

Who Gets Retirement Plans and Why

KEY FINDINGS

- **Most workers who are likely to have the ability to save and to be focused primarily on saving for retirement are covered by an employer-provided retirement plan.** Of those most likely to desire to save for retirement in the current year, nearly three-quarters had access to a pension plan through their own employer or their spouse's employer, and 92 percent of those with access participated.
- **Younger and lower-income households are more likely to report that they save primarily for reasons other than retirement, such as to fund education, to purchase a house, to fund other purchases, or to have cash on hand in case of unexpected need.** Economic analysis suggests that these preferences are rational. Older and higher-earning workers are more likely to save primarily for retirement, and thus are more likely to prefer having a portion of their compensation in the form of retirement benefits rather than fully in cash.
- **Access to a retirement plan at work is not randomly distributed throughout the workforce.** The probability that an employee works for a firm that sponsors a plan is highly related to the employee's characteristics. In particular, employees who work for firms that sponsor plans are more likely to be older, have higher earnings, and work full-time for a full year.
- **Workers at small employers that sponsor retirement plans are as likely to participate as workers at large employers sponsoring retirement plans.** Although only 18 percent of workers at firms with fewer than 10 employees have an employer that sponsors a plan—compared with 71 percent of workers at firms with 1,000 employees or more—if a firm sponsors a plan, approximately 80 percent of employees participate, regardless of firm size.
- **Differences in workforce composition appear to be a primary cause for the low rate at which small employers sponsor retirement plans.** As a group, the characteristics of small-firm employees differ substantially from the characteristics of large-firm employees. Nevertheless, workers at small firms that sponsor plans are very similar to workers at large firms that sponsor plans, and workers at small firms that do not sponsor plans are very similar to workers at large firms that do not sponsor plans.
- **It is of vital importance to maintain a Social Security system that provides adequate benefits to workers with low lifetime earnings.** Even the best-designed voluntary private-sector retirement system is unlikely to provide adequate resources to fund retirement consumption for workers who find they have inadequate resources to fund consumption in years when they are participating in the labor market.

TABLE OF CONTENTS

Introduction	2
Employee Demand for Pension Benefits	4
<i>Reasons Households Save</i>	5
<i>Is Household Focus on Retirement Savings Rational?</i>	6
<i>Reexamining Household Financial Asset Accumulation</i>	12
<i>Summary: Employee Demand for Pension Benefits</i>	14
Why Do Firms Sponsor Retirement Plans?	14
What Are the Characteristics of Private-Sector Workers?	15
Sponsorship of and Participation in Retirement Plans	18
<i>Are Certain Types of Workers More Likely to Work for a Firm That Sponsors a Retirement Plan?</i>	19
<i>Are Certain Types of Workers More Likely to Participate in a Retirement Plan?</i>	21
<i>Age, Lifetime Earnings, and Pension Coverage</i>	22
Understanding Differences in Sponsorship Rates by Firm Size	24
<i>Alternative Explanations for Why Sponsorship Rates Differ by Firm Size</i>	24
<i>Examining Differences in Employee Characteristics</i>	25
<i>Employees with Retirement Plans at Firms of All Sizes Have Similar Characteristics</i>	27
<i>Summary: Why Sponsorship Rates Differ by Firm Size</i>	29
Reexamining Which Workers Are at Firms That Do Not Sponsor Plans	29
<i>Demand for Pensions and Employer Sponsorship</i>	30
<i>Access to an Employer Plan through a Spouse</i>	31
<i>Summary: Which Workers Do Not Have Pension Coverage</i>	31
Conclusion	31

INTRODUCTION

There is considerable interest in developing public policies that can increase savings and help individuals prepare for retirement. One line of effort aims to increase participation in employer-sponsored pension plans, such as 401(k) plans, at firms that currently offer plans. The Pension Protection Act of 2006 (PPA) is one measure designed to spur participation by including provisions to encourage firms with 401(k) plans to adopt automatic enrollment. Another line of effort aims to encourage firms that do not currently offer a retirement plan to adopt a plan. For example, the Small Business Job Protection Act of 1996 (SBJPA) introduced SIMPLE plans to encourage employers with fewer than 100 employees to adopt a 401(k)-type plan. New proposals to increase savings for retirement are proposed frequently. One current proposal to increase retirement savings among those without an employer plan is the “Automatic IRA” proposal.¹

As the retirement industry and policymakers try to increase coverage, it is important to understand the motives at play and why more employers do not currently sponsor plans. To that end, it is necessary to understand which workers currently have access to and participate in employer-sponsored retirement plans, and why certain employees desire and certain employers offer compensation in the form of retirement benefits. This paper examines the various factors that lead some workers to favor compensation that includes both cash compensation and retirement benefits over cash alone, and it discusses the factors that lead some employers to offer retirement benefits.

Workers search for jobs that offer them the most valuable compensation packages. Individuals who wish to save for retirement value pension benefits because the benefits offer favorable tax treatment and other advantages such as the pooling of investments. Some individuals, however, prefer cash compensation alone to retirement benefits because of the restrictions and tax penalties placed on accessing retirement benefits prior to retirement.

Because employers compete with one another to hire workers, they must attempt to create attractive compensation packages. In doing so, employers have the option to combine pension benefits with cash compensation. However, the amount of compensation they can offer is itself limited by the competition they face when selling their goods and services. Therefore, employers are more likely to offer retirement benefits if their workforces value such benefits. This would predict that the higher the proportion of a firm's workforce that has the ability to save and is primarily focused on saving for retirement, the higher the probability that a firm would offer retirement benefits.

Survey data show that younger and lower-income households are less likely to cite retirement as the primary reason they save. These households are more likely to be primarily focused on saving to fund education, to purchase a house, to fund other purchases, or to have cash on hand in case of unexpected need. The tendency of younger workers to focus less on retirement savings is consistent with economic models of life-cycle consumption, which predict that most workers will delay saving for retirement until later in their working careers. The structure of government transfer programs is consistent with lower-income households focusing less on retirement savings. Most government programs aimed at lower-income households attempt to supplement income and increase these households' current consumption; it is unlikely that these same households wish to reduce current consumption to save for retirement. Moreover, Social Security benefits replace a higher percentage of preretirement earnings for individuals with low lifetime earnings, making lower earners less likely to desire to save for retirement at any given age.

Consistent with this analysis, the empirical evidence presented in this paper shows that younger and lower-earning workers are less likely to work for a firm that sponsors a retirement plan. In addition, evidence suggests that the preference of a firm's workforce for retirement benefits plays a significant role in an employer's decision to offer a retirement plan. For example, policymakers have often noted that small firms have much lower rates of pension coverage than do large firms. The analysis in this

paper suggests that these differences are driven primarily by differences in the composition of the firms' workforces related to the desire of workers to save for retirement in the current year. Overall, a minority of workers currently without access to an employer-sponsored retirement plan are likely to prefer retirement benefits to cash compensation. Only 27 percent of workers without access to a retirement plan at work are likely to have the ability to save and to be primarily focused on saving for retirement. One-fifth of these have access through a spouse; thus only 22 percent of workers without access to a plan at work are likely to desire to save for retirement in the current year and be without access to an employer plan through a spouse.

The private-sector pension system is often criticized because it is said that too small a fraction of the private-sector workforce has access to employer-provided retirement plans, and not all workers with access to a plan choose to participate in the plan. However, employer-sponsored retirement plans should not be analyzed in a vacuum; the U.S. retirement system includes both tax incentives to encourage employers to offer pension benefits and a social safety net of programs to help the elderly. Social Security is structured so that the portion of earnings replaced is much higher for workers with lower lifetime earnings; those with higher lifetime earnings rely more heavily on employer-sponsored retirement plans and private savings. This is not unintentional—policymakers realized that lower-wage workers were unlikely to accumulate much wealth and that Social Security alone would not be sufficient for higher-wage workers. It is evident that policymakers intended Social Security and employer-provided pensions to work together; since the enactment of Social Security, Congress has allowed private-sector employers to “integrate” their pension plans with Social Security. Applicable law permits a higher benefit formula or a higher employer contribution rate on earnings not covered by Social Security than on earnings covered by Social Security.² The success of private-sector plans should be judged in light of these factors. Of those most likely to desire to save for retirement in the current year, nearly three-quarters have access to a plan through their own employer or their spouse's employer, and 92 percent of those with access participate.

The analysis in this paper supports the proposition that the private-sector pension system can and should be improved. However, the analysis also suggests caution when proposing reforms to a system that provides retirement benefits to most of the workers who are likely to value retirement benefits more highly than cash compensation. The incentives faced by both employees and employers should be taken into account when crafting pension reforms, and realistic goals should be set for increasing employer-based retirement plan coverage. Some workers do not have the resources to fund current consumption, much less the ability to set aside resources to fund consumption in retirement. Other workers may have the ability to save and will likely desire to save for retirement at some point in their careers, but have more important savings priorities in the current year. It is unlikely that either group of these workers will seek to work for a firm that offers a pension plan, and if they do work for a firm that offers a plan, it is unlikely that they would choose to contribute a portion of their salary to a retirement plan. More significantly, some households face a lifetime of low earnings. Even the best designed voluntary private-sector retirement system is unlikely to provide adequate resources to fund retirement consumption for workers who find they have inadequate resources to fund consumption in years when they are participating in the labor market. Because of this, it is of vital importance to maintain a Social Security system that provides adequate benefits to workers with low lifetime earnings.

EMPLOYEE DEMAND FOR PENSION BENEFITS

Employers can compensate employees for their labor with either cash compensation (compensation with no restrictions on use) or with fringe benefits (compensation earmarked for specific purposes, such as employer-provided health insurance or retirement benefits). Many fringe benefits are treated favorably under federal and state income tax rules. For example, compensation in the form of health insurance premiums typically is not included in the employee's taxable income. Taxes on contributions to retirement accounts and pension funds normally are deferred. No tax is due at the time of the contribution or as investment returns accrue; rather, taxes are paid when distributions are taken in retirement.³

Because of the favorable tax treatment, many employees prefer a compensation package that contains both cash compensation and retirement benefits. That is, employees who wish to save a portion of their compensation for retirement prefer a dollar contributed to an employer-sponsored retirement account more than a dollar of cash compensation that is first taxed and then saved in a taxable account. In addition to the tax benefits, employees may value the benefits of pooling investments. For example, employees with contributory defined contribution (DC) pension plans may value the convenience of payroll deduction, the economies of scale that reduce the cost of investing, and the professional management of investment offered by the plan. Employees with a traditional defined benefit (DB) pension plan may value the employer's promise of future retirement income based on years of work and salary earned. However, not all workers wish to save for retirement, and because of the restrictions placed on accessing retirement benefits prior to retirement and tax penalties applied to early withdrawals, some workers would prefer compensation composed entirely of cash to an otherwise equivalent compensation package that includes both cash and pension benefits. This section explores which workers are most likely to desire to save for retirement in the current year, and thus, which workers would be most likely to demand compensation in the form of retirement benefits.

In this paper, the term "demand" is used in accordance with its meaning in economic theory. An individual worker is said to "demand" pension benefits if he or she would prefer a compensation package that combines cash and pension benefits to a package with an equal amount of total compensation (cash plus contributions to a pension plan on the worker's behalf) but consisting of cash alone. If an individual "demands" a pension, that in no way implies that the worker communicates this preference in any direct manner to his or her employer or that the individual will be offered a pension by his employer.

Reasons Households Save

Every three years the Federal Reserve Board conducts the Survey of Consumer Finances (SCF), which asks households detailed questions about their balance sheets and incomes.⁴ The survey also asks households their most important reason for saving. Of households headed by an individual aged 21 to 64, 36 percent reported that the most important reason for savings was for retirement. Another 27 percent of households reported they were primarily saving for “liquidity,” or precautionary savings to guard against unexpected circumstances. The next most common reasons for savings were education, home purchase, and future purchases. Three percent of households reported that they did not or could not save.

The reasons for saving cited by households varied by age, education, and income.⁵

- Only 15 percent of households with a household head aged 21 to 29 saved primarily for retirement; 43 percent of these households cited education, home purchase, or other future purchases as the primary reason they saved. In contrast, 55 percent of households with a household head aged 55 to 64 saved primarily for retirement; only 10 percent of these households cited education, home purchase, or other future purchases as the primary reason they saved.

- Of households headed by an individual with less than a high school education, 20 percent saved primarily for retirement, compared with 46 percent of households headed by an individual with a bachelor’s degree or graduate degree.
- Among households with income in the bottom 25 percent of all households, 17 percent said that retirement is the most important reason they were saving, compared with 54 percent of households with income in the top 25 percent of all households. Conversely, 52 percent of households in the bottom income quartile cited liquidity, home purchase, or other future purchases as their primary reason for saving, compared with 25 percent of households in the top income quartile. Among the lowest quartile of households ranked by income, 7 percent of households reported that they did not or could not save, compared with 1 percent of households in the highest income quartile.

Taking into account both age and income, a strong pattern emerges (Figure 1). Regardless of income level, only 15 percent of households with a household head aged 21 to 29 said their most important reason for saving was retirement. Most were saving for liquidity, education, a home, or future purchases. Although this percentage increased with age, the increase was tempered for lower-income households. Only one out of five households with a household head aged 30 to 44 and with income below the median (\$42,000 in 2003) was primarily saving for retirement. Only one out of four households with a household head aged 45 to 64 and with income below the 25th percentile (\$22,000 in 2003) cited retirement as the most important reason that they saved. Indeed, 11 percent of this group reported that they did not or could not save. The percentage that cited retirement as the primary savings goal increased to 34 percent for households with a household head aged 30 to 44 and income above median household income. For older workers, the focus on retirement savings moves farther down the income scale, with 55 percent of households aged 45 to 64 with

income above the 25th percentile of household income saving primarily for retirement.

Is Household Focus on Retirement Savings Rational?

These data suggest younger and lower-income workers are less likely to be focused on saving for retirement, and thus are likely to place a lower value than other workers on compensation packages that include retirement benefits. This section investigates whether there is a rational explanation for why these workers put less emphasis on saving for retirement. Consistent with survey results, economic models of lifetime consumption suggest that younger workers are less likely to save primarily for retirement than older workers. In addition, there are at least two reasons why workers with lower incomes are less likely to save primarily for retirement: (1) they are unlikely to be able or willing to restrict consumption below their already low level of income and (2) they would rationally choose not to save because Social Security benefits will replace a higher percentage of their earnings in retirement.

FIGURE 1

MOST IMPORTANT REASON FOR FAMILY'S SAVINGS

Percentage of households with household head aged 21 to 64 by household income and age of household head, 2004

Reason	All	Aged 21 to 29	Aged 30 to 44		Aged 45 to 64	
			Below median household income ¹	Above median household income ¹	Below 25th percentile of household income ²	Above 25th percentile of household income ²
Retirement	36	15	21	34	25	55
Liquidity	27	28	29	29	36	22
Education, home, or purchases	27	43	38	29	21	16
Education	14	16	19	22	5	9
Buy own home	6	16	10	3	4	2
Purchases	7	10	9	3	12	5
Other	7	12	7	7	8	4
Investments	2	2	3	2	2	1
For the family	4	9	5	4	4	2
No particular reason	1	0	0	1	1	1
Can't/Don't save	3	2	4	2	11	2
Total	100	100	100	100	100	100

¹Among households with household heads aged 30 to 44, the median 2003 household income was \$42,000.

