

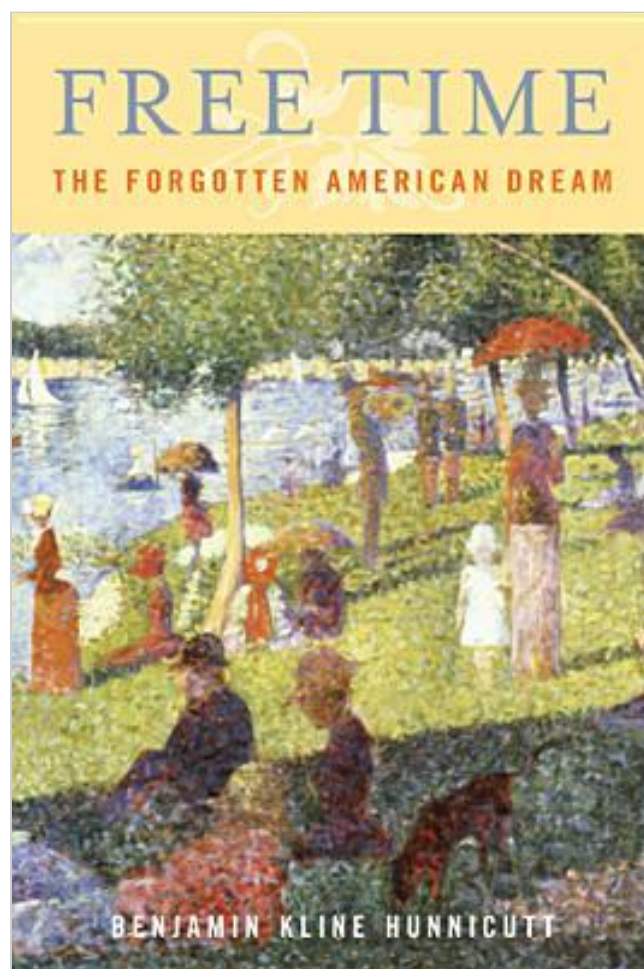
No time to play in the USA?

Free Time: The Forgotten American Dream. By Benjamin Kline Hunnicutt, Philadelphia, PA, Temple University Press, 2013, 250 pp., \$89.50/ cloth; \$34.95/ paperback; \$34.95 e-book

Three hours. That's the most time in a day John Maynard Keynes predicted that his grandchildren would need to work to live comfortably. If everyone pitches in and does their fair share of productive work, the economy will produce more than enough, Keynes reasoned, and humanity's greatest dilemma will be to figure out what to do with so much extra time. In an earlier era, Benjamin Franklin prophesied likewise, except that he said 4 hours, tops. Fast forward to the 21st century, and such visions are much closer to reality among European countries such as Sweden, France, and the Netherlands, where the average employee works less than 40 hours a week, than they are in the United States. American busyness and chronic high levels of work-related stress have become news fodder of late, as the United States seemingly continues to earn its moniker of the most overworked nation among the developed Western countries. Despite steady advances in automation and technology that have raised productivity to record levels, Americans face what could be called a "time famine" in terms of leisure hours.

Several explanations have been put forward in the literature, ranging from economic (slow recovery from the recession, high unemployment, rising prices of goods and services, stagnant wages) to psychological (working hard is a badge of honor; busyness is a status symbol; work defines one's identity and purpose in life; jobs are less routinized and more enjoyable). In *Free Time: The*

Forgotten American Dream, historian Benjamin Kline Hunnicutt provides a different take. Per Hunnicutt, Americans have long been suffering from a "nationwide, intergenerational amnesia" and, as a result, have largely come to equate *progress* with perpetual economic growth, power, material abundance, and consumerism. Hunnicutt



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theorizes that Americans have forgotten an important part of the American dream, *Higher Progress*. Hunnicutt adopted the term *Higher Progress* from the author Walt Whitman's *Democratic Vistas* and understood it as referring to "extraeconomic, nonpecuniary quality of life enhancements." For the purposes of this book, Hunnicutt defines it as the "democratic advance of freedom beyond political liberty and economic struggles." He believes that such progress offers workers a "practical way to capture the traditional American dream and to make real the freedoms promised by the Declaration of Independence." Hunnicutt wrote this book for what he felt was a necessary first step to reawaken the original dream, to resurrect the movement for shorter hours, and to reintroduce *Higher Progress* to mainstream consciousness.

