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Volume Author/Editor: Laurence J. Kotlikoff and Daniel E. Smith

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Notes

Chapter One

1. The 1950 Census reports the percent of elderly parents (age 65 years and over) living with their sons. The 1960 Census details both the percent of elderly parents living with their sons and the percent of elderly parents living with their daughters. The ratio of parents living with sons to parents living with daughters in 1960 was applied to the 1950 information to estimate the ratio of elderly living with either sons or daughters in 1950. Bureau of the Census, *Census of Population 1950*, Vol. 4, Special Reports, Part 2, Chapter 3, Table 1; Bureau of the Census, *Census of Population 1960*, Subject Reports, Final Report PC2-4B, Table 2; Bureau of the Census, *Census of Population 1970*, Subject Reports, Final Report PC2-4B, Table 2.

2. *Demographic and Economic Characteristics of the Aged*, Table 2.2, p. 14.

3. *Ibid.*, Table 2.5, p. 18.

4. *Vital Statistics of the United States*, 1950, Vol. 1, Table 8.07; Bureau of the Census, "Population Estimates and Projected Estimates of the Total Population of the United States by Age, Sex, and Race," *Current Population Reports*, Series P-25, No. 800, 1979.

5. The expected number of working years at age 25 equals the sum of the probabilities that a 25-year-old works at each age between 25 and 80. Work effort after age 80 is assumed to be zero. The probability that a 25-year-old works at a particular age a^* is given by the probability that the 25-year-old survives to age a^* times the age-specific work experience rate. Survival probabilities for 25-year-old males and females in 1950 and 1980 are published in *Vital Statistics of the United States*, 1950, Vol. 1, Table 8.07, and *Current Population Reports*, Series P-25, No. 800, 1979, respectively. Work experience rates for males and females are reported in the *Employment and Training Report of the President* for the years 1959 through 1978. These rates are provided for seven age categories. The 1978 male and female rates were smoothed using regressions of the work experience rate on third-order polynomials in age. The resulting estimates of 1978 male and female work experience rates by individual ages are combined with 1980 survival probabilities to calculate current male and female expected work spans.

For 1950, work experience rates are not classified by age. Estimates of 1950 male and female age-specific work experience rates were inputted from regressions of work experience rates on a function of age, time, and age-specific rates of labor force participation. The data in the regression are from the period 1959 through 1978. Labor force participation rates for 1950 by age and sex are available and were used to predict the 1950 work experience rates. The estimated 1950 work experience rates together with 1950 male and female survival probabilities permit the calculation of 1950 expected work spans for males and females.

6. In 1950 the ratio of female earnings to male earnings equaled .192. The 1980 ratio was .429. For 1950 a year of female labor supply is treated as equivalent to .192 of a year of male labor supply. For 1980 the conversion factor is .429.

7. The value 1.2 equals the ratio of expected nonworking years of current 25-year-olds to expected male-equivalent working years. Expected nonworking years of 25-year-olds equals the total expected life spans of 25-year-olds less the expected number of male-equivalent working years for 25-year-olds.

8. The percent of aged households (aged units) in which retired-worker benefits, dependents' or survivors' benefits, disability benefits, transitionally insured benefits, or special-age 72 benefits account for at least 60% of household income. "The Income and Resources of the Elderly in 1978," *Social Security Bulletin*, December 1981, Vol. 44, No. 12, Table 4, pp. 3–11.

9. Board of Trustees, Federal Old-Age and Survivors Insurance and Disability Insurance Trust Fund, *1981 Annual Report*, Social Security Administration, 1981, p. 139.

10. *Ibid.*, p. 141, and "Social Security Financing," U.S. Senate Finance Committee, p. 32.

11. Excludes an estimated 15 percent of pension fund equities held by life insurance companies.

12. McGill's *Fundamentals of Private Pensions* provides an excellent discussion of the technical aspects of private pensions. Much of the discussion is applicable to public pensions as well.

13. See, for example, Social Security Administration, *Annual Statistical Supplement, Bulletin, and Trustee's Report*, and the trustee reports of the Civil Service and Military Retirement Systems.

14. See, for example, *The Future of the Public Pension System*, Urban Institute, 1982, and *Local Public Employee Pension Plans—Current Condition and Prospect for the Future*, SRI International and Milliman and Robertson, 1982.

15. Section 4.5 describes the assumptions underlying these estimates.

16. *Special Analyses of the Budget of the U.S. Government, Fiscal Year 1982*.
17. Clark (1982).
18. Bureau of the Census, *Historical Statistics of the United States*, Part 1, Series A 119–34, D 29–41.
19. Bureau of the Census, *Statistical Abstract of the United States*, 1980, Tables 33 and 657.
20. Bureau of the Census, *Statistical Abstract of the United States*, 1980, Table 653.
21. *Manpower Report of the President*, 1963, Table A-5. *Manpower Report of the President*, 1964, Tables A-15 and 1-17.
22. *Employment and Training Report of the President*, 1981, Tables A-25 and A-26.
23. Blinder, Gordon, and Wise (1980) argue, to the contrary, that social security's complex benefit recombination provisions actually subsidize the old age work effort of millions of elderly individuals, particularly married men with nonworking or low earner wives. The extent to which workers understand these provisions is subject to considerable debate.
24. Bureau of the Census, *Statistical Abstract of the United States*, 1979, Table 101, p. 70.
25. Bureau of the Census, *Statistical Abstract of the United States*, 1980, Table 108.