²Among households with household heads aged 45 to 64, the 25th percentile of 2003 household income was \$22,000.

Note: Components may not add to the total because of rounding.

Source: Investment Company Institute tabulations of the 2004 Survey of Consumer Finances

Life-Cycle Models of Consumption and Savings

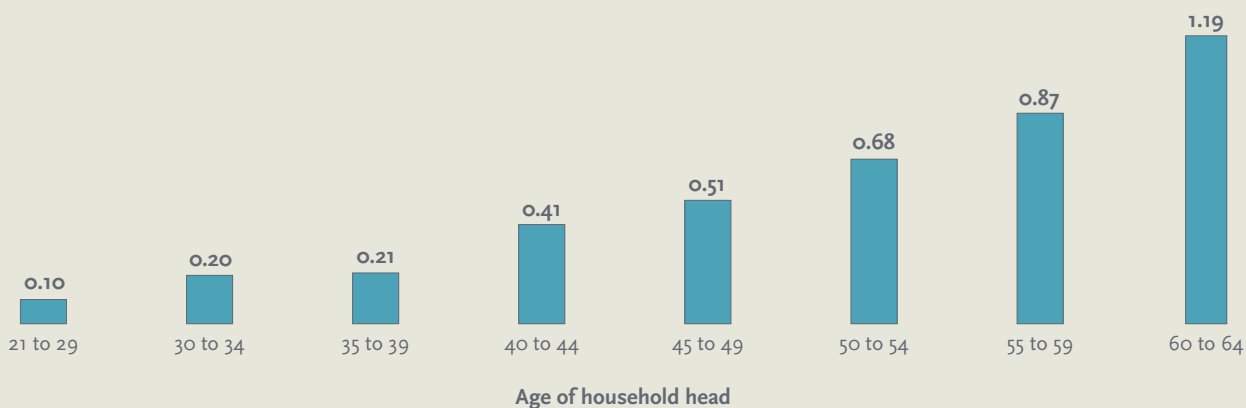
Researchers often use household survey data to analyze how savings evolve over a lifetime. These data are typically survey responses from a broad cross-section of individuals designed to represent the entire population and are collected at one point in time.⁶ As a proxy for savings, these studies typically measure household accumulation of financial assets. Financial assets include bank accounts, certificates of deposit, marketable securities, mutual funds, and retirement accounts; and exclude vehicles, real estate, personal property, and equity in noncorporate businesses. Analysis shows that younger households tend to hold few financial assets and households tend to accumulate assets fairly late in life, with the sharpest increases occurring among households in the decade prior to retirement (Figure 2). In addition, studies find that, on average, income is devoted to consumption until later in life, when households begin to save.⁷

Economists typically do not consider it puzzling that households start asset accumulation and retirement savings later in life, as this behavior can be shown to be rational under many circumstances. So-called “life-cycle” models of consumption explain why saving for retirement typically begins later in life. The intuition of these often complex models is that individuals generally wish to smooth consumption over their lifetimes.⁸ Earnings typically increase early in a worker’s career, level off toward the later part of a worker’s career, and then decline or end as a worker enters retirement.⁹ The models predict that workers with this pattern of earnings over their lifetimes would rationally delay saving for retirement until later in their careers, when earnings are higher.¹⁰ Although dependent on assumptions, many life-cycle models predict that workers aged 45 and older would be more likely than younger workers to want to save for retirement.¹¹

FIGURE 2

HOUSEHOLDS ACCUMULATE FINANCIAL ASSETS LATE IN THEIR WORKING CAREERS

Median ratio of household financial assets* to income by age of household head, 2004



*Household financial assets include bank accounts, certificates of deposit, marketable securities, mutual funds, and retirement accounts and exclude vehicles, real estate, personal property, and equity in noncorporate businesses.

Source: Investment Company Institute tabulations of the 2004 Survey of Consumer Finances

These models do not necessarily predict that younger workers do not save; rather, they predict that saving by younger workers is likely to be for reasons other than retirement. For example, younger workers may wish to

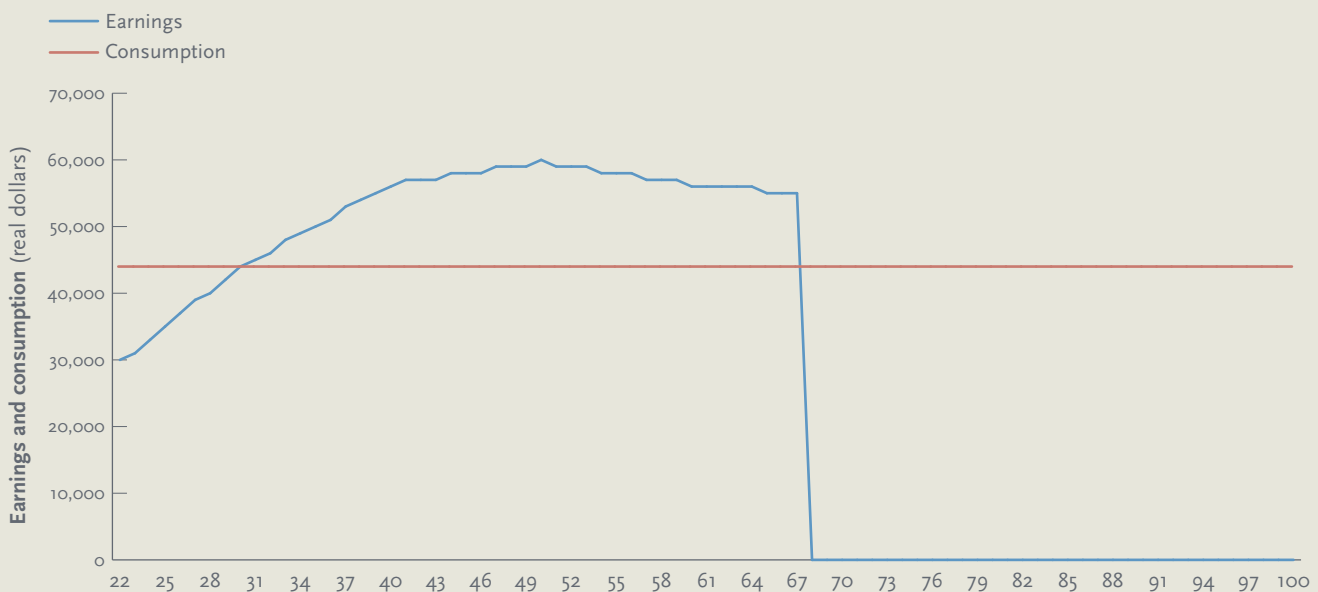
accumulate financial assets for precautionary reasons, that is, to have resources on hand in case earnings fall unexpectedly or necessary expenditures rise unexpectedly.

STYLIZED EXAMPLE OF LIFE-CYCLE CONSUMER

The figure below provides an example of how a typical individual might consume and save in a manner consistent with the predictions of a life-cycle model. Suppose that an individual has earnings similar to what we observe for the median worker with a bachelor's degree (see Figure 5): At the start of his career at age 22, this individual earns just under \$30,000 in real dollars. Inflation-adjusted earnings rise rapidly to age 40, hitting over \$56,000 on an annual basis. After age 40, real earnings rise more slowly, reaching a peak of just under \$60,000 at age 50. Between age 50 and retirement at age 67, inflation-adjusted earnings fall slowly to about \$55,000. With retirement, work stops and earnings fall to zero. Over his entire working career, earnings average about \$52,000 in constant real dollars.

For ease of computation, assume that there are no income or payroll taxes; that the individual at all times knows his lifetime earnings with certainty; that the individual can purchase an actuarially fair annuity; and that the real (i.e., inflation-adjusted) interest rate is 3 percent on both debt incurred by the individual and savings that are invested by the individual.

Given these facts, how would a life-cycle consumer choose consumption (and thus savings, which is simply income less consumption)? If the individual would like to smooth consumption over his lifetime, he would choose to consume approximately \$44,000 in every period (in real dollars). This is accomplished by borrowing money early in his career, then paying off the debt, and eventually accumulating financial assets. In this example, debt peaks at just over \$75,000 at age 31. The individual then pays off the debt and, starting at age 42, begins to accumulate financial assets. At retirement, he uses the approximately \$512,000 of accumulated financial assets to purchase an actuarially fair annuity that provides annual payments of approximately \$44,000 a year until death.



Source: Investment Company Institute; hypothetical example

Importantly, life-cycle models do not predict that individuals delay saving for retirement because individuals are shortsighted or because human frailty makes individuals prone to making bad decisions. In these models, delaying saving for retirement is not a mistake. The models are premised on rational behavior and predict that individuals delay saving for retirement because that is the best decision these individuals can make.

In addition to consumption smoothing, there can be other rational explanations for why households typically delay accumulating financial assets. Younger, newly formed households may have other demands on resources that may be thought of as some combination of consumption and savings, but that nevertheless do not result in the accumulation of financial assets. Examples are purchasing owner-occupied housing, purchasing consumer durables such as appliances and furniture, funding education, and raising children.¹²

The life-cycle model of consumption can provide a rational explanation of why, in response to survey questions, younger households are less likely to say they are saving primarily for retirement. However, on its own, the model provides no insight into why lower-income households are less likely to say they are saving primarily for retirement. Possible explanations of why lower-income households are less likely to desire to save for retirement are discussed below.

Income Supplement Programs

For lower-income households, particularly those with dependent children, public policy concerns typically relate not so much to whether they are saving enough out of current income, but whether their current income is too low to fund an adequate level of consumption. The goal of many government programs aimed at lower-income

households, accordingly, is to supplement income and increase current consumption, not to increase saving by restricting current consumption. Government income supplement programs include Temporary Assistance for Needy Families (TANF), the Food Stamp Program, the Earned Income Tax Credit (EITC), and Section 8 housing assistance.

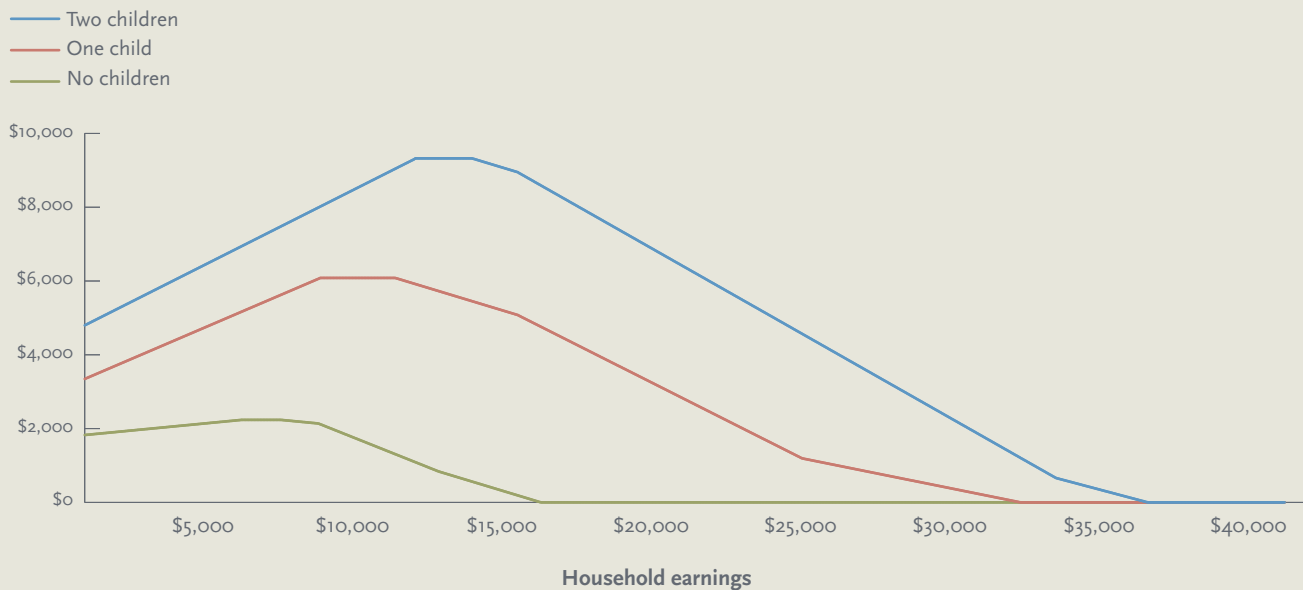
To illustrate which households are considered in need of income supplements, Figure 3 plots combined benefits of the EITC and food stamps by earnings for a household headed by a single individual.¹³ If earnings are the only source of household income, in 2006, a household with no children would have received benefits if earnings were below \$16,000; a household with one child if earnings were below \$32,000; and a household with two children if earnings were below \$36,350. For a married couple, the thresholds were \$21,900, \$34,000, and \$38,525, respectively (not shown).

These programs are set up to assist households with low lifetime resources, and the government has decided that current income below these levels qualifies a household for income supplement payments. These payments are aimed at allowing the household to increase current consumption above levels that could be funded with their current earnings. As a first approximation, it can be assumed that households below these earnings thresholds, controlling for household composition, would be unlikely to have the resources to save or, if they do have the resources to save, that they have more pressing savings needs than retirement. Furthermore, policies aimed at increasing retirement savings among these households (by decreasing their current consumption) would be at cross purposes with income supplement programs (which aim to increase their current consumption).

FIGURE 3

SUM OF EITC AND FOOD STAMP BENEFITS

Annual benefit of single individuals by number of children, 2006



*Note: Calculations assume total household income is equal to earnings and all other eligibility requirements (such as the asset test for food stamps) are met. Eligibility for food stamps is determined monthly; eligibility for the EITC is determined annually. For purposes of the food stamp benefit, monthly earnings are assumed to be 1/12 of annual earnings, and it is assumed that the individual deducts from gross income \$175 per child for the monthly dependent care expense when calculating net income.

Sources: Investment Company Institute, Internal Revenue Service, and Department of Agriculture

Social Security Replacement Rates

As explained above, economic theory assumes that the goal of retirement savings is to manage lifetime resources to ensure relatively equal consumption in all periods of life. If Social Security benefits can fund consumption in retirement that is equal to the amount the individual consumed prior to retirement, it is unlikely that the individual would want to save (and lower current consumption) for the purpose of supplementing Social Security benefits in retirement. The higher the percentage of preretirement consumption that can be funded in retirement with Social Security benefits, the less an individual would desire to accumulate other assets for retirement, and the less likely it is that the individual would demand compensation that included pension benefits.

To calculate Social Security replacement rates, five individuals are modeled with income ranging from \$20,000 to \$100,000 at age 40 in 2006. Normal Social Security retirement age for these individuals would be age 67 in 2033. It is assumed that these individuals' lifetime earnings follow time paths similar to workers with

a high school diploma (\$20,000 and \$40,000 of earnings), a college degree (\$60,000 of earnings), and a graduate degree (\$80,000 and \$100,000 of earnings) as derived in Brady (forthcoming).¹⁴ The replacement rate measure compares average preretirement potential consumption expenditures to average postretirement potential consumption expenditures. As only after-tax earnings are available for consumption, a worker's Social Security benefits, net of applicable income taxes, is compared with a worker's earnings, net of applicable payroll and income taxes, averaged from age 30 to age 66.¹⁵ Because no payroll tax is paid on Social Security benefits and Social Security benefits are preferentially taxed under the income tax, total taxes are typically lower in retirement. In the examples used here, assuming the individual's only income is from Social Security benefits, no individual pays income tax in retirement. All dollar amounts are expressed in real (that is, inflation-adjusted) 2006 dollars.