Hunnicutt began his research to solve the busyness puzzle after stumbling upon a 1976 *Monthly Labor Review* article reporting that Americans had no increase in leisure time since the Great Depression. In the intervening nearly 40 years since 1976, he combed the literature extensively, and at times carried out personal interviews, to provide a collation of "voices" from a wide range of personalities on the subject. Among those quoted in the book are labor leaders, workers, theologians, journalists, politicians, businesspeople, professors, and economists. Hunnicutt's goal was to chronicle the rise and collapse of the shorter-hours movement amidst the key economic and political turning points in the United States.

Hunnicutt posits that the "amnesia" wasn't always there. Quite the contrary, he argues, going to great lengths to clarify that it was the very vision of *Higher Progress* that sustained workers' campaign for shorter hours for decades and helped usher in the 10-hour and then 8-hour day in the 19th century. Summarizing the works of well-known 18th century theologians, Hunnicutt traces the religious origins of *Higher Progress* to church sermons in the pre-Revolutionary American colonies, in which pastors used shortening the workweek as one of the metaphors for removing the curse of work dating back to biblical times. Hunnicutt differentiates *Higher Progress* from economic progress, using Whitman's essays on stages of freedom in *Democratic Vistas*, a work that expresses Whitman's belief that economic progress is not an end in itself, but merely a steppingstone to *Higher Progress*. When attained, *Higher Progress* allows an individual to spend more time with families and communities, enjoy nature and culture, and achieve education and enlightenment.

Hunnicutt recounts the fight for shorter work hours, pointing out that it began as an offshoot of the Industrial Revolution and the ensuing laissez-faire capitalism that both interrupted the ancient work-life balance. Workers, including women and children, found themselves toiling under onerous factory conditions for up to 18 hours a day, 6 days a week. To re-create the mindset that fueled the success of the 10-hour and 8-hour campaigns, Hunnicutt specifically targets the voices of workers, labor leaders, industrial feminists, editors, and advocates, sourced from newspapers, speeches, editorials, and circulars. The voices' recurring theme was the ironic failure of the capitalist economy, mechanization, and modern work discipline to liberate workers from the drudgery of jobs and economic worries. This theme carries through to today, notes the author, with the typical workday still pegged at 8 hours and overworking considered acceptable, if not commendable.

In the second half of the book, Hunnicutt describes how the shorter-hours ideology of *Higher Progress* in the early part of the 20th century was eventually eclipsed by the contemporary American dream of "Full-Time, Full Employment," courtesy of the Franklin Delano Roosevelt and succeeding administrations. Hunnicutt's collection of excerpts from leading figures of the time provide context to just how pressing the economic and political realities and patriotic sentiments were during the Great Depression, World War II, and the Cold War. In combination, these events sidelined the fight for leisure and replaced it with the "glorification of work." He chronicles the paradigm shift

among labor leaders: instead of sticking to the century-long battle cry of “shorter hours as gateway to *Higher Progress*,” they viewed the fight for a shorter workday as secondary to retaining employment.

In the book’s conclusion, Hunnicutt acknowledges his belief in the traditional American dream and in *Higher Progress* as a better alternative than an American lifestyle that revolves around consumerism, wealth, power, and overwork. Nonetheless, he is objective enough to mention at least two of the arguments against the less work, more leisure school of thought: first, that critics view the *Higher Progress* ideology as quixotic and utopian because it runs counter to the tenets of a capitalist economy operating at full capacity and to human nature’s insatiable materialistic wants; second, that there is apprehension among some that a majority of people “would never make good use of free time” and will “always need the discipline of full-time work” to have a meaningful existence.