Chapter Three

1. "To administer a pension plan means to collect, hold, and invest the contributions to the pension fund and to pay the benefits in accordance with the provisions of the plan. Pension funds administered by life insurance companies are guaranteed by the life insurance companies. Otherwise, the pension fund is usually administered and guaranteed through a trusteeship held by a bank or trust company. In some cases, the investment procedure is handled directly by the employer or jointly with outside employers. Pension plans administered by life insurance companies are not necessarily different in plan design from other pension and retirement plans." *Pension Facts 1980*, pp. 10–19.
2. A respondent was classified as "covered" if he (she) indicated that his (her) employer has a pension plan and he (she) was included in the plan.
3. Current Population Survey, May 1979. Excludes self-employed individuals.

Chapter Four

1. Employee Retirement Income Security Act, Part 3, Section 1081, 1974.
2. Recent legislation has changed this feature of Taft-Hartley plans. Under certain circumstances, employers may now be liable for amounts beyond their predetermined pension fund contributions.
3. See ERISA, Section 1052. The principal exception to this rule is plans which provide a participant with 100 percent vested rights within 3 years. In this case the date on which participation must begin is the later of the date the worker reaches age 25 or the date the worker completes 3 years of service.
4. *Bankers Trust Survey of Large Corporate Pension Plans*. Bankers Trust Company, 1980.
5. This average benefit is described by the Social Security Administration as the average primary insurance amount. It excludes dependent and survivor benefits.
6. Approximately one-quarter of the DOL-SPPBA (1979) plans with close to half of the recipients covered by this survey did not respond to the DOL questionnaire concerning COLAs.
7. This work was performed by Dr. Robert Clark under contract to the Office of Policy, Planning, and Research, Labor Management Services Administration, U.S. Department of Labor.

Chapter Five

1. The Consumer Price Index is used in this calculation.

Chapter Seven

1. This calculation is based on the Consumer Price Index.
2. Information was not available to estimate pension liabilities to inactive vested participants not yet receiving benefits.
3. *1981 Economic Report of the President*, Table B-26.
4. Information was not available to estimate pension liabilities to inactive vested participants not yet receiving benefits.

References

- Abbott, J. "Covered Employment and the Age Mean Claim Retirement Benefits." *Social Security Bulletin*, U.S. Department of Health, Education, and Welfare, Social Security Administration, Office of Research and Statistics, April 1974.
- Actuarial Board of the Federal Civil Service Retirement System. *Annual Report(s) of the Actuarial Board of the Federal Civil Service System*. U.S. Congress House and Senate documents, 1950–77.
- American Council of Life Insurance. *Pension Facts 19(78, 79)*. Washington: American Council of Life Insurance, 19(79,80).
- . *Pension Facts 1980*. Washington: American Council of Life Insurance, 1981.
- Andrews, Emily A., and Olivia S. Mitchell. "Evaluation on National Pension Plan Data Base." *Proceedings of the American Statistical Association Meetings, Summer 1981*.
- Arnold, Frank S. "Estimation of State-administered Public Employee Retirement System Liabilities," 10 March 1981. Unpublished.
- . "The Financial Status of State and Local Public Employee Pension Funds: Theory and Evidence." Harvard Ph.D. Dissertation, 1982.
- Bankers Trust Company. *1970 Study of Industrial Retirement Plans*. New York: Bankers Trust Company, 1970.
- . *Bankers Trust 1972 Study of Employee Savings and Thrift Plans*. New York: Bankers Trust Company, 1972.
- . *1975 Study of Corporate Pension Plans*. New York: Bankers Trust Company, 1975.
- . *1978 Survey of Changes in Normal Retirement Benefits*. New York: Bankers Trust Company, 1978.
- . *Corporate Pension Plan Study: A Guide for the 1980's*. New York: Bankers Trust Company, 1980.
- Baroman, A. "Measuring Employee Compensation in U.S. Industry." *Monthly Labor Review*, U.S. Department of Labor, Bureau of Labor Statistics, October 1970.
- Becker, A. G., Inc. *1978 Performance Characteristics*, 1979.
- . *1979 Tax-free Fund Performance, Relation between Fund Characteristics and Investment Results*, 1980.
- . *1980 Performance Characteristics*, 1981.
- . *Bond & Equity Market Indexes*, 31 December 1981.
- Beier, E. "Incidence of Private Retirement Plans." *Monthly Labor Review*, U.S. Department of Labor, Bureau of Labor Statistics, July 1971.
- Bell, D. R. "Prevalence of Private Retirement Plans." *Monthly Labor Review*, U.S. Department of Labor, Bureau of Labor Statistics, October 1975.
- Bixby, L., and V. Reno. "Second Pensions among Newly Entitled Workers: Survey of New Beneficiaries." *Social Security Bulletin*, U.S. Department of Health, Education, and Welfare, Social Security Administration, Office of Research and Statistics, November 1971.
- Blinder, Alan S. "Private Pensions and Public Pensions: Theory and Fact." National Bureau of Economic Research, Working Paper No. 902, June 1982.
- Blinder, Alan, Roger Gordon, and Donald Wise. "Reconsidering the Work Disincentive Effects of Social Security." *National Tax Journal*, December 1980, pp. 431–32.