For the workers considered, Social Security benefit replacement rates range from 79 percent for workers earning \$20,000 at age 40 to 49 percent for workers

earning \$100,000 at age 40 (Figure 4). These results suggest rationales for why younger and lower-income workers are less likely to demand retirement benefits from an employer. Lower-income workers are less likely to desire to save for the purpose of supplementing Social Security benefits in retirement.¹⁶ To the extent younger households desire to supplement Social Security income, they may choose to delay saving until later in life when there are fewer competing demands on their resources. This is particularly true if younger households are raising children or purchasing owner-occupied housing.¹⁷

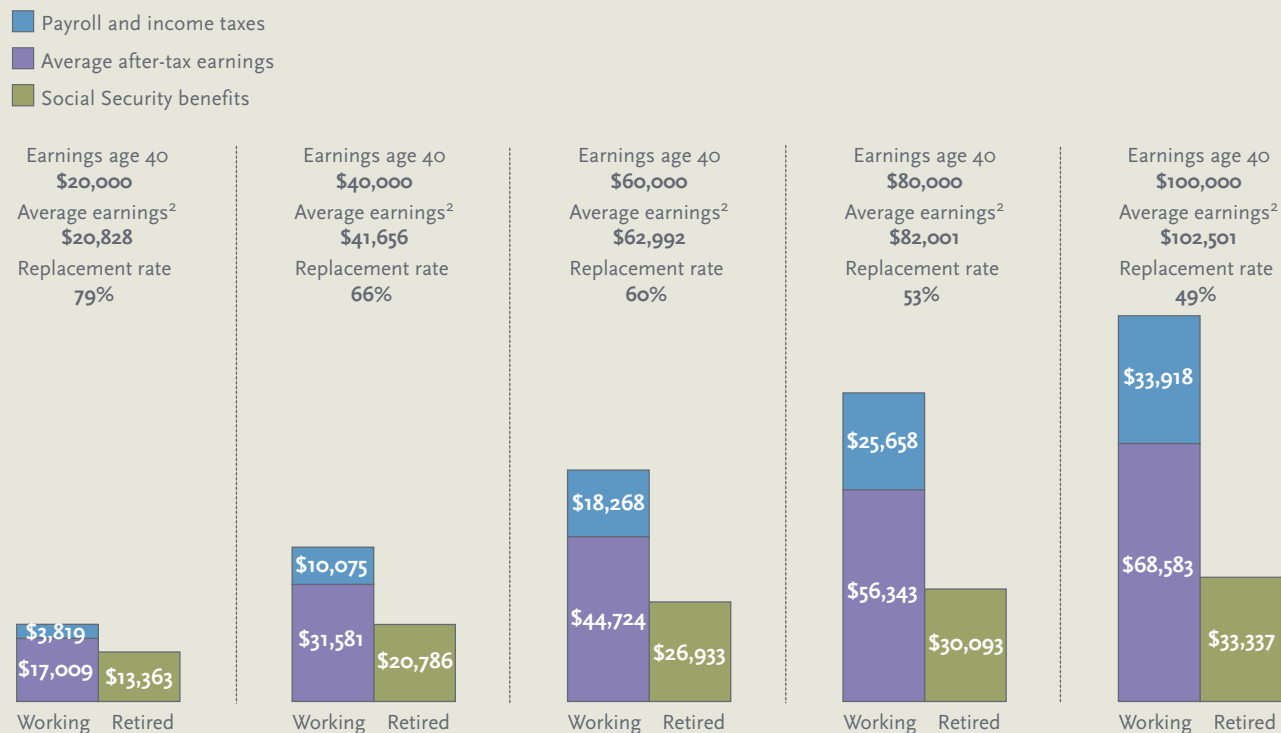
Not only is it understandable that lower-income households delay saving for retirement, but in many cases it may make them worse off if they begin saving earlier. For example, in the examples used on the previous page, an individual with \$20,000 in real gross earnings at age 40 has average real gross earnings over age 30 of \$20,828 (Figure 4). Payroll and income taxes paid by this worker equal \$3,819, so average net earnings over age 30

are \$17,009. At age 27, net earnings for this individual, in constant real dollars, are \$13,172 (not shown). In retirement, the individual is expected to have inflation-adjusted Social Security benefits of \$13,363 and to pay no payroll or income taxes. It is not clear that this individual should reduce consumption at age 27 to, say, \$12,000 in order to fund consumption of, say, \$17,000 per year in retirement. A worker earning \$40,000 at age 40 has real earnings, net of taxes, in that year of \$30,677 (not shown) and would expect to get real Social Security benefits, net of taxes, of \$20,786 per year in retirement. This individual perhaps should reduce consumption at age 40 in order to increase consumption in retirement. This would not necessarily be the case, however, if the individual had expenses of \$10,000 or more relating to, say, raising children and purchasing a house. If the individual did not expect to have these expenses in retirement, he likely should delay retirement saving until income increased or expenses were reduced.

FIGURE 4

SOCIAL SECURITY REPLACEMENT RATES

Replacement rates¹ by earnings, amounts expressed in 2006 dollars



¹The replacement rate calculation assumes a single individual without children who does not itemize deductions. The replacement rate is the ratio of real Social Security benefits net of taxes to average real earnings (from age 30 to 66) net of taxes. The individual is age 40 in 2006 and retires at age 67 in 2033.

²Average inflation-adjusted gross earnings from age 30 to 66; earnings paths taken from Brady (forthcoming).

Source: Investment Company Institute calculations based on current Social Security benefit formula and current income tax rates

The replacement rate measures are meant to be illustrative. They indicate, on average, which households have the greatest desire to supplement Social Security and thus which households are most likely to begin saving for retirement at earlier ages. These simple replacement measures admittedly do not take into account all possible family situations or contingencies. Workers may desire to replace less, more, or 100 percent of preretirement after-tax earnings.¹⁸

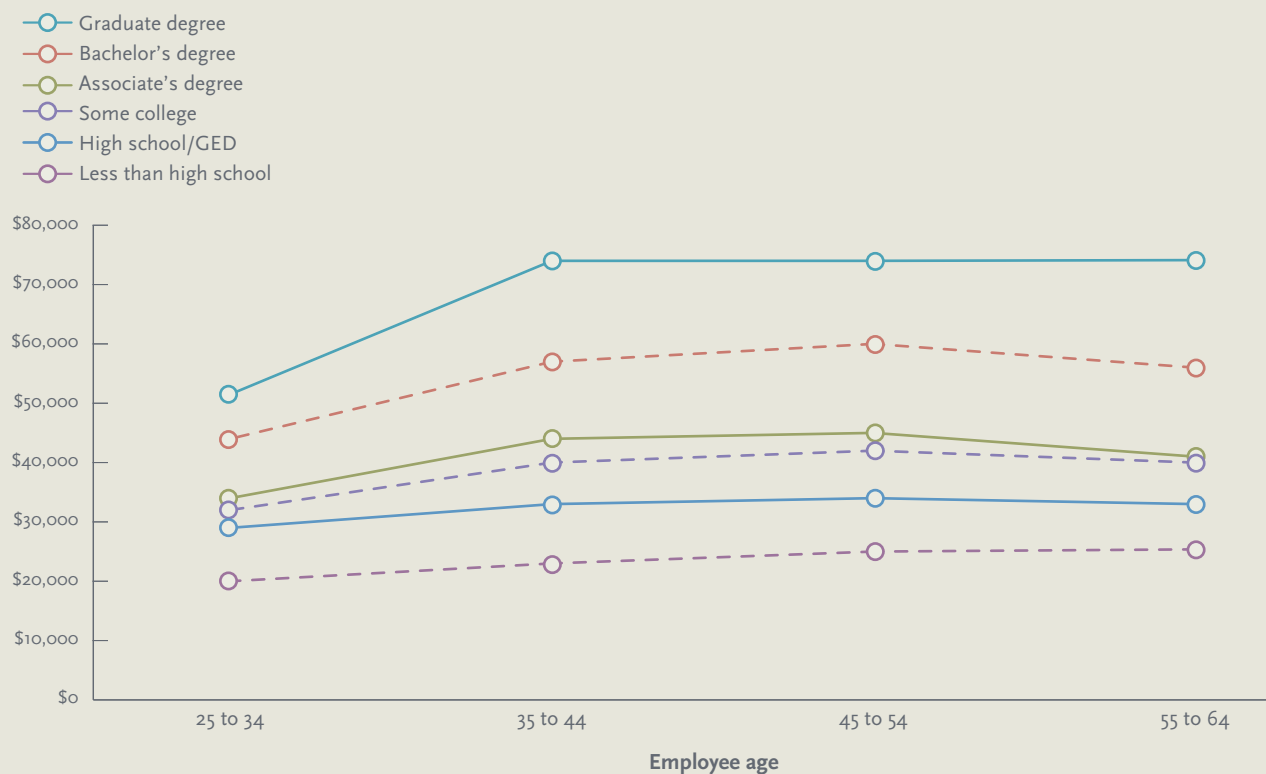
Reexamining Household Financial Asset Accumulation

As explained earlier, most surveys collect data from a broad cross-section of the population—that is, information is collected from many individuals or households at a single point in time. Because surveys typically do not track individuals or households over time, they do not measure lifetime earnings. Earnings in any given year may not be indicative of an individual's lifetime earnings because many factors may cause an individual's earnings to fluctuate from year to year. However, education is a good proxy for lifetime earnings; as shown in Figure 5, for every age group, median earnings are higher for individuals with more formal education.

FIGURE 5

WORKERS WITH MORE FORMAL EDUCATION HAVE HIGHER LIFETIME EARNINGS

Median earnings of full-time, full-year, private-sector wage and salary workers by education and age, 2006



Source: Investment Company Institute tabulations of March 2007 Current Population Survey

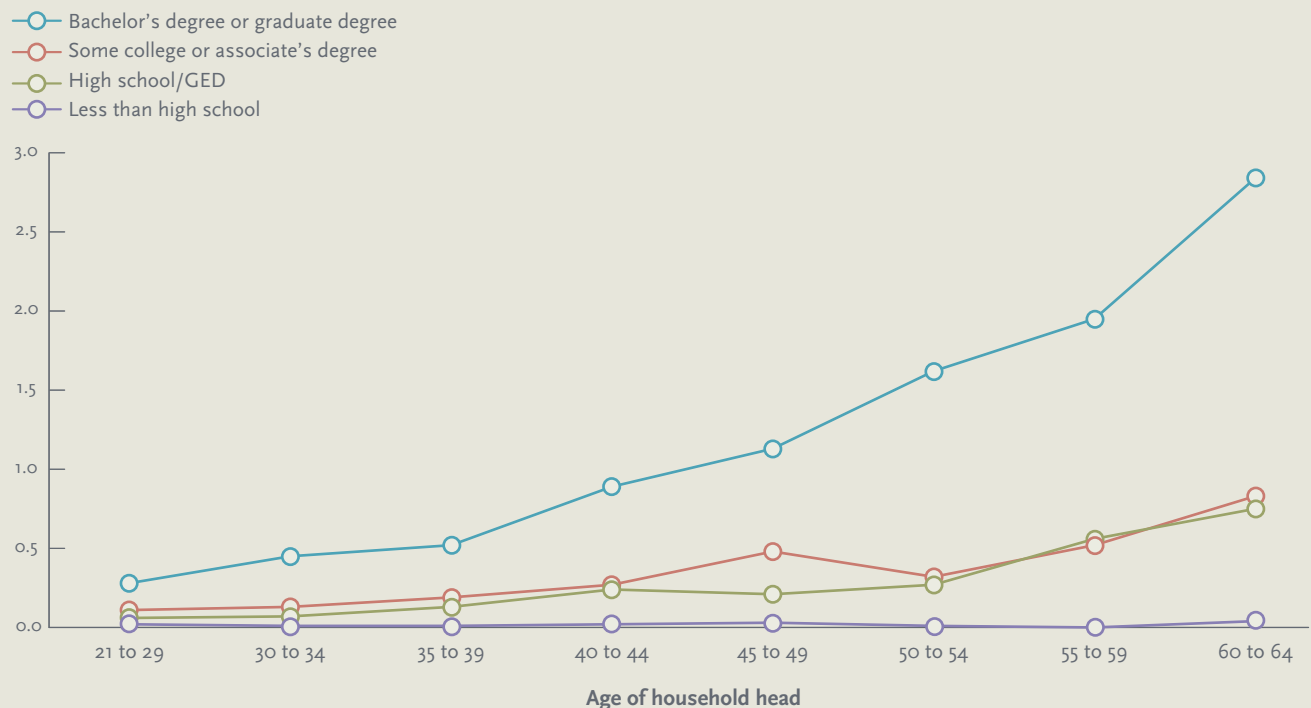
Figure 2 illustrates that the median household accumulates a moderate amount of financial assets and what accumulation there is typically occurs later in life. However, if households are disaggregated and grouped based on the educational attainment of the household head, the pattern of asset accumulation differs markedly (Figure 6). Households headed by individuals with less than a high school education typically do not accumulate much in the way of financial assets at any point in their career. Households headed by individuals with a high school degree, some college without a degree, or an associate's degree accumulate a moderate amount of resources (median ratio is from 75 percent to 83 percent

of income at age 60 to 64), with the accumulation occurring late in life. Households headed by individuals with a bachelor's degree or a graduate degree accumulate considerably more financial assets (median ratio of nearly three times income at age 60 to 64) and begin accumulating earlier, with the increase in assets noticeable after age 40.¹⁹ This is exactly the pattern of asset accumulation expected: asset accumulation typically begins toward the middle or end of a working career, and workers with higher lifetime earnings (proxied by educational attainment)—and thus lower Social Security benefit replacement rates—accumulate more financial assets as a percentage of earnings.

FIGURE 6

HOUSEHOLDS WITH HIGHER LIFETIME EARNINGS HAVE MORE FINANCIAL ASSETS RELATIVE TO INCOME

Median ratio of household financial assets to income by age and education of household head, 2004



Source: Investment Company Institute tabulations of the 2004 Survey of Consumer Finances

Summary: Employee Demand for Pension Benefits

Because pension benefits are taxed more favorably than cash compensation and because pension plans offer employees other benefits, such as benefits related to pooling investments, employees who wish to save for retirement will demand compensation packages that include pension and retirement benefits. Household survey results show that younger and lower-income households are less likely to say they are saving primarily for retirement and are instead focused on other savings priorities. Consistent with the survey results, economic models of consumption over the life cycle predict that individuals will begin saving for retirement later in their working careers. The structure of government low-income supplement programs and Social Security benefits can explain why lower-income households are less likely to save primarily for retirement. Household financial asset accumulation is also consistent with these savings preferences, as asset accumulation tends to occur later in a working career and, relative to income, varies considerably by lifetime earnings. All of this evidence suggests that older and higher-earning workers will be more likely to desire to save for retirement in the current year and thus more likely to demand compensation in the form of retirement benefits.

