CHAPTER 2

California Workers' Retirement Prospects

by Sylvia A. Allegretto, Nari Rhee, Joelle Saad-Lessler, and Lauren Schmitz

INTRODUCTION

While public debate rages about the costs of pensions and Social Security, there is inadequate attention to the parallel crisis of retirement insecurity facing millions of workers who will not have enough assets to meet their basic needs in old age, much less maintain their pre-retirement standard of living. This has significant long-term ramifications for individuals, families, and all levels of government in the decades to come.

In this article, we assess California workers' retirement prospects in relation to the United States (US) as a whole, drawing on data from the Current Population Survey (CPS) and the Survey of Income and Program Participation (SIPP). First, in order to establish a frame of reference against which to consider workers' retirement readiness, we examine the income sources and poverty status of current retirees. Next, we measure workers' access to employer sponsored retirement plans, including coverage by Defined Benefit (DB) pensions that offer secure benefits versus Defined Contribution (DC) plans in which workers bear all financial risk. Finally, we project California workers' retirement income based on available data about assets, debt, and earnings and compare it to the federal poverty threshold in order to determine the percentage of workers at risk for serious economic hardship when they retire. Throughout this analysis, we identify disparities by gender, race, income, firm size, and other variables as available data permits.

Our key findings are as follows:

First, Social Security forms the bedrock of retirement income for the vast majority of retirees in California, with employer sponsored retirement plans making up the second most important source of income. Low- and middle-income retirees—the bottom 25% and the middle 50%—rely overwhelmingly on the single pillar of Social Security, in contrast to upper-income retirees who have a variety of income sources. Employer-sponsored retirement plans make up the second largest source of income for middle-income retirees and the largest source for high-income retirees (the top 25%). While Social Security has helped reduce the poverty rate among retirees in general, women and minorities are disproportionately represented among retirees in poverty and among low-income retirees.

Allegretto, S. A., Rhee, N., Saad-Lessler, J., & Schmitz, L. (2011). California workers' retirement prospects. In N. Rhee (Ed.) *Meeting California's Retirement Security Challenge* (pp. 21-41). Berkeley, CA: UC Berkeley Center for Labor Research and Education.

Second, California workers are under-served by employer sponsored retirement plans, and there are marked disparities in plan access and participation by age, class of worker (private vs. public), and firm size. Nearly half of workers in the state are employed by firms that do not offer a retirement plan, and only 44% of workers actually participate in a plan. The retirement plan coverage gap is concentrated in the private sector and among small businesses, compared to high rates of coverage in the public sector and, to a lesser extent, among large firms employing over 1,000 workers. Significantly, most private sector workers who participate in a retirement plan through their employer only have access to a 401(k) type plan which does not guarantee retirement income.

Third, we project that nearly one-half of California workers will face significant economic hardship in retirement, with incomes below 200% of the federal poverty threshold for individuals. All age groups are at significant risk, with young workers age 25–44 and low-wage workers being the most at risk. Notably, even middle-wage workers face substantial risk of not having enough retirement income to be self-sufficient. While having any kind of retirement plan improves the likelihood of having enough retirement income to meet basic expenses, workers whose primary plan is a DC plan, i.e., a 401(k) type individual account, are at much higher risk than those who participate in a DB pension.

1. THE ECONOMIC STATUS OF CURRENT RETIREES

In order to evaluate the retirement future of today's workers, it helps to first understand the economic status of current retirees. In this section, we analyze data from the Current Population Survey (CPS) March Supplement (US Bureau of Labor Statistics (BLS), 2011), to determine key sources of income and poverty rates among today's retirees.

Sources of Retiree Income

Analyses of retirement security typically refer to the "three-legged stool" of retirement income: Social Security, employer sponsored pensions, and private savings. Our analysis shows that the actual number of "legs" supporting people's retirement depends heavily on their income level. Retirees with lower incomes tend to balance on a single pillar—Social Security—while the well-off may have four or five substantial income sources. **Table 2.1** shows sources of retiree income for the United States and for California, overall and by income level.

The top quarter of the table shows total income for all groups and its sources. Data are three-year averages for 2007-09. For the purposes of this analysis, retirees are defined as people age 60 and older who did not work during the reference period and who cited retirement as the reason that they did not work.[1] The average annual retiree income is $23,540 in the US overall and $25,984 in California. The most important source is Social Security, which accounts for 50.6% and 43.5% of total retiree income in the US and California, respectively.[2] Income from (employer-sponsored) retirement funds is the second largest source of income, at 27.1% for the US and 27.5% for California. "Other" income, which can include personal savings, proceeds from the sale of stocks or bonds, survivor's benefits, or a combination of sources, ranks third, at 14.8% and 16.1% of income for the US and California. The remaining categories—dividends, rents, and Supplemental Security Income (SSI, also known as "disability")—together account for 7.5% and 12.8%, of total retiree income in the US and California.

Table 2.1

Sources of Income for Retirees, US and California, 2007–09

	United States			California		
	Mean	**Std. Dev.**	**Shares**	**Mean**	**Std. Dev.**	**Shares**
All						
Total Income*	$23,540	$21,512	100.0%	$25,984	$25,637	100.0%
Social Security	11,909	7,365	50.6%	11,305	7,507	43.5%
Retirement Funds	6,373	13,215	27.1%	7,156	15,079	27.5%
Dividend	1,011	4,847	4.3%	1,571	6,503	6.0%
Rental	636	5,266	2.7%	1,390	7,994	5.4%
Supplemental Security	120	1,021	0.5%	370	1,730	1.4%
Other	3,489	10,268	14.8%	4,191	11,817	16.1%
Bottom 25%						
Total Income	$7,081	$2,688	100.0%	$6,962	$2,781	100.0%
Social Security	6,149	3,268	86.8%	5,508	3,597	79.1%
Retirement Funds	225	1,130	3.2%	252	1,246	3.6%
Dividend	76	463	1.1%	85	441	1.2%
Rental	12	479	0.2%	3	552	0.0%
Supplemental Security	276	1,356	3.9%	793	2,420	11.4%
Other	343	1,062	4.8%	321	1,084	4.6%
Middle 50%						
Total Income	$17,575	$4,851	100.0%	$18,145	$5,806	100.0%
Social Security	13,009	4,965	74.0%	12,757	5,558	70.3%
Retirement Funds	2,538	5,019	14.4%	2,819	5,738	15.5%
Dividend	287	1,213	1.6%	313	1,197	1.7%
Rental	169	1,257	1.0%	313	1,647	1.7%
Supplemental Security	76	803	0.4%	320	1,604	1.8%
Other	1,496	3,312	8.5%	1,623	3,594	8.9%
Top 25%						
Total Income	$51,936	$25,470	100.0%	$60,713	$29,401	100.0%
Social Security	15,471	10,429	29.8%	14,202	10,229	23.4%
Retirement Funds	20,196	19,718	38.9%	22,745	22,686	37.5%
Dividend	3,396	9,124	6.5%	5,576	12,036	9.2%
Rental	2,196	10,212	4.2%	4,936	15,278	8.1%
Supplemental Security	54	1,004	0.1%	48	831	0.1%
Other	10,623	18,167	20.5%	13,207	20,559	21.8%

*For Total Income comparisons of US vs CA; all are statistically different except for the Bottom 25% figures.

Note: Three years (2008-10) of the March CPS were appended to assure an adequate number of observations for California and to allow for demographic analyses on race, gender, and income. Figures are three-year averages, 2010 dollars. Retirees are at least 60 years old; income less than or equal to $0 not included. Income cutoffs calculated separately for the U.S. and California. Income brackets are for individual incomes. Totals may not add up due to rounding.

