean, 221n4
Carter, Lawrence, 45
Cavanaugh, Francis, 225n8
Chaloupka, Frank J., 435
Choi, James, 145, 163, 164, 171, 173, 174, 175, 177, 177n3, 180, 182, 183, 184, 185n9, 186, 187, 188
Clark, Robert L., 133, 133n1, 134
Clements, Jonathan, 259
Clingman, Michael D., 81n7, 239
Cocco, Joao, 256, 259
Cochrane, John J., 221n4

Burrows, William, 79, 99n20

Burt, Vicki L., 429, 433

Burtless, Gary, 28

Conesa, J., 388, 389

Cox, John E., 236 Cronqvist, Henrik, 177, 190, 190n11 Croushore, Dean, 251n3 Cushing, Matthew J., 109n33 Cushman, William C., 439 Cutler, David M., 21, 425, 426, 433, 435, 436, 437

De Nardi, M., 389 Desai, Mihir A., 364n6 Dhar, Ravi, 183 Diamond, Peter, 184, 222n5, 230, 319n20 Domeij, D., 390 Donkar, Eli N., 81n7 Duflo, Esther, 155, 164 Dynan, Karen, 381

Elo, Irma T., 424 Even, William E., 177n3

Fehr, H., 390
Feldstein, Martin, 24, 39, 68, 79, 109, 203, 203n1, 204, 207n4, 215n10, 218n1, 221n2, 253, 274, 278, 291, 300
Feroli, M., 390
Flegal, Katherine M., 424, 426, 431
Floden, M., 390
Ford, Earl S., 433
Fuchs, Victor, 426
Furman, Jason, 108

Gay, Sebastien, 167
Geanakoplos, John, 77, 77n4, 79, 102, 103, 104, 104n30, 105n31, 113n37, 114n38, 119, 220, 230, 335, 380
Ghent, Linda S., 133, 133n1, 134
Glaeser, Edward L., 425, 435
Goetzmann, William N., 79, 103
Goldman, Dana, 445
Goldstein, Daniel, 167
Goldwyn, Joshua H., 189
Gollier, Christian, 258
Gomes, Francisco, 256, 259
Goss, Stephen C., 95n18, 113, 239, 305, 308
Goyal, Amit, 381
Gregg, Edward W., 424

Hajjar, Ihab, 429 Henriksen, E., 390 Holden, Karen C., 178, 178n5, 187 Holtzmann, Robert, 44, 69 Hortaçsu, Ali, 275 Huang, H., 389 Hubbard, R. Glenn, 303 Huberman, Gur, 183 Hull, John C., 236

İmrohoroğlu, A., 388 İmrohoroğlu, S., 388, 389 Iyengar, Sheena S., 183

Jackson, Howell, 79, 93, 95 Jaeger, K., 393n3 Jagganathan, Ravi, 259 Jiang, Wei, 183 Johnson, Eric J., 167 Johnson, Richard W., 189, 356n3 Joines, D., 388 Jokisch, S., 390 Jun, Sung Y., 167

Kadiyala, Srikanth, 433, 437 Kennickell, Arthur B., 316n18, 369 Khitatrakun, Surachrai, 267 Kitao, S., 390 Kobes, Deborah, 356n3 Kocherlakota, Narayana, 259 Koszegi, Botond, 184 Kotchen, Theodore A., 429 Kotlikoff, Lawrence, 69, 388, 389, 390 Krüger, Dirk, 335, 382, 387, 388, 389, 391, 391n1, 395, 398 Kuhle, W., 393n3 Kunkel, Jeffrey L., 81n7, 302, 303n8

Lachance, Marie-Eve, 230, 235n5 Laibson, David, 164, 177, 177n3, 180, 182, 184, 185n9 Lakins, Nekisha, 424 LaRosa, John C., 439 Lassila, Jukka, 46 Leaverton, Paul E., 430 Lee, Ronald, 45, 70, 79, 96 Legros, Florence, 44 Lenfant, Claude, 439 Lepper, Mark, 183 Liang, Nellie, 187 Liao, Youlian, 430 Liebman, Jeffrey B., 21, 40, 68, 79, 221n2, 301, 304, 304n10, 324 Link, Bruce G., 426 Lleras-Muney, Adriana, 426 Lohse, Gerald L., 167 Lucas, Deborah, 104n28 Ludwig, Alexander, 335, 382, 387, 388, 390, 391, 391n1, 395, 398, 400, 402n7