- Bodie, Zvi, and James E. Pesando. "Retirement Annuity Design in an Inflationary Climate." Paper presented at the National Bureau of Economic Research Conference on the U.S. Pension System, March 1982.
- Bulow, Jeremy. "Analysis of Pension Funding under ERISA." National Bureau of Economic Research, Working Paper No. 402.
- Bulow, Jeremy, and Myron S. Scholes. "Who Owns the Assets in a Defined Benefit Pension Plan?" National Bureau of Economic Research, 1982.
- Bulow, Jeremy, Myron S. Scholes, and Peter Menell. "Economic Implications of ERISA." National Bureau of Economic Research, 1982.
- Clark, Robert. "Inflation and Pension Benefits." Quarterly Report, Department of Labor Contract, No. J-9-P-10074, 1982.
- Committee on Education and Labor, House of Representatives, 95th Congress. *Pension Task Force Report on Public Employee Retirement Systems*. Washington: Government Printing Office, 15 March 1978.
- Corporate Data Exchange, Inc. *CDE Handbook. Pension Investments: A Social Audit*. New York, 1979.
- Davis, H. E., and A. Strasser. "Private Pension Plans, 1960–1969, an Overview." *Monthly Labor Review*, U.S. Department of Labor, Bureau of Labor Statistics, July 1970.
- Employee Benefit Research Institute. *Retirement Income Policy: Considerations for Collective Decision Making*. Washington: EBRI, 1980.
- Epple, Dennis, and Katherine Shipper. "Municipal Pension Funding: A Theory and Some Evidence." Carnegie-Mellon University Graduate School of Industrial Administration, Reprint No. 962, 1981.
- Federal Reserve Employee Benefits System. *Retirement Plan for Employees of the Federal Reserve System*. Annual Reports, 1950–79.
- Feldstein, Martin S., and Randall Morck. "Pension Funding Decisions, Interest Rate Assumptions, and Share Prices." In *Financial Aspects of the U.S. Pension System*, Zvi Bodie and John Shoven (eds.). Forthcoming National Bureau of Economic Research Conference Volume, 1983.
- Feldstein, Martin S., and Stephanie Seligman. "Pension Funding, Share Prices, and National Savings." *Journal of Finance*, 1981, pp. 801–24.
- Financial Accounting Standards Board. *Statement of Financial Accounting Standards*, No. 35. Financial Accounting Foundation, Stamford, Conn., March 1980.
- . *Statement of Financial Accounting Standards*, No. 36. Financial Accounting Foundation, Stamford, Conn., May 1980.
- Fox, A. "Alternative Means of Earnings Replacement Rates for Social Security Benefits." In *Reaching Retirement Age: Findings from a Survey of Newly-Entitled Workers, 1968–1979*. U.S. Department of Health, Education, and Welfare, Social Security Administration, Office of Research and Statistics, 1976.
- Friedman, Benjamin M. "Pension Funding, Pension Asset Allocation, and Corporate Finance: Evidence from Individual Company Data." Paper presented at the National Bureau of Economic Research Conference on Financial Aspects of the U.S. Pension System, March 1982.
- Frumppkin, R., and D. Schmitt. "Pension Improvements since 1974 Reflect Inflation, New U.S. Law." *Monthly Labor Review*, U.S. Department of Labor, Bureau of Labor Statistics, April 1979.
- Gordon, Roger H., and Alan S. Blinder. "Market Wages, Reservation Wages, and Retirement Decisions." *Journal of Public Economics*, October 1980, pp. 277–308.
- Greene, R. "Unions Report Slow Rise in Health Insurance, and Pension Coverage." *Monthly Labor Review*, U.S. Department of Labor, Bureau of Labor Statistics, January 1975.
- Hansen, A.S., Inc. *1979 Hansen Investment Performance Survey*, 1980.
- Harrison, J. Michael, and William F. Sharpe. "Optimal Funding and Asset Allocation Rules for Defined-Benefit Pension Plans." Paper presented at the National Bureau of Economic Research Conference on Financial Aspects of the U.S. Pension System, March 1982.
- Hewitt Associates. *Investment Performance Report*, 1980.
- Hurd, Michael D., and John B. Shoven. "The Economic Status of the Elderly." National Bureau of Economic Research, April 1982.
- ICF, Inc. "Retirement Income Opportunities in an Aging America: Income Levels and Adequacy." Report prepared for the Employee Benefit Research Institute, Washington, 1981.