Source: Authors' analysis of March Current Population Survey, 2008-10. Data are from 2007-09.

California retirees have higher average individual income than US retirees overall ($25,984 vs. $23,540), which is not surprising given that personal income is generally higher in California. But this difference does not hold true at all income levels. Among the bottom 25%, California retirees have about the same income as the US cohort ($6,962 vs. $7,081).[3] Among the top 25% the California advantage in average income is large, $60,713 for the state versus $51,936 for the US as a whole. In other words, there is greater income inequality among retirees in California than in the US as a whole.

Sources of income vary considerably by income group. The pie charts in **Figure 2.1** illustrate the income sources for California retirees in each of three income groups, drawing on Table 2.1. For those in the bottom 25% of the retiree income distribution, approximately 90% of income comes from government-sponsored programs—79.1% from Social Security, a government sponsored pension, and 11.4% from SSI, a means-tested aid program. As income increases, the share of Social Security decreases and SSI declines significantly. For the middle 50% of the retiree income distribution, Social Security still constitutes a large majority of income (70.3%), with SSI making up a minute fraction (1.8%) and retirement funds accounting for the most significant income source (15.5%) after Social Security. In the top 25% income group, Social Security represents a much smaller portion of income (just 23.4%), retirement funds (37.5%) make up the largest single source of income, and the remainder comes from a variety of personal assets (property that generates rental income, stocks or bonds that pay dividends, and other financial assets). The pie charts illustrate how crucial Social Security is for both low- and middle-income retirees, and the role of employer sponsored retirement plans as the most important non-governmental resource in providing a secure retirement.

Race and Gender Distinctions

Table 2.2 provides insight into race and gender disparities in retiree income. To begin, the table shows the race and gender breakdown within each of the three income levels (rows sum to 100%) for the US and California. The percentage of the total population made up by each racial group, or gender, is listed in parentheses.

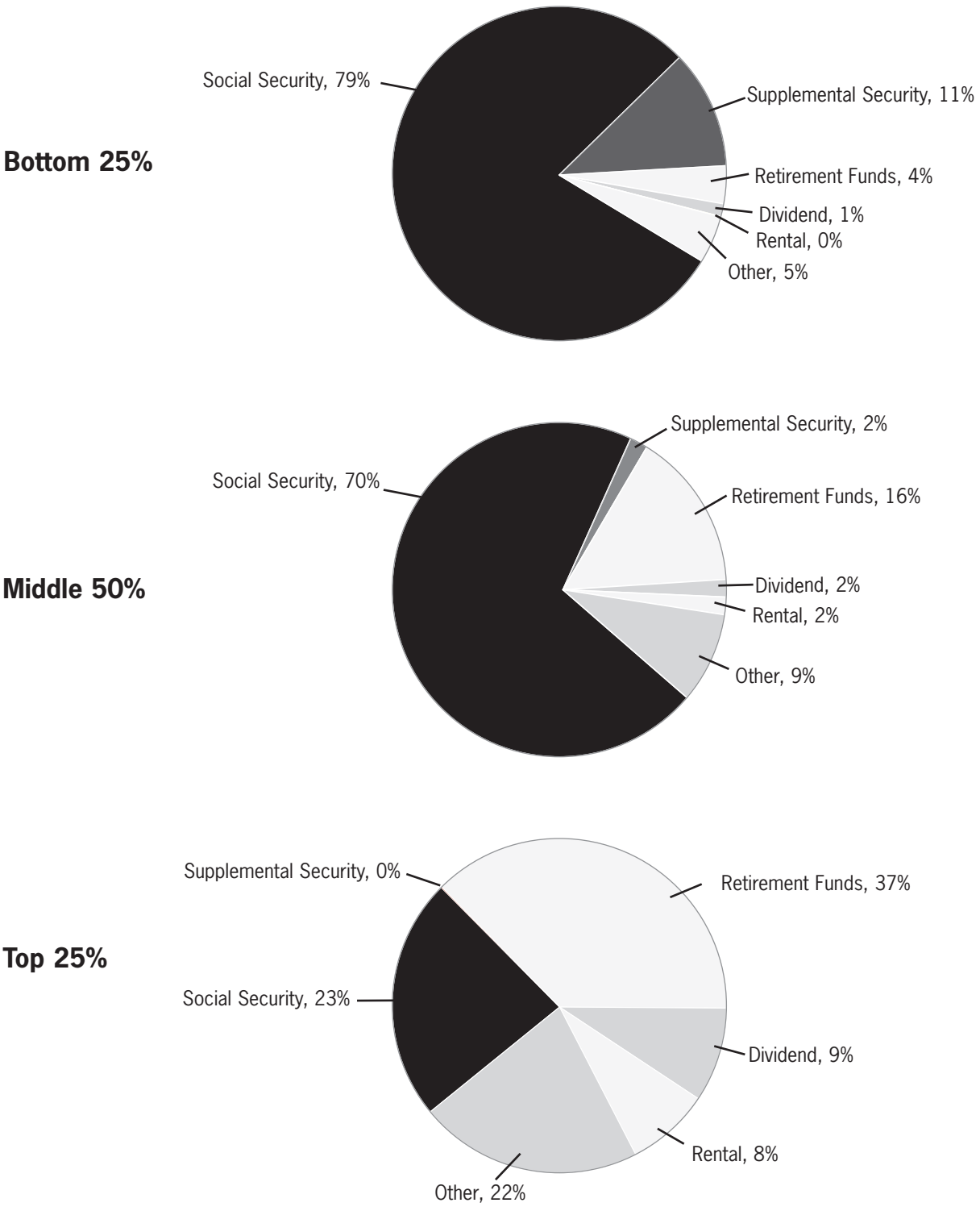
For the US, Whites are underrepresented in the bottom 25% (72.7% of income group vs. 82.1% of population) but overrepresented in the top 25% (88.3% vs. 82.1%). The opposite is true for Blacks, who are overrepresented in the lower income tier (9.8% of income group vs. 7.8% of population) and underrepresented in the top income tier (5.7% vs. 7.8%). The same pattern holds for Hispanics and other races.

One of the stark differences in racial makeup between California and the US overall is the proportion of retirees who are Hispanic—16.0% in California compared with 6.0% in the US as a whole. Another is the larger share made up by the "Other race" category in California compared to the US average, mostly attributable to the large Asian population in the state. Even controlling for these differences, US minorities are overrepresented in the bottom 25%, and whites are overrepresented in the top tier in California, as in the US as a whole. It is perhaps not surprising that the racial disparities that are well-documented in wages and incomes also carry through in retirement.

Looking at the gender composition of each income bracket, we find that women are overrepresented among low-income retirees. Given that life expectancy for women is longer than for males (Kochanek et al., 2011), it is not surprising that women make up a large share of retirees: 58.1% and 58.5% in the US and California, respectively. However, in the US, women account for a much

Figure 2.1

Sources of Retiree Income, by Income Group, California, 2007–09



Note: Totals may not add up due to rounding.
Source: Data taken from Table 2.1.

Table 2.2

Gender, Race, and Retiree Income, 2007–09, US and California

Income Group	United States				California			
	Distributions of race and gender within each income group (rows sum to 100%)							
	White (82.1%)*	**Black** (7.8%)	**Hispanic** (6.0%)	**Other** (4.1%)	**White** (66.0%)	**Black** (5.0%)	**Hispanic** (16.0%)	**Other** (13.0%)
Bottom 25%	72.7%	9.8%	11.2%	6.3%	49.1%	4.8%	25.9%	20.2%
Middle 50%	83.7%	7.8%	5.0%	3.5%	67.3%	5.5%	15.5%	11.7%
Top 25%	88.3%	5.7%	2.9%	3.1%	80.4%	4.2%	7.0%	8.3%
	Male (41.9%)	**Female** (58.1%)			**Male** (41.5%)	**Female** (58.5%)		
Bottom 25%	21.8%	78.2%			25.8%	74.2%		
Middle 50%	42.1%	57.9%			41.4%	58.6%		
Top 25%	61.7%	38.3%			57.3%	42.7%		

* Shares of total sample in parentheses.