WHY DO FIRMS SPONSOR RETIREMENT PLANS?

Retirement plans are optional employee benefits. In determining how to structure employee compensation, employers are confronted with two competing economic pressures: (1) the need to keep their own products and services competitively priced and (2) the need to attract and retain qualified workers with a competitive compensation package. When deciding to offer a retirement plan, employers consider the effect the plan has on their total cost of compensation. As explained earlier, employees who wish to save for retirement would value a dollar contributed to an employer-sponsored retirement account more than a dollar of compensation that is first taxed and then saved in a taxable account. In addition, those wishing to save for retirement may value pension benefits for other reasons, such as the advantages of pooling investments. The tax treatment and the other advantages of pension benefits provide some room for arbitrage: by offering retirement benefits, an employer

may be able to offer employees a compensation package that is both (1) lower cost to the employer and (2) of higher value to employees. As long as a compensation package with retirement benefits costs the employer no more than a comparable compensation package with only cash compensation, the employer will likely offer retirement benefits.

More formally, suppose that each employer has the ability to offer two compensation packages: one that consists entirely of cash compensation and one that consists of a combination of cash compensation and retirement benefits. Further, suppose that all the firm's employees have no preference between the two compensation packages: they would accept either the package that was all cash or the package that included retirement benefits, and they do not prefer one compensation package to the other. Given that employees are indifferent regarding the two packages and given that both packages would attract employees of equal quality, the employer will choose whichever compensation package is lower cost.

In this simple example, the compensation package that includes retirement benefits will be lower cost to the employer than the all-cash compensation package only if employees value retirement benefits more highly than they value cash compensation. If employees desire to save for retirement, they would be willing to exchange cash compensation for retirement benefits, and for at least some level of retirement benefits, would willingly exchange more than a dollar of cash compensation for a dollar of retirement benefits.

However, the employer incurs costs associated with setting up and administering a retirement plan. In order for total compensation costs to be lower, any reduction in direct compensation (the sum of cash compensation plus retirement benefits accruing to the employee) would have to be greater than the additional administrative costs associated with providing retirement benefits. Even if many employees desire to save for retirement, there may be some cases in which the employer would not offer a retirement plan if the costs of establishing and administering the plan are too high.

In contrast, if employees do not desire to save for retirement, the all-cash compensation package would cost the employer less. Even if, for some level of retirement benefits, an employee values a dollar of cash compensation and a dollar of retirement benefits equally, any administrative costs associated with the retirement plan would make the compensation package with retirement benefits more expensive. And if employees do not desire to save for retirement, they will likely value a dollar of cash compensation more highly than a dollar of retirement benefits, as there are restrictions placed on accessing these funds prior to retirement, and tax penalties are typically associated with early withdrawals.

This analysis suggests that employers with a higher proportion of workers who both have the ability to save and are primarily focused on saving for retirement will be more likely to offer pension benefits. Note that it is not necessary that each worker separately negotiate the extent to which his or her compensation package includes pension benefits. In fact, pension regulations typically require that if a firm offers a pension plan, it must offer the benefit to all its workers.²⁰ The market forces that drive firms to offer pensions are likely to be more subtle. For example, a firm that did not offer pension benefits may find

that it is losing a high percentage of its most experienced and talented employees to other firms. Alternatively, the firm may find it hard to hire employees with experience or with advanced degrees. When examining why it is having difficulty attracting and retaining valuable employees, the firm may find that most firms that hire similar workers offer pension benefits. In response to this analysis, the firm may then choose to adopt a retirement plan of its own.

WHAT ARE THE CHARACTERISTICS OF PRIVATE-SECTOR WORKERS?

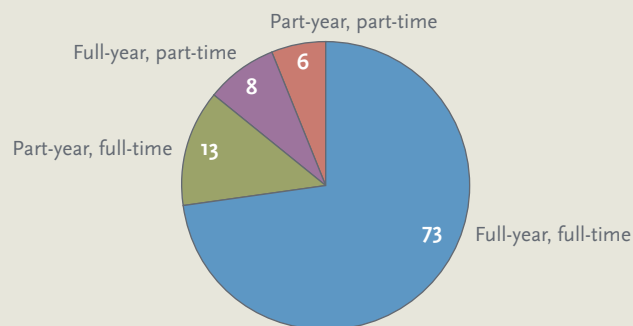
To explore the differences between workers who currently have access to retirement benefits and those who do not, this study focuses on data from the Bureau of Labor Statistics' Current Population Survey (CPS) March Supplement (2007), a survey that is often used to tabulate pension coverage statistics.²¹

In 2006, there were 104.7 million private-sector wage and salary workers aged 21 to 64.²² Of these workers, 73 percent were employed full-time for the entire year, averaging slightly over 43 hours of work per week (Figure 7). Others worked either full-time for part of the year (13 percent), part-time for a full year (8 percent), or part-time for part of the year (6 percent).

FIGURE 7

COMPOSITION OF PRIVATE-SECTOR WORKFORCE BY EMPLOYMENT STATUS

Percentage of private-sector wage and salary workers aged 21 to 64, 2006



Total: 104.7 million workers

Source: Investment Company Institute tabulations of March 2007 Current Population Survey

THE CURRENT POPULATION SURVEY MARCH SUPPLEMENT

Current Population Survey (CPS) is a monthly household survey conducted by the Bureau of Labor Statistics (BLS). The survey is one of the most widely used sources for data on unemployment, employment, hourly and weekly earnings, and worker demographic information such as industry, occupation, race, and ethnicity. Every March, the BLS supplements the typical monthly survey questions with a special set of detailed questions on the components of income. The so-called "March Supplement" is the only regular source of detailed income data from the CPS. In addition, the March Supplement asks questions regarding workplace benefits, including questions about employer-provided pension and retirement benefits.

The survey uses a sample of households that is designed to represent the civilian noninstitutionalized population of the United States. The March 2007 survey chose 98,015 residential unit addresses to include in the sample. Of these residential units, 75,477 completed interviews. Most of the noninterview households were classified as such because the residential unit addresses chosen for the sample were not occupied. Only about 8 percent of the noninterview households were classified as such because the interviewers were unable to contact the residents after repeated attempts; the residents were temporarily absent; the residents refused to complete the survey; or the residents were unavailable for other reasons. The 75,477 households with completed interviews resulted in records for 206,639 individuals.

Because different groups of households are sampled at different rates and because not all households contacted complete an interview, weights are assigned to each person, household, and family to produce population estimates. The weight assigned to each person, household, and family is designed to represent the inverse of the probability of selection for the survey.

The detailed questions on income and earnings included in the March Supplement pertain to the prior year. Similarly, the questions on pension coverage pertain to the previous year. In the March 2007 survey, the question that determined pension sponsorship was:

"Other than Social Security, did (ANY) employer or union that (name/you) worked for in 2006 have a pension or other type of retirement plan for any of its employees?"

To determine participation, the follow-up question was:

"(Was/Were) (name/you) included in that plan?"

The accuracy of the data obtained from such questions is influenced by the survey respondent's memory and understanding of what he or she is being asked. Because of this, statistics from the CPS and other household surveys may differ from data collected from other sources, such as employer surveys or administrative data.

The CPS data are available at www.census.gov/cps/.

Among private-sector workers aged 21 to 64, the average age in 2006 was 40. Most of the workforce was younger than 45, with 25 percent aged 21 to 29 and 38 percent aged 30 to 44 (Figure 8). Nearly 65 percent of workers had annual earnings of less than \$40,000, with 29 percent earning less than \$20,000. The highest degree obtained by half of private-sector workers was a high school diploma or GED. Only 11 percent of the

workforce had less than a high school education, the remainder of the workforce had an associate's degree (10 percent), a bachelor's degree (20 percent), or a graduate degree (8 percent). About one-third of the workforce were technicians, professionals, administrators, managers, or executives, and about one-fifth were service workers, helpers, handlers, cleaners, laborers, or farm, fishing, and forestry workers.²³

FIGURE 8

COMPOSITION OF PRIVATE-SECTOR WORKFORCE

Percentage of private-sector wage and salary workers aged 21 to 64, 2006



Source: Investment Company Institute tabulations of March 2007 Current Population Survey

Measuring firm size by the number of employees, the workforce tends to be concentrated in large firms (Figure 9). In 2006, 36 percent of workers worked for firms that had 1,000 or more employees. Nevertheless, many workers were employed by small firms: more than four out of 10 worked for firms that had fewer than 100 employees, with 26 percent at firms with fewer than 25 employees.

Many of the worker characteristics discussed above are correlated. For example, age, education, and employment status are all related to earnings. Only 11 percent of part-time or part-year workers earned \$40,000 or more a year in 2006, compared with 47 percent of those employed full-time for a full year, and 52 percent of full-time, full-year workers over age 29. Among full-time, full-year workers over age 29, median earnings were \$23,000 for workers with less than a high school education and \$80,000 for workers with a graduate degree.

SPONSORSHIP OF AND PARTICIPATION IN RETIREMENT PLANS

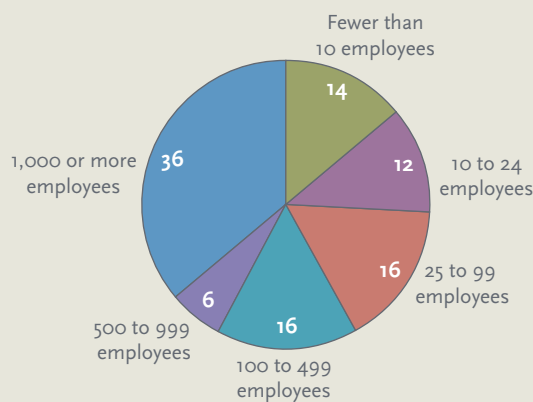
The CPS ascertains whether anyone at the respondent's employer has access to a pension plan and whether or not the employee participates in such a plan. Two aspects of the CPS data are of note. First, the survey does not ask questions pertaining to the type of pension or retirement plan offered.²⁴ Thus, it is not possible to ascertain if the employer offers a DB plan, a DC plan, or both. Second, not all individuals who work for an employer that sponsors a plan are necessarily eligible to participate in the plan.

In 2006, 52 percent of private-sector wage and salary workers reported that their employer sponsored a retirement plan. Workers who were fully engaged in the workforce—working full-time for a full year—and in their prime earnings and savings years were more likely to work for an employer that sponsored a retirement plan, compared with younger, lower-earning, or less engaged workers. Of workers at employers that sponsored plans, 79 percent participated in retirement plans. Workers at small employers that sponsored retirement plans were as likely to participate as workers at large employers sponsoring plans.

FIGURE 9

MANY WORKERS ARE EMPLOYED BY FIRMS WITH 1,000 OR MORE EMPLOYEES

Percentage of private-sector wage and salary workers aged 21 to 64 by firm size (number of employees), 2006



Total: 104.7 million workers

Source: Investment Company Institute tabulations of March 2007 Current Population Survey

Are Certain Types of Workers More Likely to Work for a Firm That Sponsors a Retirement Plan?

If worker characteristics, such as earnings and education, are used to divide all private-sector wage and salary workers into groups, it becomes clear that there are significant differences between these groups in the proportion who work at firms that sponsor a retirement plan. Access to employer-sponsored retirement plans is not randomly distributed throughout the workforce.²⁵ For example, employees were more likely to report that they worked for an employer that sponsored a plan if they were more fully engaged in the workforce: 58 percent of employees who worked full-time for a full year reported that their employer sponsored a plan in 2006, compared with 28 percent of employees who worked part-time for part of the year (Figure 10).

As explained earlier, workers who desire to save for retirement in the current year are more likely to value compensation packages that include retirement benefits and more likely to demand such compensation from their employers. Survey data illustrate that higher-income households and households headed by older individuals are more likely to report that their primary reason to save is for retirement. Given the typical pattern of earnings over a worker's career, economic models of life-cycle consumption predict that workers rationally will choose to delay saving for retirement until later in their working careers. Because Social Security benefits replace a higher

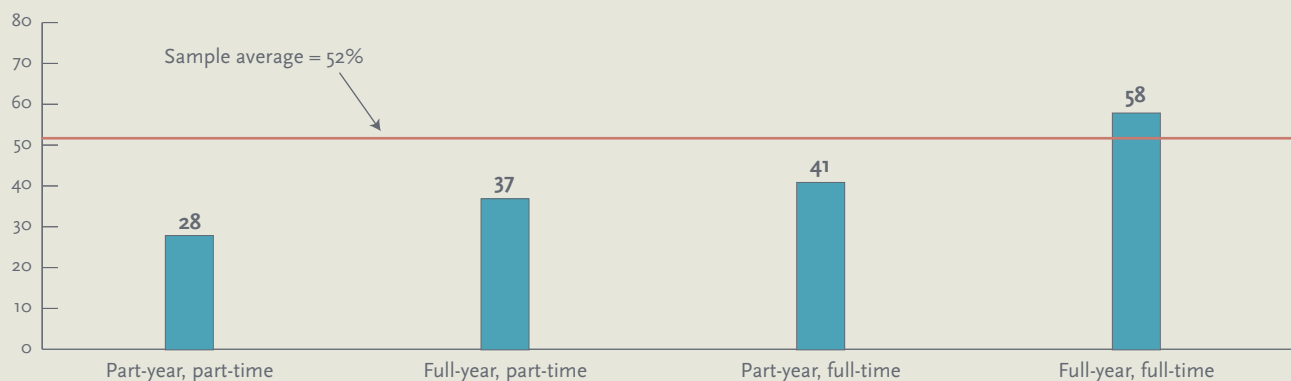
proportion of earnings for individuals with lower lifetime earnings, individuals with lower earnings will be less likely to begin saving for retirement than other workers of the same age. Lifetime earnings are likely to be related not only to an individual's earnings in any given year, but also to the individual's level of formal education. As shown in Figure 5, education is a proxy for lifetime income.

Consistent with the characteristics that influence the desire to save for retirement, the probability an individual works for an employer that sponsors a plan is correlated with the worker's age, lifetime earnings (proxied by education) and current earnings (Figure 11). Just over four in 10 workers aged 21 to 29 worked for an employer that sponsors a plan in 2006, compared with nearly six in 10 workers aged 45 to 64. About half of employees whose highest level of education is a high school diploma reported working for a firm that sponsors a retirement plan, compared with about one-quarter of workers who did not complete high school. Of workers with a graduate degree, 71 percent worked for an employer that sponsors a plan. Seventy-seven percent of workers earning over \$100,000 a year worked for an employer with a retirement plan, compared with 24 percent of workers earning less than \$10,000 a year. The fact that worker characteristics are related to the employer's decision to sponsor a plan suggests that worker demand for retirement benefits plays a key role in determining which employers sponsor retirement plans.