Hunnicutt’s arguments resonate, given the slow recovery from the 2007–2009 recession. The lack of political incentive to reduce working hours, and of workers to pursue such a reduction, is understandable in an environment preoccupied with job creation and a workforce with people bent on either keeping the job they have or looking for work. Still, Hunnicutt remains steadfast in his belief that no “inexorable political or economic reality” should prevent the nation from realizing the original American dream. He seems unwilling to accept the notion that priorities and rational choices are subject to change over time; in other words, he does not buy into the idea that the traditional American dream has become obsolete in the face of changing economic conditions. He appears to underestimate the fact that some people derive more happiness and freedom from work, money, and material things than they do from leisure. He also doesn’t factor in recent improvements, such as teleworking, that offer flexibility to workers, are family friendly, and eliminate commuting. Despite Hunnicutt’s dismissal of them as short-term solutions, the availability of these alternatives seem to imply that employers are cognizant of the negative effects of increased workloads and an unrestrained hard-working culture. Having these options at the workers’ disposal certainly should be considered bread crumbs, at least, in the right direction on the road to *Higher Progress*.

Hunnicutt’s supposition in the title of his book, that free time is the forgotten American dream and that Americans suffer from amnesia, really struck a chord with me. I particularly liked the way the early chapters are designed to bring readers up to speed on the seemingly abstract concept of *Higher Progress*. Nontechnical readers may initially find, as I did, that these chapters are not an easy read but are nonetheless important in laying the groundwork for the theme of the book.

I recommend this book highly to those looking for a fresh perspective on the longstanding issue of the work–leisure tradeoff. Although I found the volume dense and redundant at times, Hunnicutt’s thorough research and meticulous sampling of quotations serve as undeniable evidence that there once was a vision of *Higher Progress* that even the most hardcore skeptic can’t deny and that there could be one again. The book serves as a timely eye opener for any American worker to conduct a self-evaluation of the question “Am I living to work, or working to live?”

Repeat use in the U.S. unemployment insurance system

This article uses administrative data from seven states to examine repeat use in the U.S. unemployment insurance (UI) system in 2003, a period of moderate unemployment. Findings show that more than half of recipients on temporary layoff and nearly a third of displaced recipients became repeat users, that is, started a new UI claim within a year of the end of their initial claim. Repeat use was more prevalent for workers with weak prior attachment to the workforce, those employed in cyclical sectors or blue-collar jobs, low-education workers, and older workers. Further analysis shows that repeat users collected substantially higher benefit amounts than nonrepeat users, causing a substantial burden on the UI Trust Fund. Finally, the article presents evidence that providing reemployment assistance to displaced recipients may be an effective policy for reducing repeat use and alleviating its burden on the UI Trust Fund.

The Unemployment Insurance (UI) system—consisting of 53 UI programs ran by 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands—provides temporary financial assistance to workers who lost their jobs involuntarily, with the objective to help them sustain their quality of life and make efficient job choices. Unemployed workers may file a UI claim and, depending on state-specific UI eligibility requirements, may qualify to collect a certain number of weekly benefit payments during the claim that expires 1 year after it was filed. Benefits are drawn from the UI Trust Fund, which in most states is exclusively financed through an employer tax. Although many recipients find jobs while collecting UI and remain employed for long periods, others are not able to do so and experience unemployment soon after their claim's expiration. These recipients may return to the UI program and start collecting benefits on a new claim; this article refers to this phenomenon as “repeat use of UI.”



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Repeat users are likely to be recipients with a less stable attachment to the workforce, either because of lack of necessary skills and job search resources to find a sustainable job or because of the cyclical nature of their work. Repeat use also may be a result of moral hazard—some recipients may not exert the job search effort required to find sustainable work, relying on the insurance provided by the program. An important consequence is that repeat users collect benefits on multiple claims, so they impose a potentially substantial burden on the UI Trust Fund. Although high prevalence of repeat use would have important implications for the effectiveness and solvency of state UI programs, previous research has largely ignored the issue.