Note: Three years (2008-10) of the March CPS were appended to assure an adequate number of observations for California and to allow for demographic analyses on race, gender, and income. Figures are three-year averages, 2010 dollars. Retirees are at least 60 years old. Income brackets are for individual incomes. Totals may not add up due to rounding.

Source: Authors' analysis of March Current Population Survey, 2008-10. Data are from 2007-09.

larger share—approximately three out of four retirees (78.2%)—of the lowest 25% income group. Conversely, of those in the top 25% income tier, women are underrepresented (38.3%) and men are overrepresented (61.7%). This general pattern holds true for California, though women are slightly more likely to fall into the top income tier in the state compared to the US overall.

Incidence of Poverty

An analysis of poverty among retirees compared to the general population yields two main observations. One is that Social Security plays an important role in protecting the elderly from poverty, although the poverty rate is slightly higher among retirees in California than those in the US as a whole. The other is that female retirees are significantly more likely to be poor than male retirees.

National trends provide important context for understanding the role of Social Security as a safety net against poverty. As the Great Recession dragged on from December 2007 through the first half of 2009, the overall US poverty rate increased from 12.5% to 14.3%. But the poverty rate for people 65 years of age and over *fell* from 9.7% to 8.9% over the 2007-09 period. This improvement was due, in part, to Social Security. Poverty rates among older people in the US decreased dramatically during the 20th century: the official poverty rate of those age 65 and older fell from 35% in 1960 to 10% in 1995, and similarly steep declines have been documented back to at least 1939 (Engelhardt and Gruber, 2004). While poverty was once prevalent among the elderly, the poverty rate among today's retirees and elderly is the lowest for any age cohort. By contrast, the rate of poverty for the general population has not declined significantly since the late 1960s, and over the last four decades has been strongly

cyclical, increasing during recessions and decreasing during economic expansions.[4] The effect of Social Security has been to protect retirees from the cyclical fluctuations of poverty, and it has helped to sustain the long-term trend toward decline for decades.

An important caveat for this analysis is that the basis for poverty statistics in the US—the Census Bureau's federal poverty threshold—is widely acknowledged as an inadequate measure of economic hardship in high-cost regions like California. It is instead an absolute measure of severe economic deprivation that does not account for geographical variations in cost of living. For example, the 2011 federal poverty threshold is $11,344 for single individuals under 65 years of age and $10,458 for those 65 and over (Census Bureau, 2010). Our analysis of worker retirement readiness later in this paper uses 200% of the poverty threshold as a measure of significant economic hardship. However, in order to facilitate national comparison, the following analysis is based on the regular federal poverty threshold.

Table 2.3 presents three-year average (2007–09) poverty rates for the entire population and for retirees in the US and California. The table confirms that poverty rates for retirees are lower than for the general population. The average US poverty rate for the three-year span is 13.4% for the general population age 16 and older, compared to 10.4% for retirees. However, the rate for female retirees is 11.9%, significantly higher than the 8.4% rate for male retirees. In California, the poverty rate for the population age 16 and older is slightly higher at 14.2% while the rate for retirees is 10.2% for both sexes, 11.2% for females, and 8.6% for males. In the US and California, approximately two of every three retirees who are in poverty are women.

The bottom portion of Table 2.3 shows poverty rates by the three income tiers. Of retirees in the bottom tier, about one in three (34.6% in the US, 31.3% in California) are in poverty. This would seem to indicate that those with less means who rely almost exclusively upon Social Security and SSI are not always able to secure enough income to keep them out of poverty.

Table 2.3

Retiree Poverty by Gender and Income, 2007–09, US and California

	United States			California		
	Rate	**Number**	**Share**	**Rate**	**Number**	**Share**
Total Population age 16 yearsand over	13.4%	40,224,473		14.2%	5,190,204	
All retirees	10.4%	3,167,090		10.2%	327,396	
By Gender						
Male	8.4%	1,051,718	33.2%	8.6%	113,820	34.8%
Female	11.9%	2,115,372	66.8%	11.2%	213,576	65.2%
By income						
Bottom 25%	34.6%	2,963,861	93.6%	31.1%	298,658	91.2%
Middle 50%	1.4%	203,230	6.4%	2.0%	28,738	8.8%
Top 25%	0.0%	0	0.0%	0.0%	0	0.0%

Source: Authors' analysis of March Current Population Survey, 2008-10. Data are from 2007-09.
See Table 2.2 notes.

2. RETIREMENT PLAN COVERAGE AMONG WORKERS

The above analysis highlights the importance of employer sponsored retirement plans as a source of income to supplement Social Security, which has been effective in protecting most retirees from severe economic deprivation—as measured by the federal poverty threshold—but which does not guarantee enough income to meet basic expenses. In this section, we assess employer sponsored retirement plan coverage for current workers, a key factor in their readiness for future retirement. We analyzed two datasets to assess retirement plan coverage. First we employ the CPS March Supplement to determine trends in retirement plan access, take-up, and participation rates over time. Because the CPS does not distinguish the type of retirement plan in which workers participate, we analyze SIPP 2008 panel data to determine coverage by DB (defined benefit) and DC (defined contribution) plans. In addition, we refer to published results for the Pacific region from the National Compensation Survey (BLS, 2009) to provide supplemental data.

Overall Retirement Plan Coverage

Retirement plan coverage in the workplace can be described by three key statistics: access rate, participation rate, and take-up rate. Access rate is the share of all workers whose employer offers a retirement plan (even if not all workers qualify). Participation rate is the share of all workers who participate in their employer's retirement plan. Take-up rate is the number of workers who participate in their employer's retirement plan, divided by the number of workers whose employer offers a plan.

Table 2.4 shows employer sponsored retirement plan coverage among employed workers in the United States and California for the three-year periods 1987–89, 1997–99, and 2007–09. The first period captures an economic expansion capped by a recession that started in July 1990. The second was a period of robust expansion, tight labor markets, and real wage growth across the entire wage spectrum that eventually came to an end with the 2001 recession. The third span includes the Great Recession, the most severe downturn since the Great Depression. Coverage rates are analyzed for all employees age 25–64, then for private sector, public sector, full-time employees, and firm size.

In the United States, the overall access rate for pension plans—the percentage of employees age 25–64 whose primary employer offered a retirement plan to any of their employees—is 59.3%, 64.5% and 58.1% across the three time spans. During the second span, a period of tight labor markets and relatively strong bargaining power for workers, firms were more apt to offer retirement benefits. Yet even then, one in three workers was not offered a plan from their employer. Notably, retirement plan access in California was lower across the three spans: 53.6%, 57.6% and 52.0% of employees, respectively.

Not all workers whose employer offers a retirement plan actually participate in that plan. The take-up rate hovered near 84% for the US in the three time spans, and increased slightly for California from 82.1% in 1987–89 to 85.2% in 2007–09. The CPS does not indicate the reasons why the remaining share of workers did not participate in their employer's plan, but not all non-participation is voluntary, because employers often impose restrictions based on the length of time on the job and number of hours worked.