- Inman, R. "Public Pensions, Public Unions, and the Local Labor Budget." *Summer Institute Papers*, No. 80–9. National Bureau of Economic Research, 1980.
- Irelan, Lola, et al. "Almost 65: Baseline Data from the Retirement History Survey." U.S. Department of Health, Education, and Welfare, Social Security Administration, Publication No. 76-11806, 1976.
- Johnson and Higgins. *1979 Executive Report. Funding Costs and Liabilities of Large Corporate Pension Plans*. New York, 1979.
- Jump, Bernard, Jr. "The Future of State and Local Pensions." Final Report, Urban Institute, Government Finance Research Center, April 1981.
- Kolodrubetz, W. W. "Characteristics of Workers with Pension Coverage on the Longest Job: New Beneficiaries." *Social Security Bulletin*, U.S. Department of Health, Education, and Welfare, Social Security Administration, Office of Research and Statistics, November 1971.
- Kotlikoff, L. J., and L. H. Summers. "The Role of Intergenerational Transfers in Aggregate Capital Accumulation." *Journal of Political Economy*, Vol. 89, No. 4, August 1981.
- . "The Adequacy of Savings." *American Economic Review*, 1982.
- Lazear, Edward P. "Severance Pay, Pensions, Mobility, and the Efficiency of Work Incentives." Mimeo, University of Chicago, June 1981.
- . "Pensions as Severance Pay." Paper delivered at the National Bureau of Economic Research Conference on Financial Aspects of the U.S. Pension System, March 1982.
- McGill, Dan M. *Fundamentals of Private Pensions*, 4th ed. Pension Research Council, University of Pennsylvania, Wharton School, 1979.
- Mitchell, Olivia, and Emily S. Andrews. "Scale Economies in Multi-Employer Pensions Systems." *Industrial and Labor Relations Review*, July 1981.
- Munnell, A. H. *The Economics of Private Pensions*. Washington: Brookings Institution, 1982.
- Munnell, A. H., and A. M. Connolly. *Pensions for Public Employees*. Washington: National Planning Association, 1979.
- O'Glove, J. L., and R. A. Olstein. "A Comparative Survey of 246 Employee Benefit Plans (Sponsored by 218 Corporations), Actuarial Funding Methods, Interest, and Salary Scale Assumptions." *Quality of Earnings Report*. New Jersey: Reporting Research Corporation, 1978.
- President's Commission on Private Pensions. *Coming of Age: Toward a National Retirement Income Policy*. President's Commission on Private Pensions. Washington: Government Printing Office, 1981.
- Schieber, Sylvester J. "Toward a National Retirement Income Policy: An Alternative Perspective." Employee Benefit Research Institute. Paper presented at 1981 Annual Meetings, American Statistical Association, August 1981.
- Schieber, Sylvester J., and Patricia M. George. "Retirement Income Opportunities in an Aging America: Coverage and Benefit Entitlement." Washington: Employee Benefit Research Institute, 1981.
- Securities and Exchange Commission. *Statistical Bulletin*, Vol. 23, No. 6, 1964; Vol. 24, No. 6, June 1965; Vol. 33, No. 16, April 1974; Vol. 40, No. 5, May 1981. Washington: Government Printing Office.
- Segal, Martin E., Company. *1979 Survey Multiemployer Retirement Fund Investment Results*, 1980.
- Skolnick, A. M. "Private Pension Plans, 1950–74." *Social Security Bulletin*, 1796.
- Spencer, Charles D., & Associates, Inc. "Pension, Profit, and Stock Bonus Plans in Effect through December 1975."
- SRI International. *Local Public Employee Pension Plans—Current Condition and Prospects for the Future*. Menlo Park, Calif.: SRI International, 1982.
- Tennessee Valley Authority. *Tennessee Valley Authority Retirement System Annual Report(s)*, 1950–80.
- Thompson, G. B. "Black-White Differences in Private Pensions: Findings from the Retirement History Study." *Social Security Bulletin*, U.S. Department of Health, Education, and Welfare, Social Security Administration, Office of Research and Statistics, February 1979, Vol. 42, No. 2.
- Thompson, Marvin M., and Gary Shapiro. "The Current Population Survey: An Overview." In *Annals of Economic and Social Measurement*, Vol. 2, No. 2, pp. 105–31. National Bureau of Economic Research, 1973.

- Tilove, Robert. "Public Employee Pension Funds." New York: Columbia University Press, 1976.
- Towers, Perrin, Forster & Crosby. *Pension Increases for Retired Employees*. Research Study, 1979.
- Urban Institute, Winklevoss and Associates, Government Finance Research Center, and Dr. Bernard Jump, Jr. *The Future of State and Local Pensions*. Final Report to the Department of Housing and Urban Development, April 1981.
- U.S. Chamber of Commerce. *Employee Benefits Historical Data*. Washington: Government Printing Office, 1981.
- U.S. Committee on Finance, U.S. Senate. *Social Security Financing*. Washington: Government Printing Office, December 1982.
- U.S. Department of Commerce, Bureau of the Census. *Census of Population 1950*, Vol. 4, Special Reports, Part 2. Washington: Government Printing Office, 1953.
- . *Census of Population 1960*, Subject Reports, Final Report PC2-4B. Washington: Government Printing Office, 1964.
- . *Census of Population 1970*, Subject Reports, Final Report PC2-4B. Washington: Government Printing Office, 1973.
- . *Current Population Reports*, Series P-60, No. 105, "Money Income of Families and Persons in the United States." Washington: Government Printing Office, 1977.
- . *Finances of Employee Retirement Systems of State and Local Governments, 1978–79*. Washington: Government Printing Office, 1980.
- . *Historical Statistics of the United States, Colonial Times to 1970*, Bicentennial Edition, Parts 1 and 2. Washington: Government Printing Office, 1975.
- . *Statistical Abstract of the United States: 1980, 1978, 1976* (99th, 9 editions). Washington: Government Printing Office.
- . "Population Estimates and Projections," *Current Population Reports*, Series P-25, Nos. 800, 721, 519, and 310. Washington: Government Printing Office.
- . *Statistical Abstract of the United States: 1976* (97th ed.). Washington: Government Printing Office, 1976.
- U.S. Department of Commerce, Bureau of the Census, Employment and Training Administration. *Employment and Training Report of the President*, 1980, 1981.
- U.S. Department of Defense, Washington Headquarters Services, Directorate for Information, Operations, and Reports. *Selected Manpower Statistics FY 1979*, March 1980.
- U.S. Department of Health and Human Services, Social Security Administration. *Social Security Bulletin, Coverage of Patterns of Full-Time Employees*. Washington: Government Printing Office.
- . *Social Security Bulletin, Vesting of Private Pension Benefits*. Washington: Government Printing Office.
- . *Social Security Bulletin, Assets of the Elderly as They Retire*. Washington: Government Printing Office.
- . *The Income and Resources of the Elderly in 1978*. Washington: Government Printing Office.
- U.S. Department of Health and Human Services, Social Security Administration, Office of Research and Statistics. *Social Security Bulletin, Annual Statistical Supplement, 1977–1979, 1973, 1968, 1964, 1955, 1953, 1952*. Washington: Government Printing Office.
- U.S. Department of Health, Education, and Welfare, Social Security Administration. *Coverage and Vesting of Full-Time Employees under Private Retirement Plans: Findings from the April 1972 Survey*. DHEW Publication No. (SSA) 74-1908. Washington: Government Printing Office, 1973.
- U.S. Department of Health, Education, and Welfare, Social Security Administration, Office of Research and Statistics. *The Aged Population of the United States: The 1963 Social Security Survey of the Aged*. Research Report No. 19. Washington: Government Printing Office, 1967.
- . *Income of the Population 55 and Over, 1976*. Staff Paper No. 35, SSA Publication No. 13-11865. Washington: Government Printing Office, 1979.
- . *Demographic and Economic Characteristics of the Aged, 1968 Social Security Survey*. Research Report No. 45, DHEW Publication No. (SSA) 75-11802. Washington: Government Printing Office, 1975.
- . *Reaching Retirement Age: Findings from a Survey of Newly Entitled Workers, 1968–70*. Research Report No. 407, DHEW Publication No. (SSA) 76-11804. Washington: Government Printing Office, 1976.