This article fills this research gap by examining repeat use in seven states that represent a wide spectrum of state UI programs within the entire U.S. UI system: Pennsylvania, North Carolina, Oregon, Iowa, Montana, Hawaii, and New Hampshire. The analyses rely on state UI administrative data that provide information on all unemployed workers who started collecting benefits in 2003, a year when the unemployment rate was 6 percent and the insured unemployment rate was 2.8 percent, about the average rates in the United States in the past 20 years. These data provide the following information: recipient socioeconomic characteristics at program entry, benefit amounts collected until the expiration of the 2003 claim, and benefit amounts collected on a new UI claim that started within 12 months of the end of their 2003 claim. Using these data, this article examines the prevalence and costs of repeat use for two types of UI recipients—permanently displaced workers and temporarily laid-off workers.

The results show that more than half of recipients on temporary layoff and nearly a third of displaced recipients started a new claim within 12 months of the expiration of their 2003 claim. Further analysis shows that, among both temporarily laid-off and displaced recipients, repeat use was higher for recipients with relatively weak employment history, those usually employed in volatile sectors and low-skill jobs, low-education workers, and older workers. Repeat users collected substantial benefit amounts on their repeat claims; as a result, the benefit amounts collected by repeat users substantially exceeded those collected by nonrepeat users in all seven states. Finally, the article considers whether providing reemployment assistance to displaced recipients is an effective policy for reducing repeat use. Using Pennsylvania and Hawaii data, the article finds that displaced recipients who were referred to reemployment assistance at the start of their initial claims were much less likely to become repeat users, thus collected substantially lower benefit amounts on repeat claims than their peers. These results provide some evidence that reemployment assistance may be an effective strategy for reducing repeat use and alleviating its burden on the UI Trust Fund.

Background

The U.S. UI system was established in 1935 with the passage of the Social Security Act, largely as a response to the Great Depression, with the objective to insure U.S. workers against temporary periods of involuntary joblessness. The program provides short-term wage replacement to workers who lost their jobs involuntarily in order to help them sustain their quality of life and make efficient job choices during periods of financial strain. Each state administers its own program and has a unique set of rules for determining whether unemployed workers who file a UI claim are eligible for benefits.¹ In all states, only UI claimants who lost their job involuntarily are eligible for benefits—job leavers, those who lost their jobs for cause, and new labor force entrants are ineligible. Furthermore, to qualify for benefits, claimants are usually required to have positive earnings in at least two calendar quarters during the claim's base period.²

Once a claimant is deemed eligible for UI benefits, program administrators use information on the claimant's employment and earnings during the base period to determine the weekly benefit amount and the maximum number of weekly benefit payments the claimant is eligible to receive on the claim. Typically, recipients with stable employment throughout the base period are eligible to receive the maximum benefit amount allowed and up to 26 weeks of benefits on their claim, which expires 1 year after the date it was filed.³ Recipients with less stable work history may be eligible for lower benefit amounts and/or fewer weeks of benefits depending on state rules. At any time after the expiration of the claim, recipients may file for a new UI claim, in which similar criteria are used to determine eligibility.

Benefits are drawn from each state's UI Trust Fund, which in all states—except Alaska, New Jersey, and Pennsylvania—is exclusively financed through an employer tax.⁴ From 2001 through 2010, more than 96 million new UI claims were started in the United States, of which approximately 24 million (25 percent) were started in 2008–2009, the midst of the most recent recession.⁵ During the same period, UI recipients collected \$424 billion in benefits, of which \$138 billion (33 percent) were collected in 2008–2009. These figures illustrate the importance of the UI program in the modern U.S. economy, particularly during recessions when demand for unemployment benefits is high.