FIGURE 10

FULL-YEAR, FULL-TIME WORKERS ARE MORE LIKELY TO HAVE PENSION COVERAGE

Probability that employer sponsors a plan by worker employment status, private-sector wage and salary workers aged 21 to 64, 2006 (percentage)



Source: Investment Company Institute tabulations of March 2007 Current Population Survey

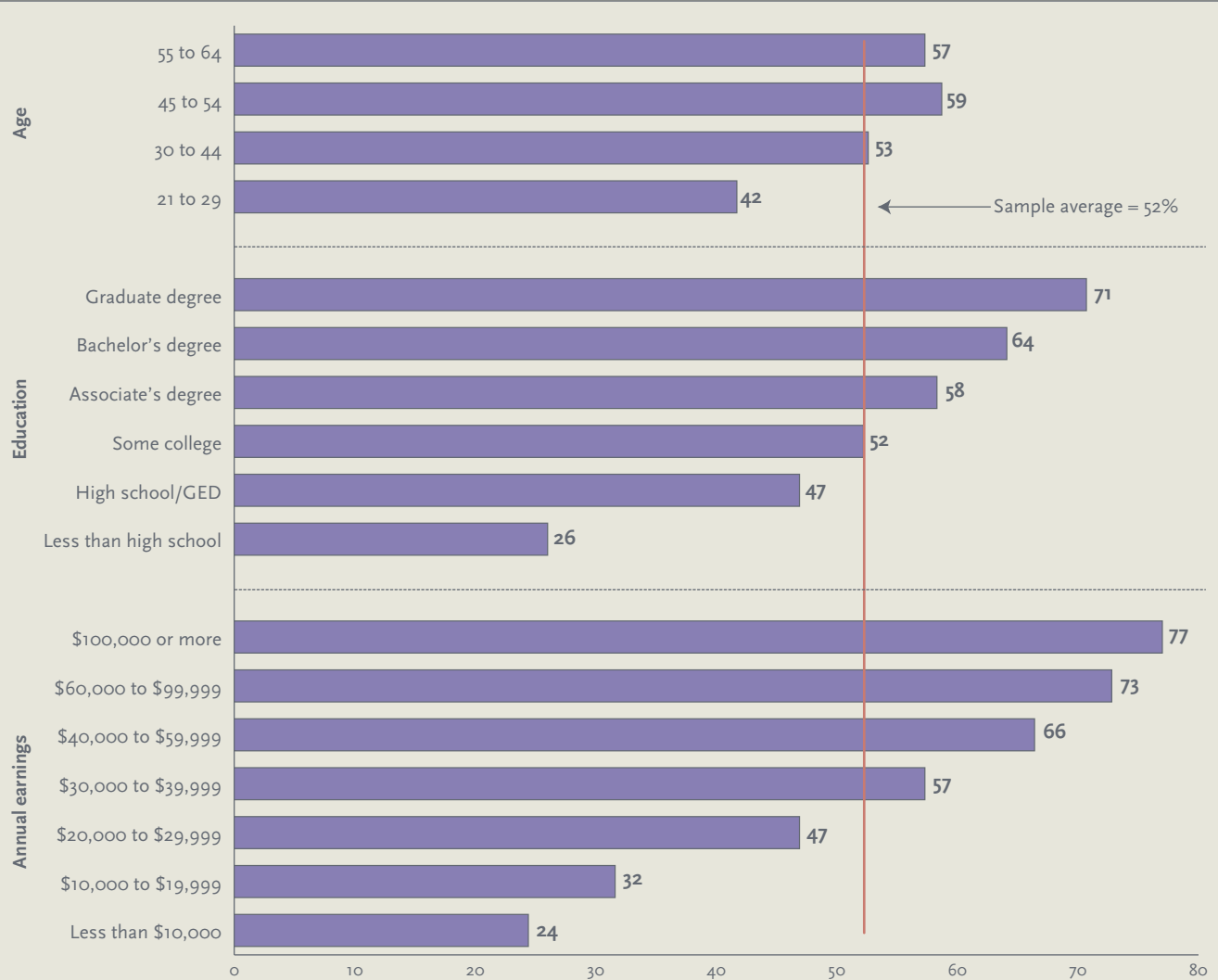
The starkest differences in sponsorship across groups of workers are by size of employer, as measured by the number of employees (Figure 12). Only 18 percent of workers at firms with fewer than 10 employees reported

that their employer sponsored a plan in 2006, compared with 71 percent at firms with 1,000 or more workers. Why sponsorship rates vary to such a degree by firm size is investigated below.

FIGURE 11

PROBABILITY THAT EMPLOYER SPONSORS PLAN BY VARIOUS EMPLOYEE CHARACTERISTICS

Percentage of private-sector wage and salary workers aged 21 to 64, 2006



Note: Survey respondents are asked whether any worker at their employer is eligible to participate in a pension plan. The figure plots the percentage of employees answering affirmatively.

Source: Investment Company Institute tabulations of March 2007 Current Population Survey

Are Certain Types of Workers More Likely to Participate in a Retirement Plan?

As with employer sponsorship, there are significant differences between groups of workers in the proportion that participate in a retirement plan. For example, in 2006, participation rates ranged from 26 percent for workers aged 21 to 29, to 50 percent for workers aged 45 to 54.²⁶ However, for most characteristics used to classify workers, differences in participation rates across groups were primarily driven not by the employee's decision to participate in a plan if one was offered, but by his or her employer's decision to offer a plan.

For example, 18 percent of workers at firms with fewer than 10 employees reported their employers offered retirement plans in 2006 (left panel, Figure 12), and 78 percent of the workers at the firms that offered a plan indicated they participated in the plan (middle panel, Figure 12). The result is that, overall, 14 percent of workers at employers with fewer than 10 employees participated in a retirement plan (right panel, Figure 12). As can be seen, the percentage of workers participating in a plan ranged from 14 percent for workers at firms with fewer than

10 employees to 57 percent for workers at firms with 1,000 or more employees. However, this pattern is primarily driven by differences in sponsorship rates. Of those working for a firm that sponsored a plan, participation rates varied little by firm size (ranging from 77 percent to 81 percent; middle panel, Figure 12).

In addition, employer sponsorship rates are the primary cause of participation rate differences across groups of workers classified by occupation, ethnicity, immigration status, education, and the industry of their employers.²⁷

There are, however, some classifications of workers where differences in the overall participation rate are primarily driven by differences in participation rates among workers at firms that sponsor a plan. For example, among workers whose employer sponsored a plan in 2006, participation rates ranged from 31 percent for part-year, part-time workers to 85 percent for full-year, full-time workers; from 32 percent for workers earning less than \$10,000 a year to 95 percent for workers earning \$100,000 or more a year; and from 63 percent for workers aged

FIGURE 12

SPONSORSHIP AND PARTICIPATION RATES BY FIRM SIZE

Percentage of private-sector wage and salary workers aged 21 to 64 by firm size (number of employees), 2006



Note: Survey respondents are asked whether any worker at their employer is eligible to participate in a pension plan. The first panel plots the percentage of employees answering affirmatively. Survey respondents who say their employer offers a plan are then asked if they participate in the plan. The second panel plots the percentage of individuals whose employer sponsors a plan and who answers the second question affirmatively. The third panel reports the percentage of all respondents who participate in a plan, including those who said that their employer does not sponsor a plan.

Source: Investment Company Institute tabulations of March 2007 Current Population Survey

21 to 29, to 86 percent for workers aged 45 to 54 years.²⁸ For these classifications of workers, the lower participation rates at firms offering a plan may be related to fewer of those workers being eligible to participate. Pension regulations allow firms to establish eligibility criteria that exclude workers from a plan based on age and years of service, with the definition of years of service based on hours worked during a 12-month period.²⁹ However, the lower participation rates among these groups of workers are likely also related to workers choosing not to participate in a retirement plan. In particular, the analysis presented on the previous page would predict that younger workers and workers with lower earnings would rationally be less likely to desire to save for retirement.

Age, Lifetime Earnings, and Pension Coverage

The analysis so far has grouped workers based on single characteristics. However, certain worker characteristics are often closely related. For example, Figure 5 shows that, controlling for education, earnings typically increase with age in the early part of a worker's career. Because of this, when grouping workers by earnings, workers with lower earnings will typically be younger as a group than workers

with higher earnings. Thus, differences between workers grouped by earnings may be related to both differences in lifetime earnings and differences in age.

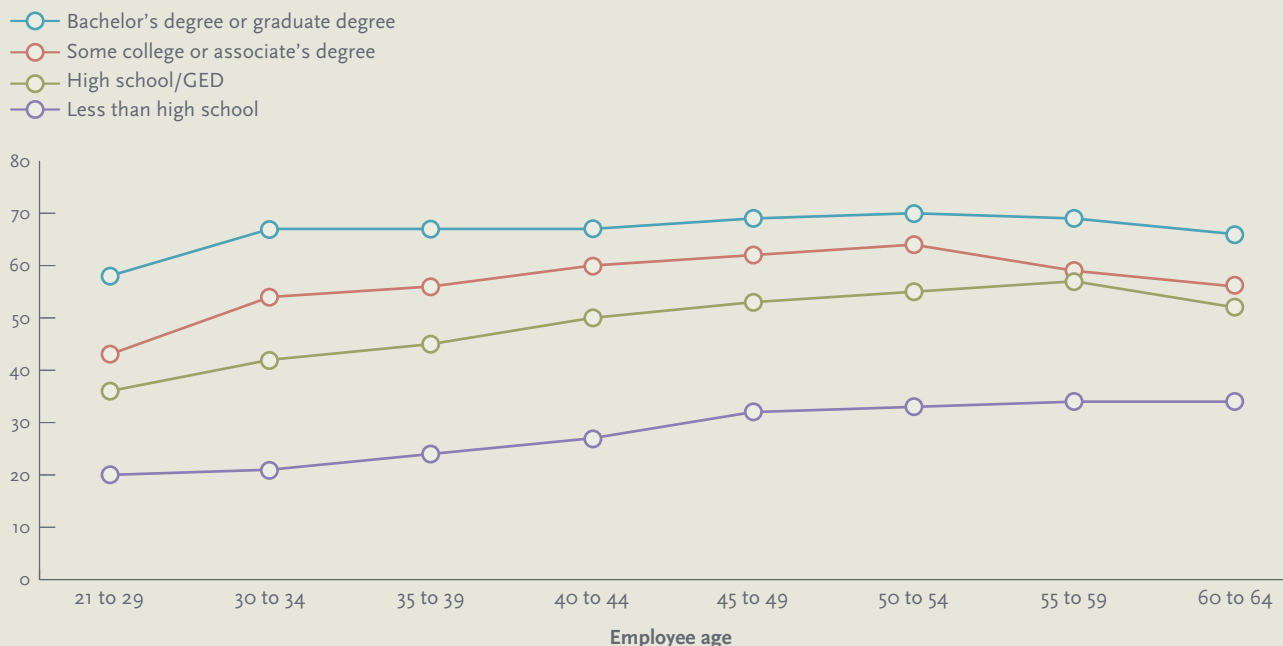
The analysis showed that the typical pattern of lifetime earnings would suggest that many workers would rationally delay retirement savings until later in their careers. Also, because Social Security benefits replace a higher proportion of earnings for workers with low lifetime earnings, lower-earning workers would be less likely to save at any age than higher-earning workers. To see if this analysis is consistent with the observed pattern of pension coverage, Figure 13 and Figure 14 look at pension coverage controlling for both age and, to proxy for lifetime earnings, education.

As shown in Figure 11, the probability that an individual works for an employer that sponsors a retirement plan increases with both age and education. It is also the case that employer sponsorship increases with age among workers with a given level of education (Figure 13). For example, among workers with less than a high school degree, 20 percent of those aged 21 to 29 worked for an employer that sponsored a plan in 2006; this proportion

FIGURE 13

PROBABILITY THAT EMPLOYER SPONSORS PLAN INCREASES WITH EMPLOYEE AGE AND EDUCATION

Percentage of private-sector wage and salary workers by employee age and education, 2006



Source: Investment Company Institute tabulations of March 2007 Current Population Survey

increases to about one-third after age 45. Among workers with some college or an associate's degree, the employer sponsorship rate ranges from 43 percent for those aged 21 to 29, to 64 percent for those aged 50 to 54. Similarly, employer sponsorship increases with education among workers of a given age. For example, among workers aged 21 to 29, 36 percent of those with a high school degree worked for an employer that sponsored a retirement plan, compared with 58 percent of those with a bachelor's or graduate degree. Among workers aged 50 to 54, the sponsorship rate was 57 percent for workers with a high school degree compared with 70 percent for workers with a bachelor's or graduate degree. For workers with a bachelor's or graduate degree, two-thirds or more worked for an employer that sponsored a plan for every age group aged 30 or older. In contrast, no more than one-third of workers with less than a high school education worked for an employer that sponsored a retirement plan, regardless of age.

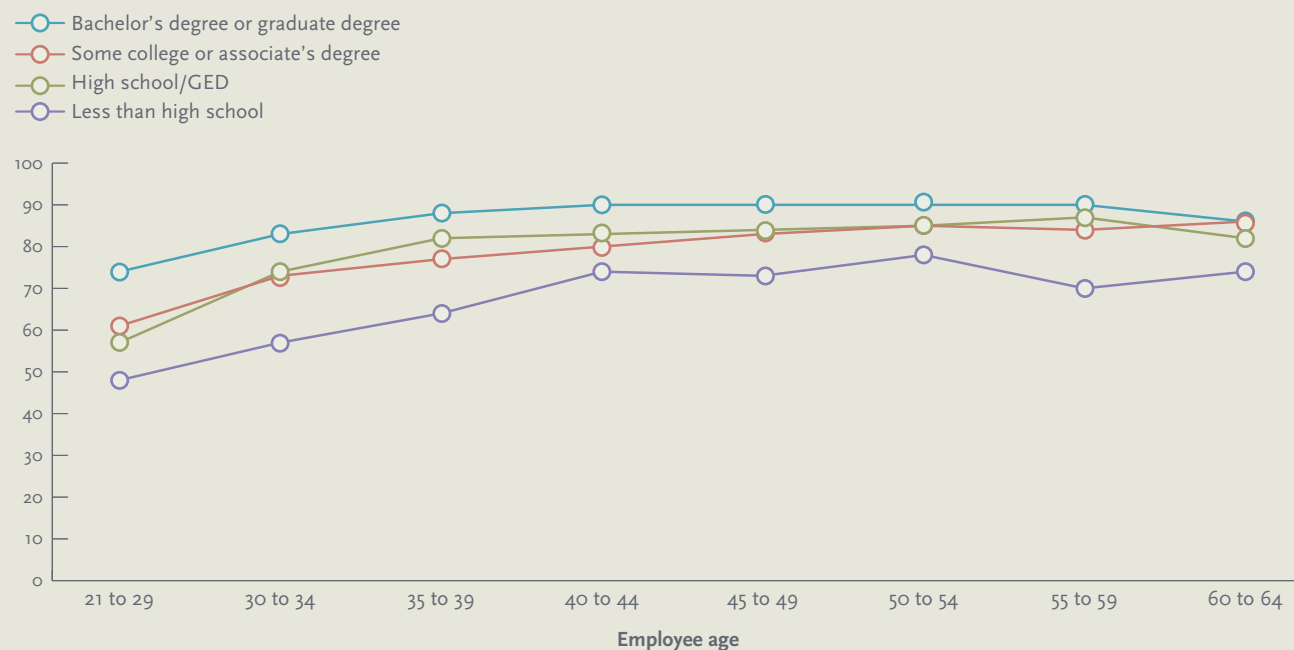
As explained earlier, among those who worked for an employer that sponsored a retirement plan in 2006,

participation rates increase with age and education. As with employer sponsorship, participation among those offered a plan also increased with age among workers with a given level of education (Figure 14). For example, among workers with less than a high school degree who worked for an employer that sponsored a plan, 48 percent of those aged 21 to 29 participated; this percentage increases to 78 percent of those aged 50 to 54. Among workers with a high school degree, participation among those with an employer plan increases from 61 percent of workers aged 21 to 29, to 86 percent of workers aged 60 to 64. Similarly, participation among those offered a plan tends to increase with education among workers of a given age. For example, among workers aged 30 to 34 who worked for an employer that sponsored a plan, 57 percent of those with less than a high school education participated compared with 83 percent with a bachelor's or graduate degree. Among workers aged 60 to 64 with employer-sponsored plans, participation rates range from 74 percent for workers with less than a high school degree to 86 percent for workers with a bachelor's or graduate degree.