Ma, Jun, 433
MacGuineas, Maya, 301, 304, 304n10, 324
Macpherson, David A., 177n3
Madrian, Brigitte, 145, 163, 164, 171, 174, 175, 177, 177n3, 180, 182, 183, 184, 185, 185n8, 185n9, 186
Maenhout, Pascal, 256, 259
Magilll, Michael, 335
Marcus, Alan J., 142

Marquez, Jessica, 259
McDermed, Ann A., 133, 133n1, 134
McInnis, Deborah J., 167
Mehra, Rajneesh, 273
Merton, Robert C., 142, 237, 250, 258
Michel, P., 393n3
Miller, Henry W., 427
Miller, Michael L., 100
Miller, Timothy, 45
Mitchell, Olivia, 77n4, 79, 104n30, 105n31, 113n37, 177n3, 220, 230, 235n5, 380
Mokdad, Ali H., 426
Moore, Kevin B., 316n18
Munnell, Alicia, 272

Nataraj, S., 388 Nicholson, Sean, 179 Nowlis, Stephen M., 183

Obstfeld, M., 389 O'Donoghue, Ted, 184 Olshansky, S. Jay, 439 Oreopoulos, Philip, 426 Orszag, Peter, 222n5 Osterberg, Lars, 439

Palme, Mårten, 164
Palmer, Edward, 44, 49n1, 69
Papke, Leslie, 133
Park, C. Whan, 167
Pennacchi, George G., 229, 235n5, 237n6, 253n5
Pestieau, P., 393n3
Phelan, Jo, 426
Pitts, M. Melinda, 134
Poterba, James M., 178n5, 256, 258, 259, 261, 271, 272, 273, 300, 316n18, 334, 335, 357, 360, 380
Prescott, Edward, 273
Preston, Samuel H., 424

Quinn, Joseph, 28 Quinzii, Martine, 335

Rozinka, Edina, 177, 190

Rabin, Matthew, 184
Ranguelova, Elena, 203, 204, 207n4, 218n1, 300
Rauh, Joshua, 364n6
Repetto, Andrea, 184
Rogoff, K., 389
Ross, Stephen A., 236

Saku, Aura, 179
Samuelson, Paul, 258, 393n3
Samuelson, William, 258, 259
Samwick, Andrew A., 24, 39, 79, 109, 203, 215n10, 218n1, 255, 259, 300n3, 301, 304, 304n10, 316n18, 324

Sargent, T., 389 Schieber, Sylvester, 334, 368n7

Scholz, J. Karl, 267 Schultz, Jason, 113 Seshadri, Ananth, 267 Settergren, Ole, 49n1 Shafir, Eldar, 183

Saez, Emmanuel, 155

Shapiro, Jesse M., 425, 435

Shea, Dennis, 145, 163, 171, 174, 175, 182, 183, 184, 185, 185n8, 186

Shiller, Robert J., 79, 160, 279

Shoven, John B., 21, 319n20, 334, 368n7, 388

Simonson, Itamar, 183 Skinner, Jonathan S., 255, 303, 381 Smetters, Kent, 224, 234 Smith, James P., 443, 445 Smyth, Seamus, 21 Söderlind, Paul, 164 Spasojevic, Jasmina, 426 Sundén, Annika, 164, 272 Syverson, Chad, 275

Tapia, Waldo, 177, 190 Thaler, Richard H., 177, 180, 190, 190n11 Tobacman, Jeremy, 184 Topel, Robert H., 303n7 Tuljapurkar, Shripad, 45 Tversky, Amos, 183

Uccello, Cori E., 189 Utkus, Steven, 177n3, 180

Valdes-Prieto, Salvador, 50, 53, 69, 79, 96 Valkonen, Tarmo, 46 VanDerhei, Jack, 187 Vasicek, Oldrich, 254 Venti, Steven F., 178n5, 271, 334, 335, 357, 360, 380 Viceira, Luis M., 256, 258 Vickrey, William, 79

Violante, G., 390

Wade, Alice, 113, 305, 308 Ward, Michael P., 303n7

454

Author Index

Warner, Kenneth E., 435
Weisbenner, Scott, 187
Wilkinson, Richard, 426
Willett, Walter C., 426, 431
Williams, Gerald D., 424
Wilson, Peter W. F., 430
Winter, Joachim, 335, 387, 388, 390, 400, 402n7
Wise, David A., 178n5, 271, 334, 335, 357, 360, 380

Yang, Tongxuan, 133, 163 Yi, Hsiao-ye, 424 Young, Jean A., 180

Zeckhauser, Richard J., 258, 259
Zeldes, Stephen P., 77, 77n4, 79, 102, 103, 104, 104n28, 104n30, 105n31, 113n37, 114n38, 119, 220, 259, 303, 380, 381
Zick, Kathleen, 178

Subject Index

Page references followed by t or f refer to tables and figures, respectively.