Research on the effectiveness of the UI program would fill hundreds of volumes. Previous work shows that about one-third of unemployed workers in the United States receive UI benefits.⁶ Low UI receipt is attributed to several factors, including the fact that job leavers, those who lost their jobs for cause, and new labor force entrants are ineligible for benefits. Low UI receipt also is because of strict eligibility requirements in some states⁷ and because many unemployed workers do not know that they may be eligible for benefits.⁸ Nevertheless, research shows that UI benefits are sufficient to assist those who do receive benefits to avoid major drops in their consumption through periods of joblessness,⁹ providing substantial countercyclical stimulus for the U.S. economy.¹⁰

Researchers and policymakers have been concerned historically about the adverse effects of partial replacement of lost earnings on the reemployment of UI recipients. In fact, previous research shows that the generosity of UI benefits, as measured by the wage replacement ratio and the duration of benefits, leads to increases in unemployment duration¹¹ and has an adverse effect on the work search effort of unemployed workers and of employed workers who face an impending layoff.¹² Another area of concern is maintaining the solvency of the UI Trust Fund without compromising the fundamental objective of the program.¹³ By retaining the solvency of their UI Trust Fund, states avoid seeking federal support or increasing employer taxes to cover a potential deficit. Previous work has discussed several strategies for controlling benefit payments and maintaining UI Trust Fund solvency, including implementing stricter eligibility requirements, adjusting benefit amounts and duration to reduce disincentive effects, imposing strict work search requirements for retaining eligibility, and providing reemployment and job search assistance to hard-to-employ recipients.¹⁴

An issue that has received limited attention in the literature is the prevalence of repeat use. For the purposes of this article, “repeat use” refers to the phenomenon in which UI recipients start a new UI claim within a year after their initial claim expires. Repeat use is an important policy concern for a variety of reasons. For example, repeat users are likely to be permanently displaced workers who lack the necessary skills and job search resources to find a sustainable job while collecting benefits and thus experience unemployment soon after the end of their initial claim. Many repeat users also may be recipients who are usually employed in seasonal or low-skill jobs and thus experience frequent temporary periods of joblessness. Recipients with an inconsistent attachment to the workforce

—either because of their inability to find a stable job or because of the volatile nature of their work—may need reemployment assistance to find stable employment; otherwise, they may become frequent users of the UI system throughout their worklife. Another policy concern is that repeat use may be partially caused by recipients who are not actually interested in obtaining stable employment and rely on the fact that they may qualify for a repeat claim. Regardless of its causes, repeat use potentially may impose a significant burden on the UI Trust Fund; since repeat users collect benefits on multiple claims, they are likely to collect much higher-than-average benefit amounts. Furthermore, repeat users start a new UI claim soon after the end of their initial claim, so they are likely to collect benefit amounts that exceed the contributions of their employers to the system, causing a deficit in the UI Trust Fund.

Despite the potential implications of repeat use for the effectiveness and solvency of state UI programs, researchers have paid limited attention to the prevalence and financial burden of repeat use. Only two articles were found to address this issue. In the first article, Meyer and Rosenbaum show that, between 1979 and 1983, about 40 percent of all recipients started more than one claim in Georgia, Idaho, Pennsylvania, and Washington.¹⁵ In the other article, McCall finds more than one-third of participants in the 1979 National Longitudinal Survey of Youth had multiple UI claims through 2002.¹⁶ This research, however, is dated and provides little evidence on the prevalence of repeat use in the modern U.S. economy, the characteristics of repeat users, and the financial burden repeat use imposes on the UI Trust Fund.

In Canada, repeat use and its implications for the Canadian UI system have received significant attention from researchers and policymakers. In its efforts to assess repeat use in the Canadian UI program, Canada's Department of Human Resources and Skills Development funded the Survey of Repeat Use of Employment Insurance, a nationally representative study of 30,000 individuals who received UI benefits in 1996. Statistics Canada conducted the survey and collected information on UI use for the period 1996–1998. Using the survey responses, two separate studies found that more than half of all individuals who collected UI in 1996 had at least one repeat claim during the study period.¹⁷ These studies also showed that men, older workers, workers with no high school diploma, and workers in construction and agriculture, fishing, and forestry were significantly more likely than average to become repeat users.