Ultimately, the majority of workers in California and the US do not participate in any kind of employer sponsored retirement plan. The participation rate is less than 50% in both the US and California for all three periods, except for the US in 1997–1999. Again, workers in California fare

Table 2.4

Employer Sponsored Retirement Plan Coverage, US and California

	United States			California		
	1987–89*	1997–99*	2007–09*	1987–89*	1997–99*	2007–09*
All						
Access	59.3%	64.5%	58.1%	53.6%	57.6%	52.0%
Take-up	83.8%	83.5%	84.4%	82.1%	83.5%	85.2%
Participation	49.7%	53.9%	49.0%	44.0%	48.1%	44.3%
Private sector						
Access	52.7%	59.7%	52.7%	46.5%	51.9%	45.8%
Take-up	81.9%	81.5%	82.1%	79.4%	81.5%	83.0%
Participation	43.1%	48.6%	43.3%	36.9%	42.3%	38.1%
Public sector						
Access	88.7%	88.0%	83.9%	87.5%	87.6%	82.8%
Take-up	89.0%	90.0%	91.2%	88.9%	89.8%	91.1%
Participation	78.9%	79.3%	76.5%	77.8%	78.7%	75.5%
Full-Time Employees**						
Access	67.2%	70.2%	63.8%	60.4%	63.5%	58.2%
Take-up	89.3%	88.5%	88.8%	87.7%	88.4%	89.5%
Participation	60.0%	62.1%	56.6%	53.0%	56.1%	52.1%
Firm Size						
Firm size <25						
Access	19.8%	27.3%	25.1%	16.5%	21.5%	19.7%
Take-up	78.7%	79.6%	82.8%	79.5%	76.0%	83.7%
Participation	15.6%	21.7%	20.8%	13.1%	16.4%	16.5%
Firm size 25–99						
Access	42.1%	54.2%	49.9%	34.4%	43.6%	39.4%
Take-up	80.8%	80.0%	81.8%	76.7%	79.6%	82.6%
Participation	34.0%	43.4%	40.8%	26.4%	34.7%	32.5%
Firm size 100–499						
Access	62.0%	69.6%	63.5%	53.3%	58.6%	55.1%
Take-up	82.7%	82.3%	83.1%	79.7%	82.0%	83.2%
Participation	51.3%	57.3%	52.8%	42.5%	48.1%	45.8%
Firm size 500–999						
Access	74.6%	78.2%	70.7%	71.9%	72.9%	68.0%
Take-up	82.6%	84.0%	84.9%	80.3%	82.4%	83.2%
Participation	61.6%	65.7%	60.0%	57.8%	60.1%	56.6%
Firm size 1,000+						
Access	83.4%	83.7%	76.6%	81.6%	81.2%	75.4%
Take-up	85.5%	85.1%	85.4%	84.1%	85.9%	86.7%
Participation	71.2%	71.2%	65.5%	68.6%	69.7%	65.4%

* Each three-year span represents appended data for those three years; figures reported are three year averages.

** Full time is defined as working 50+ weeks and 35+ hours per week during the year.

Source: Authors' analysis of March CPS, 1988–90, 1998–2000, and 2008–10. Data are from 1987–89, 1997–99, and 2007–09, respectively. Figures are three-year averages.

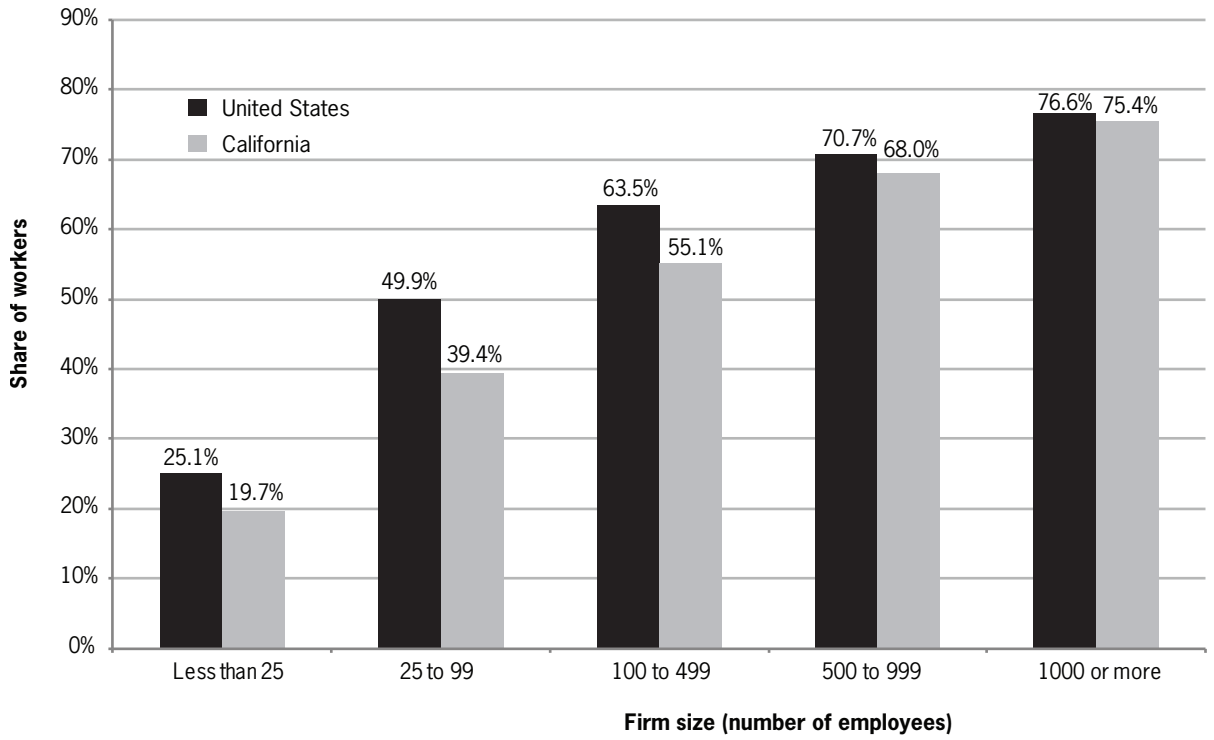
somewhat worse than the in the US as a whole because the state's 2007–09 participation rate was 44.3%.

The table further breaks out rates for full-time workers, private sector workers, public sector workers, and firm size. Significant differences emerge across these breakouts. Retirement plan coverage rates among full-time workers are higher than for the total workforce in both the US and California across the three time spans, though again California rates are significantly lower than the national average. Indeed, both access and participation rates for workers in California lag behind those of the US in all categories, with the largest differences for private sector and smaller firms. Much of the policy debate that has followed on the heels of the recession has centered on small business job creation and Table 2.4 gives some insight as to why, in general, the quality of jobs in smaller firms is not as good as in large firms. In the US, on average, just one in four (25.1%) firms with fewer than 25 employees offered their workers a retirement plan over the 2007–09 span; the share was just one in five (19.7%) in California. In contrast, the access rate for firms with at least 1,000 workers was three out of four (76.6% for US and 75.4% for California).

The step-wise progression of increasing rates of access by firm size is illustrated in **Figure 2.2.** Rates for the US are generally higher than those for California, especially within the three smallest firm sizes, but the gap narrows for firms with more than 500 employees. In other words, the disparity in employer sponsored retirement plan access by firm size is more pronounced in California than in the US as a whole.

Figure 2.2

Employer Sponsored Retirement Plan by Firm Size, US and California 2007–09



Source: See Table 2.4.