- U.S. Department of Labor, Bureau of Labor Statistics. *Employment and Earnings, March 1978*. Washington: Government Printing Office, 1981.
- . *Early Retirement Provisions of Pension Plans, 1971*. Report 429. Washington: Government Printing Office, 1974.
- . *Employee Benefits in Industry: A Pilot Survey*. Report 615, 1980.
- . *BLS Handbook of Methods*. Bulletin 1910. Washington: Government Printing Office, 1976.
- . *Employment and Earnings, United States, 1908–1978*. Bulletin 1312:11. Washington: Government Printing Office, 1979.
- U.S. Department of Labor, Bureau of the Census. *Preliminary Estimates of Participant and Financial Characteristics of Private Pension Plans, 1977*. Washington: Government Printing Office.
- U.S. Department of Labor, Employment and Training Administration and Department of Health, Education, and Welfare, Office of Human Development. *Employment and Training Report of the President*. Transmitted to Congress, 1978. Washington: Government Printing Office, 1978.
- U.S. Department of Labor, Office of the Assistant Secretary for Administration and Management Library. *Pension and Pension Plans: Selected References, 1971–1974*. Washington: Government Printing Office, 1974.
- U.S. Office of Personnel Management, Retirement, and Insurance Programs. *Federal Fringe Benefit Facts, 19(78,79,80)*. Washington: Government Printing Office, 19(79,80,81).
- U.S. Railroad Retirement Board. *1978 Annual Report, Statistical Supplement*.
- U.S. Subcommittee on Labor of the Committee on Labor and Public Welfare, U.S. Senate. *Retirement Income Security for Employees Act of 1972*, S. 3598, 92d Congress, 2d Session. Washington: Government Printing Office, 1972.
- . *Statistical Analysis of Major Characteristics of Private Pension Plans (Pursuant to S. Res. 235, Section 4)*, 92d Congress, 2d Session. Washington: Government Printing Office, 1972.
- Winklevoss, Howard E. *Pension Mathematics: With Numerical Illustrations*. Pension Research Council, Wharton School, University of Pennsylvania, 1977.
- Yohalem, M. R. "Employee-Benefit Plans, 1975." *Social Security Bulletin*, U.S. Department of Health, Education, and Welfare, Social Security Administration, Office of Research and Statistics, November 1977.

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Index

- Accrued liabilities: definition, 11; large city plans, 405–409; large city plans, vested amounts in, 410; large corporate plans, 323–335; large local plans, 414–419; large local plans, vested amounts in, 422; small local plans, 429–431; state-administered plans, vested amounts in, 401–402; state and local plans, 397–399; vested versus unvested status of, 11–12
- Annuities: certain and continuous, replacement rates in, 146; joint survivor, replacement rates in, 146; pension recipients' choice of, 99–100; single life, replacement rates in, 146
- Benefit formulae: defined benefit plans, 209–212, 215; earnings versus non-earnings based, 209–212; industry and union plans, distribution by, 218–222; pension plan characteristics, distribution by, 211–212; plan entity and union status, distribution by, 223–224; plan size and union status, distribution by, 215–217; state and local plans, 361–362; union status, distribution by, 223
- Benefit levels, defined benefit plans, 213–214; state and local plans, 361, 376–378
- Bond portfolios, public pension plans, annual rates of return for, 436
- Cliff vesting, 182; state and local plans, 359
- COLAs. *See* Cost of living allowances
- Cost of living allowances (COLAs): defined benefit plans, provisions by plan characteristics, 275–276; inflation protection, degree of, 275, 277; large corporate plans, provisions in, 280; methods of increase, 277; pension plans, coverage and distribution across, 274–275
- Defined benefit plans, 163–164, 166; age at retirement and early retirement reduction rates, 267; age 22 vesting exclusion, 200; automatic COLA provisions, by firm size and industry, 275–276; benefit accrual provisions after normal retirement eligibility, by firm size and industry, 272; benefit formulae, 209–215; benefit formulae and various plan characteristics, distribution by, 215–224; benefit payments for hypothetical retirees, 213–214; benefit payments per recipient, by various plan characteristics, 304, 306, 309; benefit payments per recipient in noninsured plans, by various plan characteristics, 305, 307, 309; benefit payments per recipient in partially insured plans, by various plan characteristics, 223, 305, 309; benefit recipients, distribution by various plan characteristics, 100–101; contributions by employees, by firm size and industry, 299–300; contributions per active participant, by industry and plan size, 298–299; disability benefits, age and service requirements for, 286; disability provisions, 282; early retirement, 252; early retirement provisions, by firm size and industry, 264–265; earnings bases, 212–213; earnings bases and various plan characteristics, distribution by, 227–236; maximum age for participation, 177–178; mean years until full vesting, 189; normal retirement requirements, 247; participation requirements, 174; plan characteristics, number of plans and participants by, 50–51, 166–171; portability provisions, 204; replacement rates, 137, 213–214; social security, integration with by various plan characteristics, 225–227; state and local plans, benefit formulae in, 362; vesting formulae, distribution by, 184; vesting status after various years of service, 191–192
- Defined contribution plans, 163–166; age 22 vesting exclusion, 200; benefit payments per recipient, by various plan characteristics, 304, 306, 309; benefit payments per recipient in noninsured plans, by various plan characteristics, 305, 307, 309; benefit payments per recipient in partially insured plans, by various plan characteristics, 305, 308–309; benefit recipients, distribution by various plan characteristics, 100–101; contributions by employees, by firm size and industry, 299–300; contributions per active participant, by firm size and industry, 298–299; disability benefits, age and service requirements for, 286; disability provisions, 282; early retirement, 252; early retirement requirements, 256; maximum age for participation, 177–178; mean years until full vesting, 189; normal retirement requirements, 247; participation requirements, 174; plan characteristics, number of plans and participants by, 50–51, 166–170, 177; portability provisions, 204; vesting formulae, distribution by 184; vesting status after various years of service, 192–193