Another study examined repeat use by relying on Canadian UI administrative data for the period 1971–1989, showing that about 40 percent of male and female displaced workers who started a UI claim during the study period returned to the program within a year of the start of their initial claim.¹⁸ The same study showed that repeat use was more prevalent for younger workers; workers in construction, agriculture, forestry, and fishing; and individuals with an inconsistent employment history. A study by de Raaf et al. examined repeat use for workers employed in seasonal jobs using the 1993 and 1996 Survey of Labour and Income Dynamics, a longitudinal panel survey that followed a representative sample of Canadian households for a period of 3 years.¹⁹ The study showed 61 percent of workers employed in seasonal jobs had repeat UI claims during the study period; men, older workers, workers with no high school diploma, and married workers were significantly more likely than average to have repeat UI claims.

The results of these studies, although dated, show that repeat use is very common in the Canadian UI system, possibly suggesting that many unemployed workers lack the skills needed to secure sustainable employment or that the existence of the program provides some workers with the opportunity to hold temporary or seasonal jobs—instead of pursuing more permanent jobs—and use UI to replace a portion of their lost earnings when their employment ends. The studies also show that certain groups of displaced workers are much more likely than others are to become frequent UI users. These results raise concerns about the efficacy of the Canadian UI system and have important implications for future policy decisions to improve its effectiveness and financial viability. Similar research is essential to shed light on the prevalence and consequences of repeat use in the U.S. UI program; the objective of this article is to fill this research gap.

Studies show that certain groups of displaced workers are much more likely than others are to become frequent UI users.

Data overview

For the analyses, this article uses UI administrative data from seven states that represent a wide spectrum of UI programs: Pennsylvania, North Carolina, Oregon, Iowa, Montana, Hawaii, and New Hampshire. These data provide information on the universe of unemployed workers who started a UI claim in 2003, a period of moderate unemployment.²⁰ The data provide information on recipient socioeconomic characteristics (e.g., gender, race, age, and education) and employment history (e.g., industry, occupation, and tenure with prior employer) at the start of their 2003 claim. The data also provide the benefit entitlements of recipients on their 2003 claim (weekly benefit amount and weeks of eligibility) and the total benefit weeks and amounts collected during the entire claim. Finally, the data report whether recipients started a new UI claim at any time within 12 months of the end of their 2003 claim,²¹ and the benefit weeks and amounts collected on the repeat claim.

Before any analyses are presented, it is useful to describe the extent to which the seven states in this study represent other state UI programs within the entire U.S. UI system. According to the U.S. Department of Labor's Unemployment Insurance Data Summary,²² unemployed workers started 9.9 million new UI claims in 2003. During the same year, UI recipients collected nearly 21 million benefit weeks and a total of \$5.5 billion in benefits, while state UI Trust Funds had \$3.6 billion in revenue from employer taxes. According to the same data, the seven states in this study accounted for about 13 percent of the new UI claims, total benefit weeks and benefit amounts collected, and UI Trust Fund revenue. In fact, UI recipients in the seven study states collected on the average UI claim 16.2 weeks of benefits with a \$259 weekly benefit amount, which are very similar to the 16.4 weeks and \$253 weekly benefit amount collected in the entire U.S. UI system. As a result, the total benefit amounts collected per new UI claim in the seven states (\$4,196) was quite similar to that of the entire system (\$4,149). Further, the average UI Trust Fund revenue in the seven states (\$2,780 per new UI claim) was nearly identical to the entire system average (\$2,751 per new UI claim). Overall, the seven states examined in this study accounted for a large share of new UI claims in 2003 and, on average, represented the entire system in terms of weekly benefit amounts allowed, benefit weeks and amounts collected, and UI Trust Fund revenue.