FIGURE 14

PARTICIPATION RATE AT EMPLOYERS SPONSORING PLANS BY AGE AND EDUCATION

Percentage of private-sector wage and salary workers by employee age and education at employers sponsoring pension plans, 2006



Source: Investment Company Institute tabulations of March 2007 Current Population Survey

Note that differences by education in participation rates among those with an employer that sponsors a plan are more pronounced at younger ages. For example, among workers aged 21 to 29, participation rates range from 48 percent to 74 percent depending on education—a difference of 26 percentage points. Among workers aged 50 to 54, participation rates range from 78 percent to 90 percent depending on education—a difference of 12 percentage points. This pattern is consistent with what would be predicted by the analysis. Early in life there are larger differences among groups with different lifetime earnings, but later in life, even many of those with relatively low lifetime earnings will desire to save for retirement.

UNDERSTANDING DIFFERENCES IN SPONSORSHIP RATES BY FIRM SIZE

As discussed above, conditional on a firm sponsoring a plan, participation rates are high regardless of firm size. Given the importance of the employer's decision to sponsor a plan, this section examines differences in sponsorship rates by firm size in more detail. Specifically, two alternative explanations are developed to explain the observed differences in sponsorship rates across firms and empirical evidence is examined to determine which explanation is more consistent with the data.

Alternative Explanations for Why Sponsorship Rates Differ by Firm Size

As discussed, employers can compensate their workers with cash or non-cash benefits, such as retirement benefits. Firms structure their compensation packages to attract and retain qualified employees. However, the amount of compensation they can offer their employees is limited by the need to keep the products and services that they sell competitively priced. A firm sponsors a retirement plan if the associated reduction in the firm's direct compensation costs (cash compensation plus retirement benefits) is sufficient to cover the costs incurred by the firm to set up and administer the plan.

Some firms do not offer retirement benefits because doing so would increase their total compensation costs. Total compensation costs would increase if the costs incurred by the firm to set up and administer a retirement plan are greater than the associated reduction in the firm's direct compensation costs (cash compensation plus retirement benefits that accrue to employees). This would be the case if a firm's employees valued retirement benefits no more highly than cash compensation. It would also be the case if a firm's employees valued retirement benefits more highly than cash compensation, but the costs incurred by the firm to set up and administer a retirement plan would be greater than the associated reduction in the firm's direct compensation costs.

As shown in Figure 12, the proportion of workers whose employer sponsors a retirement plan varies considerably based on the size of the employer. There are two potential explanations for why small firms are less likely to sponsor retirement plans: (1) small firms incur higher per-employee administrative costs than large firms or (2) small-firm employees do not value retirement benefits as highly as do large-firm employees.

If the costs of setting up and administering a plan have a significant fixed component that does not vary with the number of employees covered, then small firms will have much higher per-employee costs associated with a plan than large firms. In this case, even if employees at a small firm value retirement benefits as much as employees at larger firms that sponsor plans, smaller firms will be less likely to sponsor a plan because of higher per-employee administrative expenses.

Current government policies aimed at increasing participation by small firms implicitly assume administrative costs are a key barrier to small businesses adopting plans. For example, SIMPLE 401(k)s and SIMPLE IRAs, introduced in 1996 and available only to employers with fewer than 100 employees, have much less burdensome regulations than standard 401(k) plans. In addition, a tax credit to offset small employer pension plan startup costs (up to \$500 a year for the first three years of a plan's existence) was instituted in 2001 and made permanent in 2006.

Alternatively, small firms may have lower sponsorship rates because small-firm employees are systematically different from large-firm employees. Specifically, they are less likely to desire to save for retirement in the current year and thus place less value on employer-provided retirement benefits. In fact, many may prefer cash wages to pension benefits. On net, if total compensation costs, including administrative costs, are higher with retirement benefits, employers will choose not to offer a plan.

In particular, for firms with few employees who desire to save for retirement, complying with nondiscrimination rules, rather than administrative costs, may be the largest barrier to adopting a plan. Nondiscrimination rules are designed to ensure pension benefits do not disproportionately accrue to highly compensated

employees. This is accomplished by linking the benefits received by high-paid workers to the benefits received by low-paid workers within a given firm. However, if few of a firm's low-paid workers choose to participate in the retirement plan, the consequence is that high-paid employees at that firm have their retirement benefits severely restricted. That is, offering a 401(k) plan would provide little benefit to any employee if most of the low-paid workers at a firm choose not to participate in a plan. Few low-paid employees would benefit because few would participate, and high-paid workers would not be allowed to receive many benefits.³⁰

Although both high fixed costs and differences in workforce composition could explain the observation that smaller firms are less likely to sponsor a retirement plan, the two alternative explanations generate other predictions that differ. If the fixed costs associated with starting up and administering retirement plans are the primary barrier to small firms adopting a plan, then there should exist noticeable differences in sponsorship rates by firm size even if firms are similar in other observable characteristics. In contrast, if the primary reason small firms are less likely to sponsor a plan is that small-firm employees place a lower value on benefits relative to cash compensation to larger firm employees, the workforce composition of small firms should be noticeably different from that of large firms, and these differences should be consistent with small-firm employees having less desire to save for retirement in the current year.

Examining Differences in Employee Characteristics

Overall, employees at small firms differ from employees at large firms. For ease of exposition, this section will refer to firms with fewer than 100 employees as "small firms" and firms with 100 employees or more as "large firms." Taken as a group, large-firm employees have different demographic characteristics than small-firm employees.

Although the age distribution of workers does not differ markedly by firm size, small-firm (less than 100 employees) employees, on average, have lower earnings and have less formal education (Figure 15).³¹ For example, 38 percent of small-firm employees have annual earnings

of less than \$20,000 and 27 percent have annual earnings over \$40,000, compared with 24 percent and 43 percent, respectively, of large-firm (100 or more employees) employees. Fifteen percent of small-firm employees have less than a high school education compared with 8 percent

FIGURE 15

WORKFORCE CHARACTERISTICS DIFFER SUBSTANTIALLY BY FIRM SIZE

Percentage of private-sector wage and salary workers aged 21 to 64 by firm size (number of employees), 2006



Note: Components may not add to the total because of rounding.
 Source: Investment Company Institute tabulations of March 2007 Current Population Survey

of large-firm employees. Conversely, 23 percent of small-firm employees have a bachelor's degree or graduate degree, compared with 31 percent of large-firm employees.

Employees at smaller firms are also less likely to be full-year, full-time workers (Figure 16). Sixty-five percent of employees at firms with fewer than 25 employees are full-year, full-time workers compared with 76 percent at other firms.

Employees with Retirement Plans at Firms of All Sizes Have Similar Characteristics

Despite substantial differences in worker characteristics by firm size in the aggregate, small firms that sponsor retirement plans have workers who are similar to workers at large firms that sponsor plans. Similarly, large firms that do not sponsor plans have workers who are similar to workers at small firms that do not sponsor plans.

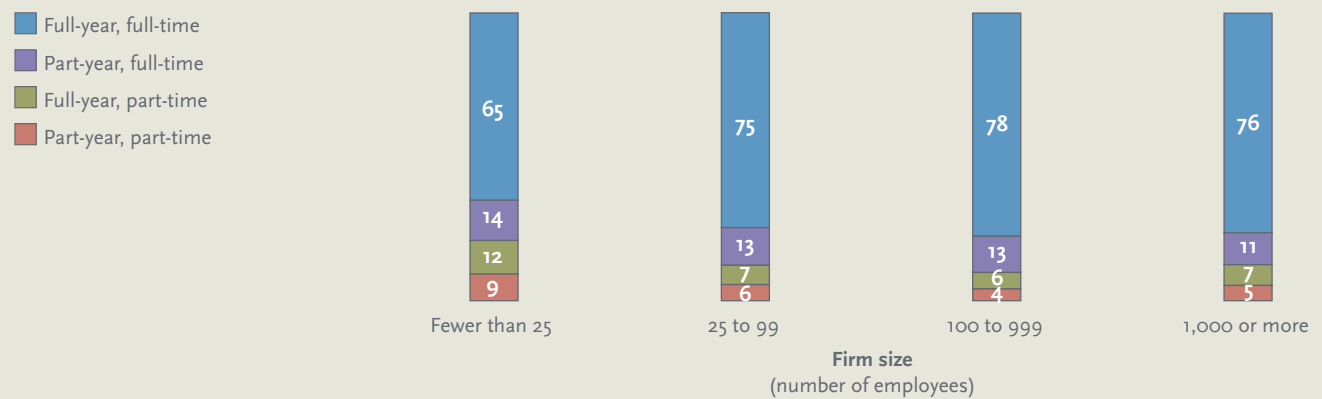
For example, 20 percent of employees at small firms that sponsor plans earn less than \$20,000 annually, compared with 17 percent of employees at large firms that sponsor plans (Figure 17). Regardless of firm size, employees at firms that do not sponsor plans earn substantially less: 46 percent of employees at small firms that do not sponsor plans and 38 percent of employees at large firms that do not sponsor plans earn less than \$20,000 annually.

A similar pattern holds for educational attainment. Among all employees of firms that sponsor plans, the workforce breaks down into roughly equally sized groups by broad education category: about one-third of employees at firms that sponsor plans have a high school education or less, about one-third have some college or an associate's degree, and about one-third have at least a bachelor's degree. These proportions vary little by firm size

FIGURE 16

EMPLOYMENT STATUS OF WORKERS BY FIRM SIZE

Percentage of private-sector wage and salary workers aged 21 to 64 by firm size (number of employees), 2006



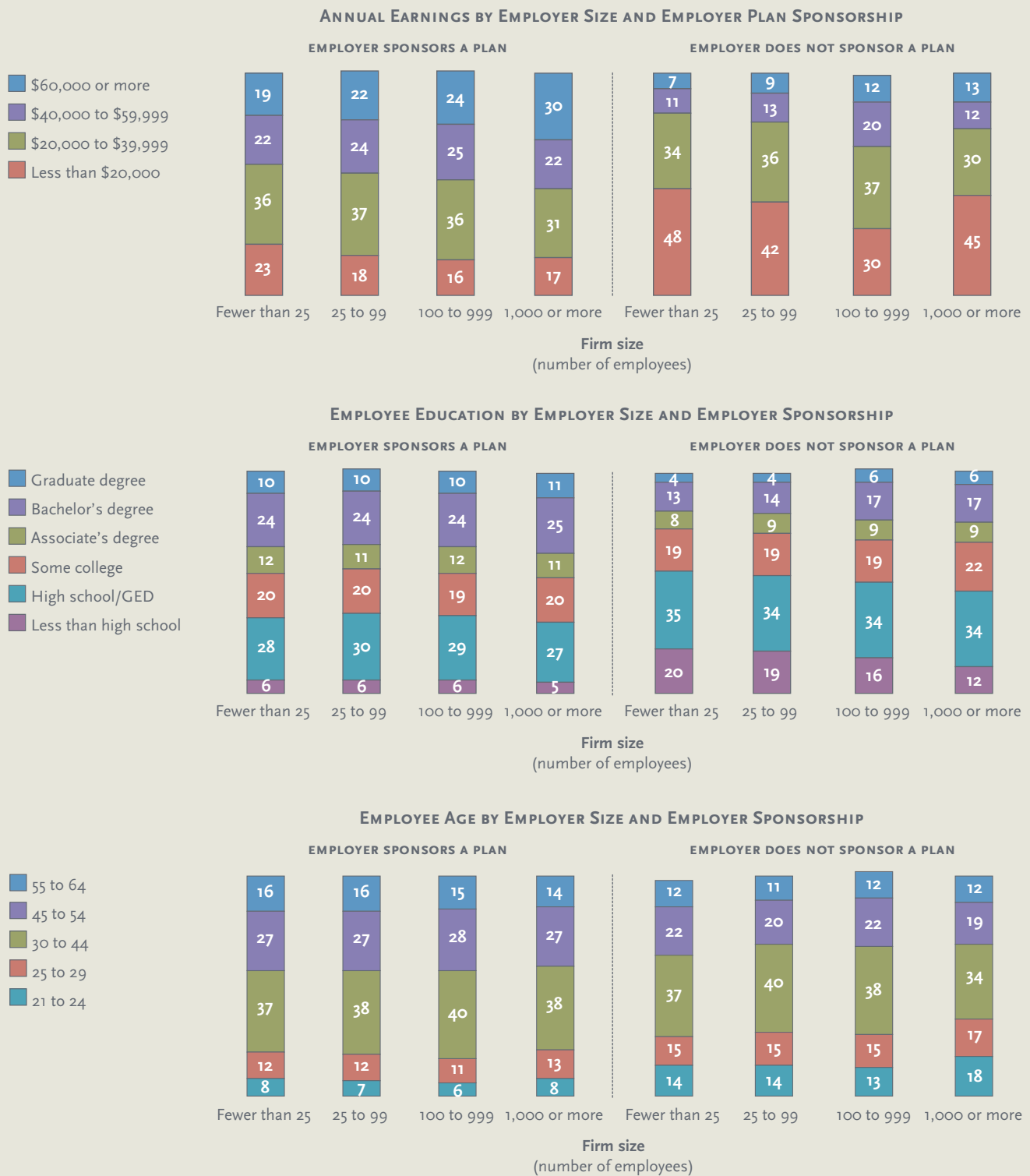
Note: Components may not add to the total because of rounding.

Source: Investment Company Institute tabulations of March 2007 Current Population Survey

FIGURE 17

MANY EMPLOYEE CHARACTERISTICS MORE ASSOCIATED WITH EMPLOYER SPONSORSHIP THAN FIRM SIZE

Percentage of private-sector wage and salary workers aged 21 to 64 by various characteristics, 2006



Note: Components may not add to the total because of rounding.
 Source: Investment Company Institute tabulations of March 2007 Current Population Survey

(Figure 17). In contrast, employees of firms that do not sponsor plans have less formal education. Of employees at small firms that do not sponsor plans, 55 percent have a high school education or less and 18 percent have a bachelor's degree or more. For employees at large firms that do not sponsor plans, the comparable percentages are 48 percent and 23 percent, respectively.

In addition, across all firm sizes, workers at firms that do not sponsor plans are younger. Thirty percent of workers at firms without a plan are 21 to 29 years of age, compared with 20 percent of workers at firms that offer pensions.

Firms that do not sponsor retirement plans have higher proportions of part-time or part-year employees (Figure 18). Of firms that sponsor plans, 75 percent of employees at firms with fewer than 25 employees are full-time, full-year workers, compared with 82 percent of workers at other firms. Regardless of firm size, firms that do not offer a plan have fewer full-time, full-year workers. Of firms that do not sponsor plans, the smallest and largest firms have the lowest percentage of full-time, full-year workers: 62 percent of workers at firms with fewer than 25 employees; 69 percent of workers at firms with 25 to 999 employees; and 63 percent of workers at firms with 1,000 or more employees.