- Disability benefits: age and service requirements, distribution by various plan characteristics, 285–289; replacement rates, by pre-retirement earnings and years of service, 158; replacement rates, by various demographic and pension plan characteristics, 150–151, 156–158
- Disability provisions: age and service requirements, 280–281; by various plan characteristics, 280–285
- Early retirement, 251; age and service requirements, by various plan characteristics, 251, 255–259, 370–371; benefit formulae, by various plan characteristics, 259–262; benefit recipients, by age, 104; benefit reduction methods, by various plan characteristics, 262–269; defined benefit plans, provisions in, 264–265; normal retirement, ratio of benefits with respect to, 266; plan characteristics, provisions by, 252–254; state and local plans, provisions in, 368–369
- Earnings bases, 130–131; inflation risk associated with, 212–213; plan characteristics, distribution across various, 212–213, 227–236; state and local plans, 362–363
- Elderly couples, old age resources from labor earnings, net worth, and pension income, distribution by race and lifetime earnings levels, 127–130
- Elderly household pension recipients: income sources, by demographic characteristics of household head, 113–117; number and distribution in 1969, 1974, and 1980, by demographic characteristics of household head, 79–96
- Elderly households: demographic and economic characteristics, distribution by, 66–67; income sources, by demographic characteristics of household head, 106–110, 113–114, 115, 117; pension income ratio versus that of all households, by demographic characteristics of household heads, 122–125
- Elderly individuals, income sources, by demographic characteristics of the individual, 110–113
- Elderly pension recipients: demographic and economic characteristics, distribution by, 65–67; number and distribution in 1969, 1974, and 1980, by demographic characteristics of recipients, 69–79; old age income sources, by demographic characteristics of recipients, 106–113, 118–121
- Employee Retirement Security Act of 1974 (ERISA): defined benefit plans, 163; large corporate plans, funding status of, 324; participation requirements, regulations pertaining to, 171–172; private pension plans, 6; state pension plans, liabilities of, 398; vesting, regulations pertaining to, 11–12, 51, 181–182
- Equity investments: private pension plans, rates of return for, 339–346; public pension plans, rates of return for, 435–436
- ERISA. *See* Employee Retirement Security Act
- FASB. *See* Financial Accounting Standards Board
- Federal pension plans: civilian workers, coverage of, 33; elderly beneficiaries, benefits of, 121; households, pension income of, 126
- Financial Accounting Standards Board (FASB), large corporate plans, funding status of, 324
- Fixed income investments: private pension plans, rates of return for, 340–344, 346; public pension plans, rates of return for, 346
- Graded vesting, 182; state and local plans, 359
- Individual retirement accounts (IRAs), 160–161; contributions, by gross income and tax returns, 162; income levels, distribution by, 161; number, 161
- Insurance companies: reserve accounts and pension assets, 318; reserves, shares of U.S. financial assets held in, 317, 382
- Insured private pension plans: benefit payments, 302; benefit payments per recipient, 302; contributions, 291; contributions per covered worker, 292
- IRAs. *See* Individual retirement accounts
- Keough plans, 160–161; contributions, by gross income and tax returns, 162; income levels, distribution by, 161; number, 161
- Large city pension plans: accrued liabilities, 405–408; accrued liabilities, funded status of, 409–410; portfolio composition of, 382; projected liabilities, 406–407, 411–412; projected liabilities, funded status of, 413–414
- Large corporate pension plans: accrued liabilities, 323–329; funding status of, 323–325, 330–335; mean total cost of living increases, 280; projected liabilities, 323–329
- Large local pension plans: accrued liabilities, 414–418; accrued liabilities, vested amount per resident, 422; funding status of, 414–415, 419–421; portfolio composition of, 382; projected liabilities, 415, 423–428; social security coverage, participants with, 32
- Multiemployer pension plans: age 22 vesting exclusion, 202–203; benefit formulae, 223–224; benefit means for hypothetical workers, 244; benefit payments per recipient, by plan type, 309; benefit recipients, distribution by plan type, 101; disability provisions and requirements, 284–285, 289; early retirement provisions, 254, 259; earnings bases used, 235–236; mean years until fully vested, 192; normal retirement provisions and requirements, 250; participants, distribution by plan type, 51; participation requirements, 177, 181; plan type and union status, distribution by, 171; portability provisions, 208–209; replacement rates for hypothetical workers, 244; social security, integration with, 227; vesting formulae, 188; vesting status after various years of service, 199
- Noninsured private pension plans: assets by fund size, 310, 318–321; benefit payments, 302–304; benefit payments per recipient, by various plan characteristics, 302, 305, 307, 309; con-