In table 1, available recipient characteristics are summarized by state.²³ The first row reports the total number of new UI recipients—in 2003, the number of new UI recipients was as few as 24,825 in New Hampshire and as many as 542,779 in Pennsylvania. In total, based on state administrative data, these seven states reported 1,209,456 new UI recipients in 2003. Table 1 also shows that a significant proportion of recipients on temporary

layoff, that is, workers who lost their jobs but were expecting to be recalled by their previous employers. Of the seven study states, Iowa and Montana had the largest shares of workers on temporary layoff (60 percent and 58 percent, respectively), while Hawaii (28 percent) and New Hampshire (31 percent) had the lowest shares. These disparities might be attributed partly because workers on temporary layoff are typically employed in construction and in the other sectors category, which may account for larger shares of recipients in Iowa and Montana.²⁴

Table 1. Percent of total new unemployment insurance (UI) recipients, by category and state, where applicable, in 2003

Category	Pennsylvania	North Carolina	Oregon	Iowa	Montana	Hawaii	New Hampshire
Total	542,779	333,186	163,396	89,374	28,406	27,490	24,825
Temporary layoff	35	36	40	60	58	28	31
Prior UI claim	46	—	—	53	48	—	34
Industry sector							
Manufacturing	24	—	20	—	11	—	—
Trade	12	—	17	—	12	—	—
Construction	15	—	15	—	21	—	—
Services	34	—	40	—	36	—	—
Other	15	—	8	—	20	—	—
Occupational status							
White collar, high skill	—	—	17	—	11	11	—
White collar, low skill	—	—	27	—	20	27	—
Blue collar, high skill	—	—	30	—	49	37	—
Blue collar, low skill	—	—	26	—	20	25	—
Union hiring hall ⁽¹⁾	7	—	5	9	10	—	—
Men	60	55	60	66	66	60	59
White	83	60	67	94	89	20	93
Hispanic	4	4	9	4	2	5	3
Age							
Less than 25	10	9	12	12	10	8	8
25–54	75	76	75	73	74	76	76
55+	15	15	14	15	16	16	16
Education							
Less than high school diploma	12	12	—	—	—	12	12
High school diploma	60	58	—	—	—	57	63
Associate's degree/some college	16	22	—	—	—	17	8
College degree	9	7	—	—	—	9	13
Postgraduate degree	4	2	—	—	—	5	4
Disabled	2	2	4	1	2	1	2
U.S. citizen	98	98	94	98	99	92	96
Veteran	11	9	9	5	—	—	12
Weeks of eligibility							
0–10	—	—	2	1	1	—	—
11–15	—	13	11	8	15	—	—
16–20	1	14	3	14	35	—	—
21–25	—	17	4	20	26	—	—
26	99	56	80	57	23	100	100

See footnotes at end of table.

Table 1. Percent of total new unemployment insurance (UI) recipients, by category and state, where applicable, in 2003

Category	Pennsylvania	North Carolina	Oregon	Iowa	Montana	Hawaii	New Hampshire
Log weekly benefit amount	\$297 (126)	\$256 (101)	\$257 (119)	\$260 (69)	\$218 (79)	\$321 (100)	\$246 (99)
Weeks received	17.3 (10.1)	13.4 (9.2)	13.4 (12.2)	12.5 (8.9)	12.3 (7.0)	15.4 (10.2)	12.6 (9.7)
Benefits received	\$4,803 (3,700)	\$3,350 (2,973)	\$3,084 (2,567)	\$2,824 (2,278)	\$2,622 (1,909)	\$4,983 (3,751)	\$2,882 (2,748)

Notes:

(1) Union status is not available for recipients on temporary layoff.

Note: Reported are proportions of new UI recipients in 2003; in the last three rows, reported are means, with standard deviations in parentheses.

Source: State UI administrative data.

Analyses presented in this article, where available, find that significant proportions of recipients had started a prior UI claim within 2 years before the start of their 2003 claim. For example, 46 percent of new UI recipients in Pennsylvania had a prior UI claim, indicating that nearly half the 2003 new UI claims in Pennsylvania were started by returning UI recipients. Industry information is only available for Pennsylvania, Oregon, and Montana, where the majority of recipients were in the services sector. Manufacturing was the second largest sector in Pennsylvania (24 percent) and Oregon (20 percent), while in Montana, construction (21 percent) and other sectors (20 percent) were the largest sectors following the services sector. In the states where occupation is available (Oregon, Montana, and Hawaii), the majority of recipients were blue-collar workers.²⁵ In addition, no more than 10 percent of recipients were conducting their job search through a union hiring hall in states where this information is available. Also reported are recipient distributions by gender, race, ethnicity, age, education, disability status, citizenship, and veteran status.