Primary Retirement Plan Type: Defined Benefit vs. Defined Contribution

While participating in any kind of employer sponsored retirement plan is important for workers' retirement security, the type of plan also matters. There are two main types of plans. DB plans provide guaranteed benefits and usually entail significant employer funding.[5] Nationally, 75% of DB plans are traditional pensions in which guaranteed monthly benefits are calculated as a percentage of final earnings, based years of service and age. The remainder consist of cash balance plans which provide a guaranteed rate of return on contributions—or, alternately, annual credits based on years of service—and in which benefits are accrued as a notional account balance rather than a monthly payment. The account balance can be withdrawn as a lump sum or, in some cases, an annuity (an insurance contract for a lifetime income payout in exchange for a lump sum payment). DC plans offer no guarantees; rather, they are retirement savings plans to which workers contribute—with or without matching employer contributions—and in which individuals direct investments and assume all risks. Employer contributions to DC plans may take the form of cash, stocks, or in some cases profit sharing. The most common types of DC plans are the 401(k) plan in the private sector and the 403(b) plan in the public sector.

There are few official datasets available for the state level that report DB vs. DC plan participation among workers. The CPS does not specify the types of retirement plans in which workers participate. The NCS, which includes an employer survey of benefits, only reports this data at the national and regional level. Fortunately, a national household survey, the SIPP 2008 panel (U.S. Bureau of the Census, 2011) includes questions on this topic and identifies the state in which respondents reside. However, readers should note that the SIPP yields estimates that are considerably less precise than those derived from the CPS because its sample is significantly smaller.[6] In addition, the universes for the following estimates are somewhat different from those used in the CPS analysis. Therefore, they are not directly comparable to the above CPS data.

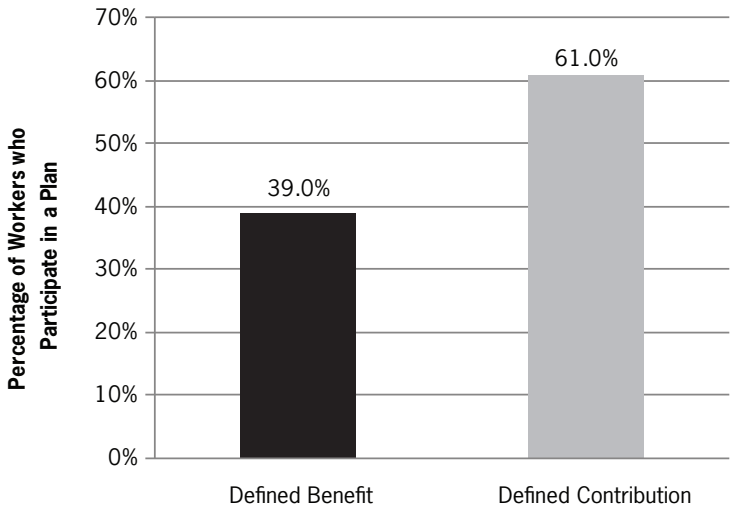
Among California workers age 25–64 who participated in an employer sponsored retirement plan in 2009, 39% have a DB plan as their primary plan and 61% have a DC plan as their primary plan (**Figure 2.3**). This is comparable to national data for all firms from the Bureau of Labor Statistics' National Compensation Survey. Some might find it surprising that the DB plans have even 39% market share as a primary retirement plan. A key explanation is the stark difference in take-up rates between DB and DC plans: 94% versus 69%, respectively, among civilian workers.[7] This is in part due to the fact that DB plans automatically enroll workers and entail mandatory contributions, while DC plans generally require individual workers to actively enroll, usually without significant employer contributions.

DB vs. DC plan coverage varies with age, class of worker (private vs. public), and firm size. Among workers who participate in an employer sponsored retirement plan, young workers, private sector workers, and employees of small firms are least likely to participate in a DB pension as opposed to a DC plan such as a 401(k).

Young workers, in addition to being less likely to have access to a workplace retirement plan as described above, are also less likely to participate in a DB plan (**Figure 2.4**). Only 32.8% of workers age 25–44 had a DB plan as their primary retirement plan on the job in 2009, compared to 46.3% and 46.3% among 45–54 and 55–64 year olds, respectively.

Figure 2.3

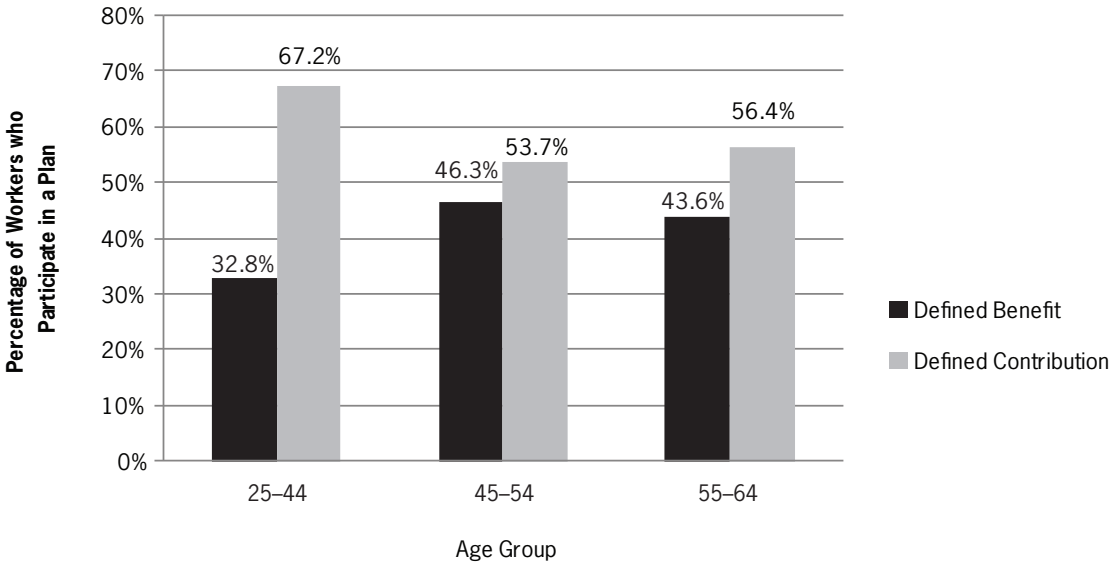
Primary Retirement Plan Type, 2009, California



Source: Authors' analysis of SIPP 2008 panel data. Universe is California residents age 25-64 who worked during the reference period (April-July 2009), had positive earnings, were not unpaid familyworkers, and were not in the Armed Forces, and who reported participating in a retirement plan at their primary job.

Figure 2.4

Primary Retirement Plan Type by Age Group, 2009, California



Source: Authors' analysis of SIPP 2008 panel data. Universe is California residents age 25-64 who worked during the reference period (April-July 2009), had positive earnings, were not unpaid family workers, and were not in the Armed Forces, and who reported participating in a retirement plan at their primary job.

Public sector workers are much more likely to have a DB plan than are private sector workers. This difference is mostly due to significantly higher union density. A greater share of public compensation takes the form of deferred compensation via pension benefits, negotiated through collective bargaining. Our analysis of SIPP data found that in 2009, among private sector workers covered by a retirement plan, one-third (32.1%) had a DB plan while over two-thirds (67.9%) only had a DC plan, In contrast, somewhat more than half (55.9%) of public sector workers had a DB plan as their primary plan, and somewhat less than half (44.1%) relied solely on a DC plan. We note that this DB pension coverage estimate for public sector workers may be too low.[8] Public sector data for the Pacific region from the National Compensation Survey, which excludes federal employees, yields a considerably higher estimate: of those who participated in a retirement plan in 2009, approximately 95% have a DB pension as their primary plan (BLS, 2009).[9]

For DB vs. DC coverage by detailed firm size, the SIPP sample for California was too small to yield reliable estimates. Again, we refer to the NCS data for the Pacific region. In 2009, approximately 62% of workers covered by a retirement plan in firms with 100 or more employees participated in a DB pension, while 38% participated in only a DC plan. In contrast, in firms with fewer than 100 employees only about 29% of workers participated in a DB pension and 71% in only a DC plan.[10]

3. RETIREMENT INCOME PROJECTIONS

In this section, we estimate the retirement readiness of California workers by projecting what their retirement income will be at age 65 and comparing it to the federal poverty threshold. We find that a significant proportion of California workers are not prepared for retirement, and that a majority of young workers face bleak retirement prospects. The risk of being poor or near-poor is very high for low-wage workers, but middle-wage workers also face significant risk of being near-poor in retirement. Workers who participate in an employer sponsored retirement plan of any kind are somewhat less likely to be poor or near-poor than average, but those who participate in a DB plan are much more likely to be able to meet basic expenses in retirement than those who only have a DC plan.