Summary: Why Sponsorship Rates Differ by Firm Size

The characteristics of small-firm employees are significantly different from the characteristics of large-firm employees. Additionally, workers at small firms that sponsor plans are more similar to workers at large firms that sponsor plans than they are to workers at other small employers. Although both administrative costs and workforce composition are likely to influence an employer's decision to sponsor a retirement plan, these facts support the explanation that, as of 2006, the low sponsorship rate at small firms was due more to differences in demand for retirement benefits by the firms' employees than to the fixed costs associated with starting up and administering a plan.

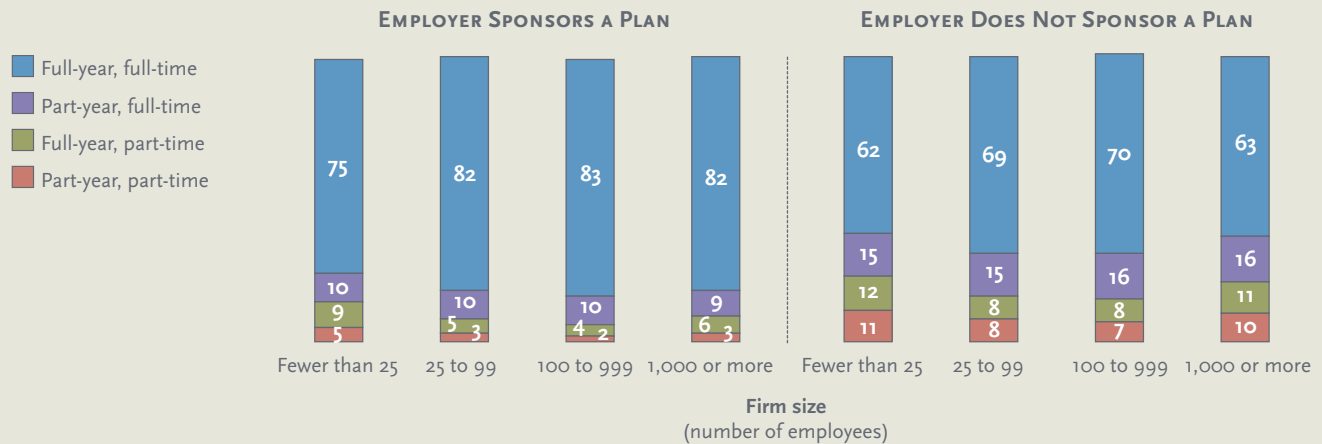
REEXAMINING WHICH WORKERS ARE AT FIRMS THAT DO NOT SPONSOR PLANS

As reported above, 52 percent of private-sector wage and salary workers aged 21 to 64 reported that they worked for an employer that sponsored a retirement plan in 2006. However, the characteristics of workers at firms that sponsor plans differ systematically from those of workers at firms that do not sponsor plans. This section reexamines firm sponsorship from the perspective of which workers are likely to have the ability to save and are focused on saving for retirement and are, thus, likely to demand retirement benefits from their employers.

FIGURE 18

OTHER DIFFERENCES IN EMPLOYEE CHARACTERISTICS ARE ATTENUATED BY EMPLOYER SPONSORSHIP STATUS

Percentage of private-sector wage and salary workers aged 21 to 64 by employment status, firm size, and employer retirement plan sponsorship, 2006



Note: Components may not add to the total because of rounding.

Source: Investment Company Institute tabulations of March 2007 Current Population Survey

Demand for Pensions and Employer Sponsorship

Based on the analysis presented in this paper, this section defines the portion of the workforce that is likely to desire to save for retirement in the current year and who are thus likely to demand pension benefits.

Part-time or part-year workers are unlikely to desire to save for retirement in the current year. To some degree, this is because the bulk of these workers may typically have low earnings and will likely receive a high income-replacement rate from Social Security. But in part, this is also because many workers who are currently working part-time or part-year may typically work full-time or for a full year. If earnings in the current year are below typical earnings, individuals are unlikely to want to reduce current consumption further by saving for retirement.

Few workers who are 21 to 29 years of age save primarily for retirement; the savings of this group are typically for education, the purchase of a home, or done for precautionary reasons. Full-time, full-year workers earning under \$20,000 annually are unlikely to have the capacity or desire to save for retirement. Full-year, full-time workers

earning \$20,000 to \$39,999 may have the ability to save, but because they have other saving priorities, they are likely to delay saving for retirement until after age 44. Full-year, full-time workers earning \$40,000 or more are likely to begin saving for retirement earlier than other workers, likely after age 29.

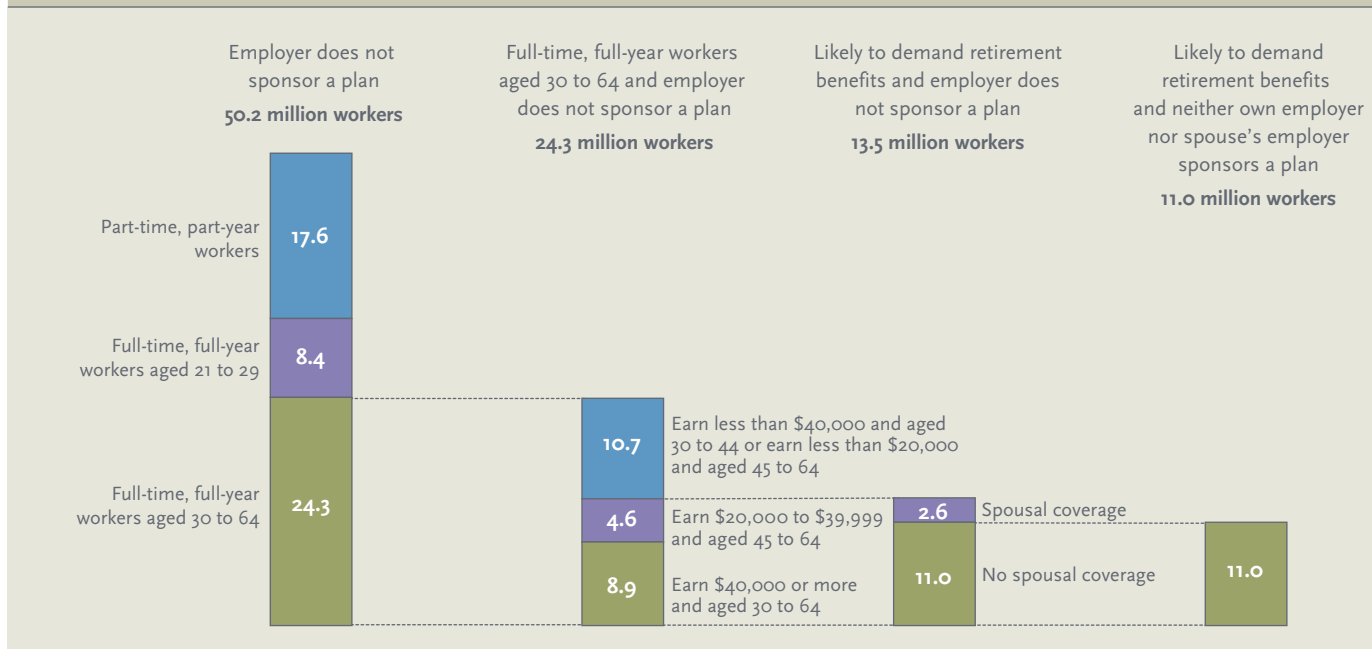
Of the 54.5 million workers at employers that sponsor plans, 19 percent are part-time or part-year workers.³² Of full-time, full-year workers at these firms, 92 percent make \$20,000 a year or more. Looking only at those full-time, full-year employees most likely to demand retirement benefits from their employer, 28.9 million employees, or more than half, are either over 29 years of age and earn \$40,000 or more, or are over 44 years of age and earn \$20,000 or more.

In contrast, of the 50.2 million workers at employers that do not sponsor plans, 17.6 million (or 35 percent) are part-time or part-year workers and another 8.4 million (or 17 percent) are full-time, full-year workers aged 21 to 29 (Figure 19). Restricting attention only to the 24.3 million full-time, full-year employees most likely to

FIGURE 19

A CLOSER LOOK AT WORKERS WHO ARE NOT COVERED BY AN EMPLOYER RETIREMENT PLAN

Millions of private-sector wage and salary workers aged 21 to 64, 2006



Note: Components may not add to the total because of rounding.

Source: Investment Company Institute tabulations of March 2007 Current Population Survey

demand retirement benefits from their employer, 13.5 million employees—or 27 percent of those working for a firm that does not sponsor a plan—are either aged 30 to 34 and earning \$40,000 or more, or are aged 45 to 64 and earning \$20,000 to \$39,999.

Access to an Employer Plan through a Spouse

To some extent, the percentage of workers at firms that sponsor a retirement plan underestimates access of individuals to employer-sponsored retirement benefits. Some individuals who do not have access to a plan through their own employers have spouses who work for firms that sponsor a plan. Indeed, 15 percent of those without access to a plan through their own employer had access to a plan through a spouse. On net, of the 50.2 million employees who worked for firms that did not sponsor a retirement plan, 11.0 million, or 22 percent, were both likely to demand retirement benefits from their employer and were without access to an employer plan through a spouse. Indeed, limiting the sample to those workers likely to demand retirement benefits, 68 percent worked for a firm that sponsored a plan, and 74 percent had access to a plan through either an employer or through a spouse. Additionally, of those workers in this group whose own employer sponsored a plan or whose spouse's employer sponsored a plan, 92 percent participated in either their own employer's plan or a spouse's employer plan.

Summary: Which Workers Do Not Have Pension Coverage

The private-sector pension system is often criticized because it is said that too small a fraction of the private-sector workforce has access to employer-provided pensions and not all workers with access to a plan choose to participate in the plan. However, aggregated statistics mask important differences in pension coverage by worker

characteristics. Of those most likely to desire to save for retirement in the current year, nearly three-quarters had access to a plan through their own employer or their spouses' employers, and 92 percent of those with access participated.³³ Of those who worked for an employer that did not sponsor a plan, only about one-fifth were likely to both desire to save for retirement in the current year and be without access to an employer plan through a spouse.

This analysis supports the conclusion that the private-sector pension system can and should be improved. Certainly, not all who are likely to desire to save for retirement in the current year have access to an employer-provided retirement plan. However, it suggests caution when proposing reforms to a system that provides retirement benefits to most workers who are likely to value retirement benefits more highly than cash compensation.

CONCLUSION

Access to, and participation in, an employer-sponsored retirement plan is not randomly distributed throughout the workforce. Workers who are more likely to desire to save for retirement in the current year—older workers with more economic resources—are more likely to have pension coverage. Younger workers are less likely to desire to save primarily for retirement because their savings is typically focused on education, buying and furnishing a home, and building up liquid assets as a precaution against unexpected circumstances. Workers with lower current income and lower lifetime income are less likely to save for retirement because they are less likely to have the ability or desire to consume less than their current income, and because Social Security benefits replace a higher proportion of their preretirement earnings. Consistent with these preferences, employees who work for firms that do not sponsor plans are more likely to be younger, have lower current income, and lower lifetime income (proxied by education), and are less likely to work full-time for a full year.

Differences in sponsorship rates are perhaps most stark when tabulated by size of firm. Sponsorship rates range from 18 percent at firms with fewer than 10 employees to 71 percent at firms with 1,000 employees or more. There are at least two potential reasons why retirement plan sponsorship would vary by firm size. One explanation is that there are large fixed costs associated with establishing and administering a plan, leaving small firms with high per-employee costs. An alternative explanation is that small-firm employees do not place a high value on compensation in the form of retirement benefits. Both factors likely play some role. The data are consistent with workforce composition being a primary reason for the low rate of sponsorship by smaller firms. Overall, small-firm employees are more likely to be younger, have lower earnings, and have less education, and they are less likely to work full-time for a full year. However, workers at small firms that sponsor plans are more similar to workers at large firms that sponsor plans than they are to workers at other small employers.

It has long been noted that small firms are much less likely to sponsor a retirement plan than are large firms. Most efforts at increasing small firm sponsorship implicitly assume that administrative costs are the primary barrier to small firms offering pension plans. Although there is evidence that reducing administrative costs increases pension coverage,³⁴ there is some frustration among policymakers that policies aimed at getting small firms to sponsor plans have not been more effective. The analysis in this paper suggests that, as of 2006, the primary reason firms, large or small, did not offer retirement benefits is because many of their workers were not focused on saving for retirement.

Making reasonable extrapolations about their earnings paths and Social Security replacement rates, it appears that only one in four private-sector workers without access to employer-based retirement plans is likely to have the ability to save and be focused primarily on saving for retirement. Only one in five is both likely to desire to save for retirement in the current year and to be without access to an employer plan through a spouse.

The incentives faced by both employees and employers should be taken into account when crafting pension reforms, and realistic goals should be set for increasing employer-based retirement plan coverage. Some workers do not have the resources to fund current consumption, much less the ability to set aside resources to fund consumption in retirement. Other workers may have the ability to save and will likely desire to save for retirement at some point in their career, but have more important savings priorities in the current year. It is unlikely that either group of these workers will seek to work for a firm that offers a pension plan; and, if they do work for a firm that offers a plan, it is unlikely that they would choose to contribute a portion of their salary to a retirement plan. More significantly, some households face a lifetime of low earnings. Even the best-designed voluntary private-sector retirement system is unlikely to provide adequate resources to fund retirement consumption for workers who find they have inadequate resources to fund consumption in years when they are participating in the labor market. Because of this, it is of vital importance to maintain a Social Security system that provides adequate benefits to workers with low lifetime earnings.