Accrued balances, computing, 85–90 AIME (average indexed monthly earnings), 24, 26–28 Alcohol consumption, 16–17, 424; forecasts

for, 435 Arrow-Lind theorem, 233

Asset allocations: impact of, 235; optimal age-dependent rules for, 258–59; savings plans and, 173–75; strategies for, 11–13

Australia, 201

Automatic enrollment, 170–75, 171–73, 172f Average indexed monthly earnings (AIME), 24, 26–28

Average relative earnings, defined, 81

Baby boomers, 13–14 Bend points, 81n9

Benefit guarantees: expected cost analysis for, 232–34; risk-neutral valuation of, 234–38; simple risk-neutral valuation model of, 238–47; types of, 231–32. See also Personal account benefit guarantees

Benefit offsets, 131

Benefits, traditional, simulation of, 302–4 Black-Scholes option pricing formula, 235–36; risk-neutral valuation vs., 237–38 Blood pressure. See Hypertension Body mass index, 17 Bonds, 300

Brake mechanisms: of NDC plans, 49–52; in U.S. adaptation, 54 Britain. See United Kingdom

Budget balance mechanisms, for progressive accounts, 113–19

Chile, 75, 201, 204; social security system in, 190

China, 201

Cholesterol, 16–17; forecasting, 436–37; mortality risk and, 437–38

Constant relative risk aversion (CRRA), 305–6

Contribution rates: Quick Enrollment plan and, 181–82; savings plans and, 173–75

CRRA (constant relative risk aversion), 305–6

Declining relative risk aversion (DRRA), 316–19

Decumulation, 178-79

Defaults, 167–68; decumulation and, 179; designing public policy and, 187–92; elective, 178–82; empirical evidence of impacts of, on retirement savings outcomes, 170–82; explanations for impact of, 182–87; impacts of, on retirement savings, 8–9, 170–82; leakage and, 191

Defined benefit (DB) participation rates, 347–52

Defined benefit (DB) pension plans, 1, 6, 133, 169; affects of demographic changes on, 368-72; assets of, 360; benefit projections of, 340-45; benefits of recipients, 340-45; benefits paid by, 261f, 361; combining assets of 401(k) plans and, 365–68; decline of flow of funds into, 14-15, 333-79; effect of population aging on, 333-34; effects of demographically induced changes on, 368-72; employee participation in, 336–39; participation of employees in, 336–39; participation rates for, 347–52; predicting future assets in, 360–61; present value of benefits of, at sixtyfive, 355-60; projected annual benefits paid by, 361-62; projected benefits paid of, 352-55, 361-65; projected total assets of, 362-65; receipt of benefits of, 345-47; shift away from, 334; total annual benefits paid by, 360-61

Defined contribution (DC) pension plans, 1, 6, 133, 169; shift to, 14, 334. *See also* 401(k) plans

Demographic changes: effects of on DB pension plans, 368–72; introduction to, 385–90; model of, 390–94; quantitative model for, 395–99; results of models, 399–411

Drinking. See Alcohol consumption DRRA (declining relative risk aversion), 316–19

Elective defaults, 178–82 Employer stocks, as matching contributions, 191–92

Enrollment decisions, 401(k) plans and, 8–9 Equity premiums, 319–21

Expected cost analysis: advantages of, 232; disadvantages of, 233–34

401(k) plans, 169; combining assets of DB plans and, 365–68; enrollment decisions and, 8–9; projected assets of, 365–68; rise of, 334. *See also* Defined contribution (DC) pension plans

France, 4, 44

Gender Gap, 34 Germany, 4, 44 Government match rate, computing, 105–13

Great Britain. *See* United Kingdom Guarantees, personal account benefit, 11

Hans Stoll put-call parity relationship, 235 Health behaviors: data for, 427–30; model of, 425–27. *See also* Mortality risks Health outcomes, 423–24; trends in, 424 Health profiles, 1971–1975 *vs.* 1999–2002, 430–33