To arrive at the estimates detailed below, we analyzed data from the most up-to-date and comprehensive survey on individual and household income and assets that offers state level information: the Survey of Income and Program Participation (SIPP) 2008 panel.[11] We used this data to calculate current asset balances and project future asset balances for each worker, and determine the amount of monthly income that would be generated by the latter based on current interest rates for life annuities. We also projected lifetime and final earnings in order to estimate DB pension income and Social Security benefits for each worker. We calculated the lifelong income stream that would be generated by these assets using market annuity rates. We added up the monthly annuity, DB pension, and Social Security payments to arrive at total projected monthly retirement income. Finally, we compared each worker's projected monthly retirement income to the federal poverty threshold for individuals. (Detailed methodology can be found in the **Appendix**.)

We use 200% of the federal poverty threshold as the income cutoff below which retirees will face significant economic hardship and have difficulty meeting basic expenses including health care costs. As discussed in Section 1, 200% of the federal poverty threshold is a well accepted measure in high-cost areas like California. However, while official poverty statistics are normally calculated at the

family level, we simply compare projected individual retirement income to the poverty threshold for single individuals.[12] The federal poverty threshold for a single adult in 2009 was $11,161 annually, or $930 monthly.[13] Therefore, we consider workers to be at risk if their projected retirement income is $1,860/month or less in 2009 dollars.

This model predicts whether workers will have enough to live on in relation to an absolute standard of living, twice the federal poverty threshold. However, retirement security is typically defined in terms of having enough retirement income to maintain one's pre-retirement standard of living. This is usually operationalized through a target earnings replacement ratio, e.g., 70–100% of final earnings depending on income level. Because most California workers would need income far exceeding 200% of federal poverty level to meet this standard, our model probably understates the lack of retirement readiness in the state.

Table 2.5 shows the percentage of California workers age 25–64 whose retirement incomes will fall at or below poverty (<100%), near poverty (101–200%), or above poverty (201–300% and >300%). Outcomes are projected by age group: young (25–44), peak working age (45–54), and near retirement (55–64). A worker considered to be at risk for serious economic hardship in old age if his or her retirement income falls under 200% of the poverty threshold for individuals.

Table 2.5

Retirement Readiness Among California Workers, by Age Group

	Age 25–44	Age 45–54	Age 55–64	All Workers 25–64
Ratio of Projected Retirement Income to Poverty Threshold				
≤ 100%	25.9%	20.8%	13.7%	22.3%
101–200%	29.0%	18.5%	19.3%	24.4%
201–300%	11.9%	14.1%	13.9%	12.9%
> 300%	33.2%	46.6%	53.1%	40.4%
Total	100.0%	100.0%	100.0%	100.0%
Share of workers at risk for serious economic hardship in retirement				
Below 200% of poverty threshold	**54.9%**	**39.3%**	**33.1%**	**46.7%**

Note: Totals may not add up due to rounding.

Source: Authors' projections based on SIPP 2008 panel data; data from 2009. See chapter Appendix for income projection methodology. Universe is California residents age 25-64 who worked in the reference period (the past four months), had positive earnings, were not unpaid family workers, and were and are not in the Armed Forces.

A strikingly large proportion of workers age 25–64 (46.7%) are at risk for serious economic hardship in retirement. There is significant variation in the proportion at risk across age groups. Almost one-third (33.1%) of workers near retirement age and almost two-fifths (39.3%) of workers in prime working age are at risk. Young workers are most at risk: over half (54.9%) are at risk having incomes below 200% of the poverty threshold if they retire at age 65.

The risk of being poor or near-poor in retirement is also closely related to wage level (**Table 2.6**). The vast majority (84.6%) of workers in the bottom 25% of the earnings distribution are at risk of economic hardship in old age. In fact, 70.2% are at risk of falling below the poverty threshold, and another 14.4% are at risk of falling below 200% of the threshold.

Table 2.6

Retirement Readiness Among California Workers, by Income Group

	Bottom 25% ($20,784/yr or less)	Middle 50% (20,785–$68,688)	Top 25% ($68,689 and above)
Ratio of Projected Retirement Income to Poverty Threshold			
≤ 100%	70.2%	7.9%	1.6%
101–200%	14.4%	39.3%	5.2%
201–300%	6.4%	16.0%	13.3%
> 300%	9.1%	36.8%	80.0%
Total	100.0%	100.0%	100.0%
Share of workers at risk for serious economic hardship in retirement			
Below 200% of poverty threshold	**84.6%**	**47.2%**	**6.8%**

Note: Totals may not add up due to rounding.
Source: See Table 2.5.

Significantly, the middle class also faces substantial risk of not having enough retirement income to meet even basic expenses. Among workers in the middle 50% of the earnings distribution, a startling share, nearly half (47.2%), are projected to have retirement incomes below 200% of the poverty threshold.

Table 2.7 shows retirement income prospects among workers who participated in a DB plan vs. a DC plan as their primary retirement plan. Only 7.4% of workers who have a DB plan are projected to have retirement incomes below 200% of the poverty threshold, compared to 28.7% of workers whose primary retirement plan is a DC plan. It appears that having any kind of retirement plan improves likely retirement income outcomes. At the same time, workers who rely exclusively on a DC plan are four times as likely workers with DB plans to have retirement incomes inadequate to meet basic needs.

While working past age 65 will improve outcomes somewhat—by increasing Social Security monthly benefits and by shortening the number of years over which to stretch out other retirement assets—working longer cannot serve as a real solution to this crisis if workers do not accumulate sufficient retirement wealth in addition to Social Security. The Employment Benefits Research Institute (EBRI), based on its Retirement Security Projection Model (RSPM®), projects the probability of US households having enough resources to cover basic expenses and uninsured health care costs in retirement, taking into account various market risks. EBRI (VanDerhei & Copeland, 2011) estimates

Table 2.7

Retirement Readiness Among California Workers, by Primary Retirement Plan Type

	Defined Benefit	Defined Contribution
Ratio of Projected Retirement Income to Poverty Threshold		
≤ 100%	1.8%	4.9%
101–200%	5.6%	23.8%
201–300%	8.9%	20.1%
> 300%	83.7%	51.3%
Total	100.0%	100.0%
Share of workers at risk for serious economic hardship in retirement		
Below 200% of poverty threshold	**7.4%**	**28.7%**

Note: Totals may not add up due to rounding.
Source: See Table 2.5.

that among Baby Boom and Generation X households, those in the bottom quartile (bottom 25%) of the preretirement income distribution would need to defer retirement age to 84—close to average life expectancy at 65—before two out of five households would have a 70% probability of success" (p. 1). The second and third quartiles (comprising the middle 50%) would need to defer retirement age to 75 to reach the same threshold (Ibid., p. 14, Figure 8).