NOTES

- ¹ See Iwry and John (2006).
- ² Permitted disparity—the provision in the tax code that allows Social Security integration—is defined in Section 401(l) of the Internal Revenue Code. See Perun (2002) for a discussion of Social Security integration. Perun finds that, as of 1997, about one out of three DB plans were integrated and about one in four DC plans were integrated. Because integrated DB plans tend to be larger than average, about 42 percent of DB participants were in an integrated plan in 1997. The study was not able to determine the exact proportion of DC participants in integrated plans, but because most integrated DC plans in the 1997 sample were very small (75 percent had fewer than 20 participants), fewer than one in four DC participants were in integrated plans. In addition, permitted disparity rules do not apply to employee 401(k) contributions and employer 401(k) matching contributions; that is, employers that provide only matching contributions to a 401(k) plan are not permitted to integrate their plans with Social Security.
- ³ Contributions to both DB pensions and DC pensions (other than Roth contributions) receive the same income tax treatment. Contributions to pensions do not provide a tax preference to corporations. Compensation expense is deducted from revenue when calculating taxable corporate income; allowing a deduction for pension compensation expenses is not a tax preference. The tax preference arises because of the treatment of pension contributions under the individual income tax. Compensation, even deferred compensation, is typically included in an individual's taxable income, but special rules allow deferral of the individual income tax on qualified pension compensation.
- ⁴ The last available results are those of the 2004 survey. Results from the 2007 survey are expected in the first quarter of 2009.
- ⁵ See [Appendix](#) Figure A1.
- ⁶ Panel data are an alternative to cross-sectional data. A panel begins with a cross-section of households, but then follows the members of the households in the panel over a period of time. Observed differences by age in a cross-section may be attributable to either the effect of age or so-called “cohort” effects: differences between groups due to factors other than age. For example, the life experiences of individuals born during the Great Depression may make their behavior at any given age quite a bit different than that of the baby boomers. Following groups of individuals over time, as in a panel, may allow the researcher to disentangle age and cohort effects. The use of panel data to analyze consumption and savings does not alter the findings materially.
- ⁷ Carroll (1997) and Gourinchas and Parker (2002) find that consumption and income are fairly equivalent early in life, leaving little to savings (savings is equal to income less consumption).
- ⁸ Optimization over the life cycle generally requires that the marginal utility of consumption be equal in each time period. If certain other conditions are met, this would also imply that an individual would prefer to smooth consumption over time. Retired people may maintain their marginal utility by diminishing their consumption and increasing their time devoted to leisure. So, a constant marginal utility across the life cycle can also be maintained by trading consumption for leisure. See Engen, Gale, and Uccello (2004) and Scholz, Seshadri, and Khitatrakun (2006) for a more formal description of life-cycle models and for a discussion of retirement savings adequacy.
- ⁹ This is the pattern observed by age when looking at cross-section data. For a discussion of earnings patterns using lifetime earnings histories, see Mitchell and Phillips (2006).
- ¹⁰ Using life-cycle models, the major puzzle for economists has not been to explain why younger individuals do not save, but rather to explain why younger individuals do not take on more debt. That is, if earnings typically increase at the beginning of workers' careers, the workers may be able to finance consumption in every year of their lives that is higher than the amount they earn early in their careers (and would make themselves better off by doing so). Consuming more than the workers earn would be accomplished by accumulating debt in these years. One explanation for the apparent lack of borrowing is that individuals may not have access to credit. Such individuals are referred to as “liquidity constrained”: they would like to borrow against future earnings, but without access to credit, they do not have enough liquid assets to consume as much as they would like. See Deaton (1991) for a discussion of liquidity constraints and life-cycle models. Another explanation is that, although workers can expect earnings to increase, on average, future earnings are too uncertain for them to want to risk taking on debt. For a discussion of “buffer-stock” savings and its effect on life-cycle models, see Carroll (1997). Hubbard, Skinner, and Zeldes (1995) argues that the presence of government transfer programs that use both earnings-based and asset-based means tests (for example, food stamps and welfare) reduce asset accumulation. These programs reduce savings both by providing a floor under which consumption cannot fall regardless of earnings or wealth, and by subjecting any accumulated wealth to an implicit 100 percent tax when earnings are low. Including means-tested programs in a life-cycle model with buffer-stock savings can explain why low-income households are more likely to hold no wealth and why such behavior is rational.
- ¹¹ For example, Carroll (1997) simulates representative consumers rationally beginning to save for retirement at roughly age 45 to 50. Similarly, the model in Gourinchas and Parker (2002) predicts that financial asset accumulation and savings for retirement rationally begins sometime after age 40.
- ¹² For a discussion of children and life-cycle savings, see Scholz and Seshadri (2007).
- ¹³ Calculations assume total household income is equal to earnings and all other eligibility requirements (such as the asset test for food stamps) are met. Eligibility for food stamps is determined monthly; eligibility for the EITC is determined annually. For purposes of the food stamp benefit, monthly earnings are assumed to be 1/12 of annual earnings, and it is assumed that the individual deducts from gross income \$175 per child for monthly dependent care expense when calculating net income.
- ¹⁴ After age 40, earnings are assumed to grow over time at a rate slightly lower than average wage growth projected by the Social Security Administration (2006). For example, in real 2006 dollars for the individual earning \$20,000 at age 40, wages increase from approximately \$17,200 at age 30 to approximately \$22,600 at age 59; real earnings from age 60 to age 66 are relatively flat. For more detail on the derived wage profiles, see Brady (forthcoming).

¹⁵ While working, payroll taxes are 7.65 percent of earnings. Income taxes are calculated assuming the individuals are single with no children. The presence of children would reduce income tax liability. However, assuming the costs of raising children are greater than any associated tax benefits, properly accounting for the presence of children would increase the calculated replacement rate of an individual's own preretirement consumption. For both federal and state income taxes, it is assumed that 2006 tax law applies. That is, current tax rates are applied in all periods, and the parameters of the tax code that are indexed are adjusted for inflation (without regard to rounding rules) in periods both before and after 2006. Without loss of generality, state income taxes are calculated using Virginia income tax. Adjusted gross income (AGI) is set equal to earnings. Individuals take a standard deduction (equal to \$5,000 in 2006) and a single exemption (equal to \$3,200 in 2006) and are eligible for the childless earned-income credit (completely phased out for adjusted gross income over \$12,120).

¹⁶ Note that savings not only increases the calculated replacement rate by increasing retirement income (the numerator of the replacement rate ratio) but also by decreasing the amount of income available for consumption prior to retirement (the denominator of the replacement rate ratio). By definition, income saved is not consumed and thus does not need to be replaced in retirement.

¹⁷ See Brady (forthcoming) for a more general discussion of replacement rates and adequate savings rates.

¹⁸ If workers have expenses prior to retirement that they do not have after retirement, they may desire to replace less than 100 percent of net income. For example, if households own their own home and plan to pay off their mortgage prior to retirement, they would need fewer resources to cover expenses after retirement. If workers raised children and expect children to be out of the house prior to retirement, they do not need to replace preretirement income used to pay child expenses. Similarly, expenses may be lower if retirees do not have expenses related to working, such as commuting costs or the cost of eating outside the home.

There are two primary reasons why workers may want to accumulate more assets. First, if workers desire to retire prior to the normal Social Security age, Social Security benefits will be reduced and workers may desire to make up this difference with retirement assets. Second, if workers expect expenses to be higher, on net, in retirement than they were prior to retirement, they may desire to replace more than 100 percent of preretirement income. The primary reason for expenses to go up in retirement would be an increase in out-of-pocket medical expenses.

These factors are discussed in more detail in Brady (forthcoming).

¹⁹ Although the ratios are higher, net worth-to-income ratios show similar differences between households with different levels of education. Hubbard, Skinner, and Zeldes (1995) shows that wealth-to-income ratios (and, presumably, financial asset-to-income ratios) vary not only by education and age, but also by income when controlling for education and age.

²⁰ Eligibility for pensions may be restricted by a worker's age, hours worked, and years of service (see endnote 28). In addition, a firm may restrict pension benefits to a particular line of business within the larger firm or restrict the benefit to certain occupations.

²¹ See, for example, Purcell (2007); Copeland (2007); and Munnell, Lee, and Meme (2004).

²² Wage and salary workers aged 21 to 64 represented the bulk (88 percent) of the 118.8 million private-sector wage and salary workers in the United States in 2006. This analysis excludes individuals who are likely to be continuing their education (6 percent of all wage and salary workers were aged 18 to 20); very young (2 percent of all wage and salary workers were younger than 18); or nearing or possibly phasing into retirement (4 percent of all wage and salary workers were aged 65 or older).

²³ Appendix Figure A2 provides more detailed statistics on private-sector wage and salary workforce composition.

²⁴ Another household survey, the BLS's Survey of Income and Program Participation (SIPP), collects information on the type of retirement plan an individual is offered. However, those data are only available every five years, with the latest data available being 2003. See U.S. Census Bureau (2001). Alternatively, retirement plan coverage can be determined by surveying businesses (rather than households), as is done by the BLS's National Compensation Survey. See U.S. Department of Labor (2007). In addition, private-sector pension plans are required to file a Form 5500 report annually with the Department of Labor. Form 5500 data summarize contribution, distribution, and asset information for private-sector plans. See U.S. Department of Labor (2008).

²⁵ Appendix Figure A2 provides more detailed statistics on pension coverage. In addition to characteristics discussed in the text, the likelihood of working for an employer that sponsors a plan also varies by the occupation of the employee and the industry of the employer. For example, 67 percent of executive, administrative, and managerial workers work for an employer that sponsors a plan compared with 30 percent of workers in service occupations other than protective services. Workers in the finance, insurance, and real estate (F.I.R.E.) industries have a 65 percent probability of working for an employer that sponsors a plan, compared with 34 percent of construction industry workers and 28 percent of workers in personal service industries.

²⁶ See Appendix Figure A2 for more detailed information on participation rates by employee and employer characteristics.

²⁷ See Appendix Figure A2 for this detail. For example, employer sponsorship rates by industry range from 21 percent (agriculture, forestry, and fishing) to 66 percent (durable goods manufacturing); among workers whose employers sponsor a plan, participation rates range from 64 percent (retail trade) to 86 percent (durable goods manufacturing).

More formally, the primacy of sponsorship in determining differences in participation rates can be seen by comparing the standard deviation of sponsorship rates among groups of workers to the standard deviation of the participation rate conditional on a firm sponsoring a plan among groups of workers. For example, using the groupings of workers from Figure A2, the sponsorship rate by size of firm ranges from 18 percent to 71 percent, yielding a standard deviation of sponsorship rate of 20.5 percent. Conditional on a firm sponsoring a plan, participation rates range from 77 percent to 81 percent, yielding a standard deviation of only 1.5 percent. The comparisons for the other groups are (standard deviation of sponsorship rate to standard deviation of conditional participation rate), ethnicity: 11.7 percent to 3.7 percent; immigration status: 14.8 percent to 4.1 percent; industry: 15.5 percent to 7.8 percent; education: 15.7 percent to 8.0 percent; and occupation: 14.6 percent to 8.1 percent.

- ²⁸ More formally, the comparison of the standard deviation of sponsorship rates to the standard deviation of conditional participation rates are weeks and hours worked: 12.5 percent to 22.1 percent; annual earnings: 20.3 percent to 23.0 percent; and age: 7.8 percent to 11.0 percent.
- ²⁹ In general, eligibility can be delayed until the later of: (1) age 21 or (2) one year of service. Special rules allow for a two-year service requirement if all benefits accrued under the plan vest immediately. Special rules allow nonprofit educational institutions to delay eligibility until age 26. A year of service is typically defined as a 12-month period in which an employee has 1,000 hours of service, so even long-tenured part-time or part-year workers may not be eligible for a plan if they never pass this threshold.
- ³⁰ For a more complete discussion of the factors involved in a firm's decision to offer retirement benefits and the effect of nondiscrimination rules on this decision, see Brady (2007).
- ³¹ See Appendix Figure A3 for more detail.
- ³² See Appendix Figures A4 and A5 for more detail.
- ³³ See Figure A6 for more detailed information on sponsorship rates and participation rates among these groups of employees.
- ³⁴ For example, as of December 2007, there were over 500,000 SIMPLE IRA plans with approximately 2.2 million participants. Approximately 98 percent of the plans had 25 or fewer participants. See Brady and Holden (2008).

REFERENCES

- Brady, Peter J. "Pension Nondiscrimination Rules and the Incentive to Cross-Subsidize Employees." *Journal of Pension Economics and Finance* 6, no. 2 (July 2007): 127–145.
- Brady, Peter J. "Measuring Retirement Resource Adequacy." *Journal of Pension Economics and Finance*, forthcoming.
- Brady, Peter, and Sarah Holden. "The U.S. Retirement Market, 2007," *ICI Fundamentals* 17, no. 3 (Washington DC: Investment Company Institute, July 2008). Available at <http://www.ici.org/pdf/fm-v17n3.pdf>.
- Carrol, Christopher D. "Buffer-Stock Saving and the Life Cycle/Permanent Income Hypothesis." *The Quarterly Journal of Economics* 112, no. 1 (February 1997): 1–55.
- Copeland, Craig. "Employment-Based Retirement Plan Participation: Geographic Differences and Trends, 2006." *EBRI Issue Brief*, no. 311 (Washington, DC: Employee Benefit Research Institute, November 2007). Available at http://www.ebri.org/pdf/briefspdf/EBRI_IB_11-20074.pdf.
- Deaton, Angus. "Saving and Liquidity Constraints." *Econometrica* 59, no. 5 (September 1991): 1221–1248.
- Engen, Eric M., William G. Gale, and Cori Ucello. "Lifetime Earnings, Social Security Benefits, and the Adequacy of Retirement Wealth Accumulation." Boston College Center for Retirement Research Working Paper, no. 2004-10 (Chestnut Hill, MA: Boston College Center for Retirement Research, October 2004).
- Gourinchas, Pierre-Olivier, and Jonathan Parker. "Consumption over the Life Cycle." *Econometrica* 70, no. 1 (January 2002): 47–89.
- Hubbard, Glenn, Jonathan Skinner, and Stephen Zeldes. "Precautionary Saving and Social Insurance." *The Journal of Political Economy* 103, no. 2 (April 1995): 360–399.
- Iwry, J. Mark, and David C. John. "Pursuing Universal Retirement Security through Automatic IRAs." Working Paper, Retirement Security Project, February 12, 2006. Available at http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Retirement_security/RSP_AutoIRA_workingpaper_0206.pdf.
- Mitchell, Olivia S., and John W. R. Phillips. "Social Security Replacement Rates for Alternative Earnings Benchmarks." University of Michigan Retirement Center, no. WP 2006-116 (June 2006).
- Munnell, Alicia H., James G. Lee, and Kevin B. Meme. "An Update on Pension Data." *Issue in Brief* 8, no. 20 (Chestnut Hill, MA: Center for Retirement Research at Boston College, July 2004). Available at <http://www.bc.edu/crr>.
- Perun, Pamela. "Social Security and the Private Pension System: The Significance of Integrated Plans." Center for Retirement Research, no. WP 2002-2 (Chestnut Hill, MA: Center for Retirement Research at Boston College, July 2002).
- Purcell, Patrick. "Pension Sponsorship and Participation: Summary of Recent Trends." *CRS Reports for Congress*, RL30122 (Congressional Research Service, September 2007).
- Scholz, John Karl, and Ananth Seshadri. "Children and Household Wealth." Michigan Retirement Research Center Working Paper 2007-158 (October 2007).
- Scholz, John Karl, Ananth Seshadri, and Surachai Khitatrakun. "Are Americans Saving 'Optimally' for Retirement?" *Journal of Political Economy* 114 (2006): 607–643.
- Social Security Administration. *The 2006 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds* (Baltimore, MD: Social Security Administration, 2007).
- U.S. Bureau of Labor Statistics. *National Compensation Survey: Employee Benefits in Private Industry in the United States, March 2007* (Washington, DC: U.S. Bureau of Labor Statistics, August 2007).
- U.S. Census Bureau and U.S. Bureau of Labor Statistics. *Current Population Survey*. Available at <http://www.census.gov/cps/>.
- U.S. Census Bureau and U.S. Department of Commerce. *Survey of Income and Program Participation User's Guide*. Available at <http://www.census.gov/sipp/usrguide/sipp2001.pdf>.
- U.S. Department of Labor. *Private Pension Plan Bulletin: Abstract of 2005 Form 5500 Annual Reports*. (Washington, DC: U.S. Department of Labor, February 2008). Available at <http://www.dol.gov/ebs/PDF/2005pensionplanbulletin.pdf>.

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