Health risks, forecasts of future, 433–39 Health status, improvements in, 21–22 Hedging, as budget balance mechanism, 118–19

Hypertension, 16–17; forecasting, 436–37; mortality risk and, 437–38

Idiosyncratic risk, 410–11 Implicit Social Security Tax rate, defined, 24

Individual Retirement Accounts (IRAs), 169–70

Initial relative benefits, 81 International capital flows, quantifying, 401–3

Investments, as component of Social Security, 201. See also Risk

Investment strategies, 11–12

IRAs. See Individual Retirement Accounts (IRAs)

Italy, 4, 44, 75

Joint-and-survivor defaults, 179

Kyrgyz Republic, 4, 44

Labor force participation rates, 22
Latvia, 4, 44
Leakage, defaults and, 191
Lee-Carter mortality model, 45
Life-cycle asset allocation, 256–57
Life-cycle funds, 256; rise of, 259–61
Life-cycle portfolios, 322–23
Life expectancy, improvements in, Social Security and, 21–22
Longevity, effects of, on Social Security, 16–17

Match rate, government, computing, 105–13

Maximum transition costs, 94–95, 95n18

Mexico, social security system in, 190, 201, 204

Mongolia, 4, 44

Mortality rates, 16–17

Mortality risks, 16–17; cholesterol and, 437–38; hypertension and, 437–38; obesity and, 438. *See also* Health behaviors

NDC. See Notional defined contribution (NDC) plans

"No Lose" PRA plans, 10–11, 205–6; simulation of investment outcome distributions, 207. *See also* Personal retirement accounts (PRAs)

Notional defined contribution (NDC) plans, 3–5; adapting, to U.S. system, 52–55; benefits and taxes under simple, 65–67; brake mechanism of, 49–52; designing, 48–52; overview of, 44–56; personal annuitized average wage (PAAW) plans vs., 96–97; simulation results for U.S. adaptation, 55–64; stochastic forecasting model for, 45–48; in Sweden, 44, 49–52; system design, 48–55

Notional pension wealth (NPW), 48–49 NPW. See Notional pension wealth (NPW)

OASI. See Old-Age and Survivors Insurance (OASI) payroll tax

Obesity, 16–17, 424; forecasting, 435–36; mortality risk and, 438

Old-Age and Survivors Insurance (OASI) payroll tax, 6; evaluation of suggested reforms for, 26–29; impact of, 23–24; results using real data for impact of, 29–37; results using stylized workers for impact of, 24–26

Overlapping generations (OLG) models, 389–90

Overlapping generations (OLG) model(s): large-scale quantitative, 395–99; results for, 399–411; simple-two period, 390– 94

PAAW balances (PBALs), 85, 90–91, 91f PAAWs. *See* Personal annuitized average wages (PAAWs)

PANTS (personal annuity units), 83–84 Participation rates: Quick Enrollment plan and, 181; savings plans and, 170–73 PAYGO (pay-as-you-go) systems, 4, 43–44, 75, 113; approaches to reducing, 304–5; comparison of PRAs to, 207–11; shifts away from, 75, 201; substituting investment-based PRA for, 9–10

PBALs (PAAW balances), 85, 90–91, 91f Personal account benefit guarantees: expected costs of, 230, 232–34; pricing, 229–48; results of simulations of, 273–89; risk-neutral valuation of, 234–38; simple risk-neutral valuation model for, 238–47; types of, 231–32

Personal account systems, 230; advocates of, 74; opposition to, 74–75. *See also* Progressive personal accounts

Personal annuitized average wages (PAAWs), 74, 75–79; benefits of market for, 97–98; defined, 83–84; government match rate and, 105–13; implementing trading of, 98–99; notional accounts vs., 96–97; pools for, 98–99; pricing, allowing for risk aversion, 102–5; pricing, assuming risk neutrality, 100–102; private sector and, 99–100; risk and return of, 104–5; trading, 97–100. See also Progressive personal accounts

Personal annuity units (PANTs), 83–84
Personal retirement accounts (PRAs), 6,
256, 321–22; annual contract "No
Lose," 10–11, 205–6, 207; calibrating
wealth simulations of, 264–73; collars
for, 204–5; comparison of, relative to
PAYGO benchmark, 207–11; incorporating, into Social Security, 230; limiting tax increases for, 212–17; "No
Lose," 205–6; participation in, 131–35;
Social Security and, 9; substituting, for
PAYGO plans, 202