4. CONCLUSION

California workers are poorly prepared for retirement. Nearly half of California workers—including a large majority of young workers age 25–44—are projected to lack sufficient resources to meet basic expenses when they retire. Most workers in the state are not in a good position to improve these prospects because of low rates of access to secure retirement savings vehicles through the workplace. Retirement plan access is even lower in California than in the US as a whole, and workers in the private sector and especially in small businesses are most in need of improved access to a high quality retirement plan.

In order to fully understand the implications of these trends, we need to consider them in tandem with two key findings on the economic status of current retirees—first, that Social Security is a key pillar for the vast majority of California retirees, and second, that retirement income from employer plans is critical in order to retire with enough resources to meet basic needs. These realities, taken together with our projection that nearly half of today's workers are headed towards serious economic hardship in retirement, lead to the following conclusion: In order for most California workers to avoid destitution in retirement, they will need full Social Security benefits when they retire; and in

order to enjoy a reasonable standard of living in which they can meet basic expenses, they need a stronger retirement savings system than currently exists. While the political debate over Social Security must be resolved at the national level, California policymakers, businesses, unions, and workers should weigh the long term social and fiscal implications of a workforce that, over time, enters retirement in deepening economic distress, and look for effective policy solutions to improve the retirement income security of all Californians.

* * *

Appendix: Retirement Income Projection Methodology

In order to project retirement income in this study, we use data from waves 3 and 4 of the **2008 panel of the Survey of Income and Program Participation** (SIPP). Specifically, we use data from the Retirement Expectations module in wave 3 of the 2008 SIPP panel, as well as data from the Assets and Liabilities, Real Estate, Stocks and Mutual Funds, Value of Business, Rental Properties, Interest Earning and Other Financial Assets modules in wave 4 of the 2008 SIPP panel. The reference period is different for wave 3 and wave 4. The data for these modules was collected in the 4th reference month for each rotation (from April 2009–July 2009 for wave 3, and August 2009–November 2009 for wave 4).

Because waves three and four are four months apart, their samples are not identical. Wave three contains 95,252 observations, while wave four contains 91,219 observations for the US. The merged data set has 84,994 observations. There were 10,258 observations in Wave 3 that were not in Wave 4. There were 6,225 observations in Wave 4 that were not in Wave 3. Since the merged data set drops a number of observations, it does not exactly mimic population numbers in the general population. For example, the weighted population count for the US is 301 million from wave 3 alone, and 302 million from wave 4 alone. But the merged sample represents 282 million, which is less than the 301 million actually in the US population. Therefore, we had to choose which weights to use. We use weights from the fourth reference month of wave 4 data for the merged sample following the advice of statisticians at the SIPP. The logic behind this choice is that since there is attrition in the sample, the wave 4 sample reflects the population that remained in the sample as of November 2009.

The working sample for this study is limited to civilian residents of the state of California who are age 25–64, who stated that they worked at some point in the reference period (the past four months), and who had positive earnings; it also excludes unpaid family workers.

The Retirement Expectations module asks respondents whether their primary source of income in the previous 4 months was from a job or a business. Based on that answer, occupation, industry, firm size, and class of worker status was assigned from the most important job/business for the person. Our sample does not drop businesses that were unincorporated, or that earned or expected to earn less than $2,500 per year. For such businesses, firm size was assigned to be less than 25 employees.

Sponsorship of a retirement plan was defined by the respondent's answer to the question about whether their employer (at their most important job/business) offers a retirement plan, or if later in the survey, the respondent said that their employer offers a 401(k) plan.

Participation in a retirement plan was ascertained once a respondent stated that their employer sponsors a retirement plan, if they said they participated in such a plan, or if they said they participated in a 401(k) plan through their employer.

The worker's **primary retirement plan** was deemed to be a Defined Benefit (DB) plan if they answered that the plan was based on earnings and years on the job, or if it was a cash balance plan, or if they stated that the plan benefits would be increased or decreased because of participation in the Social Security program. Alternatively, the most important plan was determined to be a Defined Contribution (DC) plan if it is an individual account plan, if it is a 401K plan, or, for those who had only one plan, if they stated that they could choose the investments in the plan, if they could take (or had already) taken out a loan against the plan, or if the contributions to the plan are tax deferred *and* employer contributions depend fully or in part on the employee's contributions. The latter characteristics were asked about all retirement plans, not just the primary plan; therefore they could only be used to ascertain the nature of the *most important* retirement plan for those who had only one retirement plan.

Respondents in the sample were asked about the value of their assets. This is the main value of the SIPP data over CPS data. The SIPP sample gives us a snapshot of earnings and assets for workers aged 25–64 in 2009. **Assets** include non interest earning checking accounts (jointly owned and solely owned), interest earning accounts (jointly owned and solely owned), bonds and securities (jointly owned and solely owned), savings bonds (solely owned), equity in stocks and mutual funds (jointly owned and solely owned), cash value of life insurance policies, equity in other financial investments, market value of IRA and KEOGH accounts, the value of solely owned retirement DC accounts, the equity in rental properties not on the land of residence jointly owned and solely owned, home equity (adjusted for share of ownership), mobile home (adjusted for share of ownership), other real estate (adjusted for share of ownership), business equity (adjusted for share of ownership), and money owed to the respondent for the sale of a business. We then subtract the debt owed jointly and solely for loans, store bills, credit cards, and other debt. This gives us a measure of **current net worth.**

We decided not to forecast earnings growth and growth in assets and debt by choosing among competing macroeconomic forecasting models; instead, we based our estimates of earnings growth and growth in assets and debt on the recent past.

We use this data to forecast **final net worth** and earnings when the workers reach age 65. In order to forecast final net worth, we run a regression of current net worth on social and economic characteristics including age interacted with an indicator for three age categories: 25–44, 45–54, 55–64. The estimated coefficient on age is the amount that net worth increases each year a person ages, and this coefficient differs for each of the age categories. Moreover, the value of the coefficient divided by the average value of net worth for each age category yields the yearly growth rate of net worth that would attain for a typical worker following the age profile of net worth. We then apply this yearly growth rate to current net worth (plus a 2.5% yearly inflation adjustment) for each year a person lives until they reach age 65. The growth rates we get are 6.75% for 25–44 yr old workers, 4.6% for 45–54 yr old workers, and 4% for 55–64 yr old workers. For workers whose current net worth is zero or negative, final net worth is calculated as $1 times the growth rate plus the current net worth (if we applied the growth rate to current net worth, their final net worth would get progressively more negative).

We then convert the value of final net worth into a monthly **annuity.** The annuity formula for a single life annuity (no beneficiaries, and no left over value upon death) is

$$P = R\left[\frac{1-(1+i)^{-n}}{i}\right] = R \cdot a_{\bar{n}|i}$$

where P is the present value of the annuity, R is the periodic annuity payment, i is the interest rate and n is the number of payment periods. We use the Fidelity Guaranteed Income Calculator to derive the annuity value of different levels of future net worth for a male (and separately, for a female) age 65 who was born on June 1, 1944, and lives in California. This calculation is done for males and females separately because of their different life expectancies (different value of n). Based on the R we get from the Fidelity Guaranteed Income Calculator, we calculate the value of ***a*** for males and females, which is 158.98 for males and 169.49 for females for a present value of $100,000. According to the US Center for Disease Control (publication in 2010 using 2007 data), life expectancy at age 65 for males is 17.2 years, while for females it is 19.9 years. Because the life expectancy estimates used by the Fidelity Guaranteed Income Calculator are not disclosed, we calculate the annual rate of return on the annuities offered using our life expectancy estimates. These yield annual interest rates in the range of 3.17–3.66% depending on gender as of July 21, 2011. In reality, the annual interest rate offered by commercial annuity providers is lower than this estimate for a number of reasons. One, annuity companies assume longer life expectancy because of adverse selection (they recognize that individuals who want to buy an annuity know they are likely to live longer than the average individual). Two, a commercial annuity provider is a for-profit entity, and they will require a sales or load fee. It is also worth noting that the annual interest rate on annuities is not inflation protected, meaning that the real rate of return will fall as a person ages.