- tributions, 291; contributions per covered worker, 292
- Normal retirement: ages, distribution of, 246; age and service requirements, by various plan characteristics, 247–250; benefit accrual provisions, by various plan characteristics, 270–272; benefit recipients by age, 104; labor supply, effects of benefit accrual provisions on, 271–274; replacement rates, 142; state and local plans, 365–368
- Old age income sources, 108–110, 128
- Partially insured pension plans, assets of, 318–319; benefit payments, 303–304; benefit payments per recipient, by industry and various plan characteristics, 305, 308–309
- Participation requirements, ages, by pension plans, 174; by industry and various plan characteristics, 172–177; maximum age, 179–181; private pension plans, 171–173; state and local plans, 356–358; years of service, 174
- PBGC. *See* Pension Benefit Guaranty Corporation
- Pension Benefit Guaranty Corporation (PBGC), vested benefits, 181
- Pension benefit replacement rates: age, industry, and union status, distribution by, 138–141; age, sex, and plan type, distribution by, 137; age, sex, and union status, distribution by, 134; age and type of annuity, distribution by, 146; age and type of retirement, distribution by, 142; age and years of service, distribution by, 143–144; age at retirement, distribution by, 143; disability, by age, industry, and union status for, 151–155; disability, by age, sex, and union status for, 150; disability, by age and sex for, 158–159; disability, by age and year of first receipt for, 156; disability, by age and years of service for, 157; hypothetical workers, by defined benefit formulae for, 237; hypothetical workers, by earnings base used for, 238; hypothetical workers, by industry and various plan characteristics for, 238–244; income formulae and years of service, distribution by, 145; lump sum type, by age and sex, 147; lump sum type, by industry and union status, 148–149; real pre-retirement earnings and years of service, distribution by, 145; state and local plans, for hypothetical workers in, 363–364
- Pension benefits: inflation, effects of, 8, 15–16; labor supply, effects on, 17–18; mean annual levels, by plan size, 278–279; mean percentage increase, by plan size, 278–279; means, by defined benefit formulae for hypothetical workers, 237; means, by earnings bases for hypothetical workers, 238; means, by industry and various plan characteristics for hypothetical workers, 238–244; relative to total income of elderly, 377; state and large local plans, payment per recipient in, 379–380; state and local plans, means for hypothetical workers in, 363–364; state and local plans, payments per beneficiary in, 377
- Pension data, description of sources, 20–26
- Pension income, for households, distribution by demographic and economic characteristics of household head, 126. *See also* Elderly households, income sources; Elderly households, pension income; Elderly household pension recipients, income sources; Elderly pension recipients, old age income sources
- Pension plans: age 22 vesting exclusion, by industry and various plan characteristics, 200–203; benefit recipients, economic characteristics of, 5; COLAs, increases by plan size and year of increase, 277; contributions and other fringe benefits, as percentage of payroll across industry, 293–297; contributions by employees, by industry and various plan characteristics, 299–301; coverage, by type of participant, 4–5; coverage, growth in, 2–4; disability benefits, age and service requirements for by industry and various plan characteristics, 285–289; disability provisions, by industry and various plan characteristics, 282–285; early retirement, 251; early retirement, age and service requirements for by industry and various plan characteristics, 252–259; economic role of the family, effects on, 1–2; economics of labor markets, effects on, 2; financial markets, effects on, 2; financial status of, 11–14; hiring patterns, effects on, 18–19; household wealth, percentage of, 2; insurance markets, effects on, 2; normal retirement, age and service requirements by industry and various plan characteristics, 246–250; number and distribution by industry and various plan characteristics, 166–171; participation requirements, distribution by industry and various plan characteristics, 176–181, 187–188, 246–250; participants, 4–5; portability provisions, by industry and various plan characteristics, 204–209; saving rate, effects on, 2; tax treatment, 12; vesting formulae, by industry and various plan characteristics, 184–188, 192–194, 206–207; worker knowledge of provisions, 14–15; worker mobility, effects on, 18
- Pension recipients: number of, 68; types of, 68
- Plan entity. *See* Multiemployer pension plans; Single employer pension plans
- Plan type. *See* Defined benefit plans; Defined contribution plans
- Portability provisions: coverage, 203; distribution by industry and various plan characteristics, 204–209
- Private pension plan recipients: age and years of service, distribution by, 99; distribution by plan characteristics, 97–100; pre-retirement earnings, distribution by, 99
- Private pension plans: assets, 310–311; assets, distribution by plan characteristics, 318–320; assets, growth in, 310–311; assets, portfolio composition of, 310–312, 319–320, 381; benefit formulae and provisions, 7–8; benefit payments per recipient, by industry and various plan characteristics, 302–309; benefit recipients, distribution by age, age at first receipt, and years of service, 101–103; benefit recipients, distribution by age and type of retirement benefit, 104; benefit recipients, distribution by average real pre-retirement earnings and years