PIA (primary insurance amount), 24, 27, 28, 81–82

Poland, 4, 44

Policies public, for designing defaults, 187–92

Population aging, 13–14, 385–86; returns in financial markets and, 334–35; welfare consequences of, 389. *See also* Demographic changes

Population growth: effect of, on Social Security reform, 388; evolution of, 386–87, 386f

PRAs. See Personal retirement accounts (PRAs)

Prefunding, 299–300

Primary insurance amount (PIA), 24, 27, 28, 81–82

Progressive personal accounts, 5; components of, 74; converting current system to, 84–95; incorporating budget balance mechanisms into, 113–19; literature on, 79; mechanics of, 80–97. See also Personal annuitized average wages (PAAWs)

Progressivity, 299–327; risk and, 301; simulation framework for, 302–4; Social Security and, 12–13; trading off risk and, 306–14

Public policies: for designing defaults, 187–92

Quick Enrollment plan, 180-82

Relative earnings, defined, 81 Retirement savings, 6 Retirement savings plans: choosing, 6–9; impacts of default provisions of, 8–9 Retirement wealth: distribution of, 275–79; expected utility of, 279–89; modeling accumulation of, 261–64

Risk: approaches to reducing, 203–4; changing progressivity and, 299–327; evaluating, in retirement benefits, 305–6; idiosyncratic, 410–11; methods of limiting, 300; private market solution for reducing, 204–5; progressivity and, 301; reducing, 9; sensitivity tests for, 314–23; trading off progressivity and, 306–14. *See also* Health risks, forecasts of future

Risk aversion, 314–23; constant relative, 305–6; declining relative, 316–19

Risk-neutral valuation, 234–38; Black-Scholes option price formula vs., 237– 38; methods of, 236–37; simple model of, for benefit guarantees, 238–47

Risk reduction, alternative approaches to, 203–4

Ryan, Paul, 11, 230, 239 Ryan-Sununu proposal, 239

Save More Tomorrow (SMART) plan, 180 Savings plans: automatic enrollment and, 170–73, 172f; changing jobs and, 177– 78; contribution rates and, 173–75; participation rates and, 170–73; postretirement cash distributions and, 178–79; preretirement cash distributions and, 177–78

Self-directed retirement plans: modeling retirement wealth accumulation in, 261–64

Smoking rates, 16–17, 424; forecasts for, 434–35

Social Security: benefit formula of, 303; calculation of benefits, 3; debate on, 73-74; distortions in, 3, 25-26; effects of longevity on, 16-17; improvements in life expectancy and, 21-22; incentives toward increased retirement length of, 22–23; incorporating personal retirement accounts into, 230; investments as component of, 201; limiting tax increases of, with low cost mixed plans, 212-17; overview of current system, 80–83; personal retirement accounts and, 9; population aging and, 407–10; prefunding of, 299-300; progressivity and, 12-13; reducing risk of marketbased, 9; simulation of traditional benefits of, 302-4; suggested reforms for, 3, 26-29; welfare implications from demographic change and, 410; work incentives in, 23-37

Social Security reform: approaches to, 2–6; effect of population growth on, 388

State Universities Retirement System (SURS) of Illinois, 6–8, 133–35; analyzing plan choices in, 149; annuity formulas, 138–40; background on, 135–37; data for, 144–47; plan choices by groups in, 148–49, 148t; portable benefit package of, 140–41; results on plan choices in, 149–60; self-managed plan (SMP) of, 141–44; traditional benefit package of, 137–38

Sununu, John, 11, 230, 239

SURS. See State Universities Retirement System (SURS) of Illinois

Sweden, 44, 75; notional defined contribution in, 3–5; notional defined contribution (NDC) plan of, 49–52

Treasury Inflation-Protected Securities (TIPS), 10, 102, 205–6

United Kingdom, 201 United States: adapting NDC system to, 52–55; longevity of, 16–17; retirement income institutions in, 168–70; retirement system of, overview, 73–79

 $We alth \ accumulation, \ retirement, \ modeling, \ 261-64$

Wealth simulations, calibrating PRA, 264–73

Worker's initial dollar benefits, 81–82 Work incentives, 23–27

Zero-cost "collars," 204–5; tailoring guarantees to individual preferences with, 211–12