We calculate the **income stream from a DB plan** as final earnings x 1.5% x the number of years of tenure through retirement (tenure so far + years to retirement). This is divided by 12 to convert it to a monthly stream of income. We assume that all workers who currently participate in a DB plan will remain in such a plan until retirement, which is optimistic. In order to forecast **final earnings,** we run a regression of current earnings on social and economic characteristics including age interacted with an indicator for three age categories: 25–44, 45–54, 55–64. The estimated coefficient on age is the amount that earnings increase each year a person ages, and this coefficient differs for each of the age categories. Moreover, the value of the coefficient divided by the average value of earnings for each age category yields the yearly growth rate of earnings that would attain for a typical worker following the age profile of earnings. We then apply this yearly growth rate to current earnings (plus a 2.5% yearly inflation adjustment) for each year a person lives until they reach age 65. The earnings growth rates we get are 3.5% for 25–44 yr old workers, 3% for 45–54 yr old workers, and 2.9% for 55–64 yr old workers.

We also compute a forecast of monthly **Social Security benefits** for each respondent. We use the worker's final monthly earnings to construct the **Average Indexed Monthly Earnings (AIME)**. This assumes that the wage indexed earnings for the 35 highest earning years all yielded the same value—the final earnings. This assumption overstates workers' AIME and therefore yields higher social security benefits than would actually accrue. The **Primary Insurance Amount (PIA)** is

calculated using the 2009 bend points, where PIA=0.9*(AIME between 1-$744)+ 0.32*(AIME between $744 and $4483)+ 0.15*(AIME above $4483). The PIA *is* the Social Security monthly benefit.

The **forecast total monthly income** in retirement is the sum of the monthly annuity, the monthly DB income stream (if the respondent's primary plan is a DB plan) and the Social Security monthly benefit, less $100 for part B Medicare premium obligations. This constructed measure of monthly income upon retirement is then compared to a forecast poverty threshold upon retirement for California workers, to gauge how each respondent in the sample will fare when they reach age 65 and retire. We forecast the poverty threshold upon retirement by adjusting the annual Federal poverty threshold for inflation (2.5% per year) for each year until the worker reaches age 65. The monthly Federal poverty threshold for a single person in 2009 is $930 ($11,161 / 12).

The **deficit fraction** for each worker is calculated as the forecast total monthly income divided by the monthly value of the poverty threshold, and the result is multiplied by 100. When the deficit fraction is 100%, that means that the respondent's total monthly income is just equal to the poverty threshold. We refer to individuals whose deficit fraction is at or below 100% as **poor.** Individuals whose deficit fraction is between 100–200% are considered **near poor**, while those whose deficit fraction is above 200% are considered to have **adequate resources** for retirement.

Geographical Coverage of the Data

All estimates from the SIPP data are for residents of the state of California.

Endnotes

[1] A significant share of seniors continue to work for pay even after they have nominally retired, and research shows that those work tend to have higher total income than those who do not, even though Social Security payments are reduced after earnings reach a certain threshold. Because we wanted to understand the income and poverty profiles of people in full retirement, we chose to exclude working seniors from the sample.

[2] Includes railroad retirement income.

[3] Not statistically different.

[4] However, over the economic expansion from 2002 to 2007 poverty increased from 12.1% to 12.5%.

[5] Most private sector DB pensions are exclusively funded by the employer. Responsibility for funding for public sector DB pensions is generally shared between employer and employee. In either case, assuming that the pension is pre-funded with regular contributions, investment returns cover the majority of benefits.

[6] In addition, SIPP consistently yields higher estimates of pension coverage than does the CPS due to differences in survey method (Sanzenbacher, 2006). Our analysis of SIPP 2008 Panel data yields an estimate of 58.8% of workers employed by firms that offered a retirement plan during April-July 2009, compared to 52.0% from the CPS in 2009.

[7] NCS Employment Benefits Survey, March 2009, Table 2 "Retirement benefits: Access, participation, and take-up rates, civilian workers." Retrieved September 8, 2011 from http://www.bls.gov/ncs/ebs/benefits/2010/ownership/civilian/table02a.htm.

[8] However, because public sector workers were over-represented in the data, we do not believe that the low DB coverage estimate for public sector workers diluted the coverage estimate for the overall workforce.

[9] According to the NCS, 89% of state and local employees in the Pacific Region (California, Oregon, Washington, Hawaii and Alaska) participated in a retirement plan; 85% in a DB plan; and 26% in a DC plan. This yields a primary DB plan rate of 95%—the percentage of employees participating in a DB plan (85) divided by the percentage of employees participating in all plans (89).

[10] Authors' calculations from published data. See previous note.

[11] The 2008 SIPP panel began in 2008 and is continuing until 2012. The data we draw on comes from the fourth reference month of Waves 3 and 4 of the panel, which were collected in 2009.

[12] For married couples, the combined income at 200% of individual poverty threshold would have been just over $43,600 in 2009. This is about 70% of the $63,882 median income for two-person families in California in 2007-2009 (three-year estimate) from the American Community Survey (Table B19119). Retrieved August 9, 2011 from http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS.

[13] For the purposes of this study, we chose to use the Census Bureau's threshold 2009 for a single adult under age 65 ($11,161 in 2009) rather than the threshold for an adult age 65 and older ($10,289).

References

Engelhardt, G. V. & Gruber, J. (2004). Social Security and the evolution of elderly poverty. Working Paper No. 10466. Cambridge, MA: National Bureau of Economic Research. Retrieved from http://www.nber.org/papers/w10466.

Kochanek, K. D., Xu, J., Murphy, S. L., Miniño, A. M., & Kung, H. C. (2011, Mar.). Deaths: Preliminary data for 2009. *National Vital Statistics Reports,* 59(4). Retrieved from http://www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59_04.pdf.

Munnell, A. H., Golub-Sass, F., & Muldoon, D. (2009, Mar.). An update on 401(k) plans: Insights from the 2007 SCF. Center for Retirement Research Issue in Brief No. 9-5. Chestnut Hill, MA: Center for Retirement Research at Boston College. Retrieved from http://crr.bc.edu/images/stories/IB_9_5_UPDATED.pdf.

Sanzenbacher, G. (2006). Estimating pension coverage using different data sets. Center for Retirement Research Issue in Brief No. 51. Chestnut Hill, MA: Center for Retirement Research at Boston College. Retrieved from http://crr.bc.edu/images/stories/Briefs/ib_51.pdf.

U.S. Bureau of Labor Statistics. (2009). *National Compensation Survey: Employee Benefits in the United States,* March 2009. Retrieved from http://www.bls.gov/news.release/pdf/ebs2.pdf.

U.S. Bureau of Labor Statistics. (2011). *Current Population Survey, Annual March Social and Economic Supplement.* Washington, DC: Census Bureau. Available at http://www.bls.census.gov/cps/ads/sdata.htm.

U.S. Bureau of the Census. (2011). *Survey of Income and Program Participation.* Washington, DC: Census Bureau. Available at: http://www.census.gov/sipp/.

VanDerhei, J. & Copeland, C. (2011, Jun.). The impact of deferring retirement age on retirement income adequacy. EBRI Issue Brief No. 358. Washington, DC: Employment Benefits Research Institute. Retrieved from http://www.ebri.org/pdf/briefspdf/EBRI_IB_06-2011_No358_Defr-Ret.pdf.