- Private pension plans (cont.)
of service, 105–109; benefit recipients, distribution by industry and various plan characteristics, 100–101; benefits, distribution by various plan characteristics, 303–304; benefits, growth in, 301; benefits, share in income of elderly, 301–303; COLAs, 9; COLAs, increases during 1973–1978 by method of increase, 275; COLAs, inflation protection afforded by, 275; COLAs, provisions across industry and various plan characteristics, 274–275; contributions, as percentage of payroll, 29, 293; contributions, by type of participant, 297–298; contributions, distribution by industry and various plan characteristics, 296–298; contributions, growth in, 290–291; contributions, tax advantages of, 297; contributions per active participant, distribution by industry and various plan characteristics, 298–299; coverage, 28; covered workers, distribution by industry and various plan characteristics, 49–50; covered workers, vesting status by demographic and economic characteristics, 51–66; disability provisions, 9, 280–281; early retirement, benefit reductions from, 259–263; early retirement, provisions and requirements for, 9, 251; elderly recipients' benefits, 121; employed workers, coverage by demographic and economic characteristics of workers, 36–39; employed workers, coverage by industry and demographic characteristics of workers, 41–48; equity investments, distribution by fund size, 322–323; equity investments, rates of return on, 337–348; fixed income investments, rates of return on, 337–348; flow of funds statement, by plan size, 320; full-time workers, coverage of, 49; growth in, 165; households, pension income of, 126; insured versus partially insured plans, 303, 311–316; normal retirement, provisions and requirements, 9, 245; participants, number and distribution by industry and various plan characteristics, 50–51; participation requirements, 6, 171–173; portability provisions, 7, 203–204; portfolio composition of, 321; qualifications and terminations, 166; replacement rates, 8–9, 130–133; vested covered workers, 51–52; vesting provisions, 6–7, 181–184; wage and salary workers, coverage of, 29, 34–36; worker retirement, impact on, 16–17; U.S. financial assets, share held of, 317–318, 382
- Projected liabilities: definition, 11; financial value of corporations, effect on, 12, 394–395; labor market behavior, effects on, 12, 393–394; large city plans, 406–407, 411–414; large city plans, funded status of, 413; large corporate plans, 323–325; large corporate plans, funded status of, 13, 415; large local plans, 415, 423–425; large local plans, funded status of, 426–427; small local plans, 429–430; state-administered plans, 402–403; state-administered plans, funded status of, 405, 413; state and local plans, 397–398
- Public pension plans: bond portfolios, annual rates of return on, 436; equity investments, annual rates of return on, 435–436. *See also* Large city pension plans; Large local pension plans; Small local pension plans; State and local pension plans
- Replacement rates. *See* Pension benefit replacement rates
- Retirement benefit plans. *See* Early retirement; Normal retirement; Special early retirement
- Single employer pension plans: age 22 vesting exclusion, 202–203; benefit formulae, 223–224; benefit means for hypothetical workers, 244; benefit payments per recipient, 309; benefit recipients, 101; disability benefits, age and service requirements for, 289; disability provisions, 284–285; early retirement, provisions and requirements, 254, 259–260; earnings bases used, 235–236; mean years until fully vested, 192; normal requirements, provisions and requirements, 250; participants, distribution by plan type, 51; participation requirements, 177, 181; plan type and union status, distribution by, 171; portability provisions, distribution by, 208–209; replacement rates, 244; social security, integration with, 227; vesting formulae, 188; vesting status after various years of service, 199
- Small local pension plans: accrued liabilities, by plan size, 430–431; projected liabilities, by plan size, 432–433
- Social security: benefit share in old age resources, by race and lifetime earnings, 127–130; integration with defined benefit plans, by industry and various plan characteristics, 225–227; recipients, number of, 68; state pension plan participants, coverage by state, 30–31
- Special early retirement: benefit recipients, by age, 104; benefit replacement rates, by age, 142
- State-administered pension plans: contributions per participant, by state, 375; funding status of, by state, 400; liabilities of, by state, 399; portfolio composition of, by state, 381; projected liabilities of, by state, 402–403; social security, integration with, 30–31
- State and local pension plans: assets, by state and type of administrator, 387; assets, relative to household net worth, 381; benefit means for hypothetical workers, 363–365; benefit payments, as share of income of elderly, 377; benefit payments per recipient, by state and type of administrator, 377, 379; contributions, as percentage of payrolls, 373; contributions, by state and type of administrator, 373–374; contributions per covered worker, 373; defined benefit plans, benefit formulae in, 362; early retirement, provisions and requirements for, 369–371; earnings bases used, 362–363; elderly beneficiaries' benefits, 121; flow of funds statement, by state and type of administrator, 384–386; households, pension income of, 126; mean years until fully vested, 360; normal retirement, provisions and requirements for, 366–367; participation requirements, 357–358; portfolio composition of, by state and type of administrator, 388; recipients, number of, 68; replacement rates for hypothetical workers, by benefit for-

mulae, 363–364; type of administrator, distribution by, 352; U.S. financial assets, share held of, 382; vesting formulae, 359–360; workers, coverage of, 30

Union pension plans (versus nonunion plans): age 22 vesting exclusion, 202; benefit formulae in, 215–224; benefit recipients, by industry, 101; disability, replacement rates for, 150–155; disability benefits, age and service requirements for, 284, 288–289; early retirement, provisions and requirements for, 254, 258–259; earnings bases used, 227–236; employed workers, coverage by detailed industry, 46–48; employed workers, coverage by major industry, 49; industry and various plan characteristics, distribution by, 170–172, 207–208; mean years until fully vested, 191; normal retirement, provisions and requirements for, 250; participation requirements, 188, 192; portability provi-

sions, 208; replacement rates, 134, 243; vesting formulae, 187–188; vested status of workers, 198; vested status of workers, by detailed industry, 62–66; vested status of workers, by major industry, 61

Vesting: age 22 exclusion, 201–203; formulae, by industry and various plan characteristics, 184–188; mean years until fully vested, by industry and various plan characteristics, 189–192; private covered workers, status by demographic and economic characteristics of workers, 53–60; private covered workers, status by detailed industry and union status, 62–64; private covered workers, status by major industry and union status, 61; state and local plans, formulae used in, 359–360; state and local plans, mean years until fully vested in, 360; status after various years of service, by industry and various plan characteristics, 192–199

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