The seven states in this study represent a wide variety of programs in terms of average eligibility duration. New Hampshire and Hawaii were uniform eligibility states, where all recipients were entitled to 26 weeks of benefits. In Pennsylvania, UI eligibility duration was either 16 or 26 weeks, whereas eligibility varied from 8–26 weeks in Iowa and Montana, 13–26 weeks in North Carolina, and 3–26 weeks in Oregon.²⁶ Furthermore, although the weekly benefit amount in all seven states was determined based on the claimant's base-period wages, state differences in average wages and in the generosity of the UI program caused disparities in average entitlements. State disparities in eligibility duration and benefit entitlements are presented in table 1.

Finally, average weeks of benefits received on the entire 2003 claim ranged from 12.3 weeks in Montana to 17.3 weeks in Pennsylvania and average total benefit amounts collected on the 2003 claim ranged from \$2,622 in Montana to \$4,983 in Hawaii. These disparities are partly a result of state differences in average entitlements. For example, recipients in Montana were eligible for the fewer number of weeks and lower weekly benefit amounts than were recipients in any of the other states; thus, on average, Montana recipients collected fewer benefit weeks and amounts on their claim. In contrast, Hawaii and Pennsylvania had the highest entitlements, and recipients in these states collected higher-than-average total benefit amounts. Overall, the seven state UI programs served a substantial number of new recipients in 2003 and varied significantly in program size, as well as in recipient characteristics, employment history, benefit entitlements, and benefits received.

Repeat use of unemployment insurance

Using the data just described, this article examines the prevalence of repeat use in the U.S. UI system during the study period. A repeat user in this study is a new 2003 UI recipient who started a new claim within 12 months of the expiration of the 2003 claim. The analysis divides recipients into two groups: (1) displaced workers, who lost their jobs and did not expect a recall by their employers, and (2) temporarily laid-off workers, who lost their jobs and expected a recall by their employers. Separating the two groups is important because they have different unemployment experiences and are treated differently by state UI programs. Whereas most displaced workers actively look for a new job, most workers on temporary layoff collect benefits until they return to their prior employers.²⁷ Displaced workers are, in fact, required to search for a new job or at least be willing and able to start a new job to retain their UI eligibility in the states examined. Displaced workers also may be required to receive reemployment assistance from available programs, including the Worker Profiling and Reemployment Services (WPRS) program, to retain UI eligibility. Workers on temporary layoff are exempt from work search and reemployment assistance requirements.²⁸

Table 2 presents repeat use rates, by state, for displaced and temporarily laid-off workers. As shown, repeat use rates for recipients on temporary layoff were substantial in all seven states, ranging from 44 percent in Oregon to 56 percent in Pennsylvania and Iowa.

Overall, about 53 percent of recipients who were on temporary layoff at the start of their 2003 claim became repeat users. These figures are perhaps not surprising, since workers on temporary layoff are typically employed in seasonal jobs and experience frequent short-term periods of joblessness. Repeat use among these workers also may be attributable to that state UI programs waive the work search requirement for workers on temporary layoff, enabling employers in cyclical sectors to retain their workforce during periods of low demand. In fact, the findings are consistent with previous work showing that the workers in cyclical sectors—particularly construction—are overrepresented in the UI recipient population.²⁹

Overall, about 53 percent of recipients who were on temporary layoff at the start of their 2003 claim became repeat users.

Table 2. Number of repeat use of new unemployment insurance (UI) recipients, by state, 2003

State and total	Displaced workers		Workers on temporary layoff	
	All recipients	Repeat users	All recipients	Repeat users
Pennsylvania	354,851	108,419 (31)	187,928	104,597 (56)
North Carolina	212,692	50,022 (24)	120,494	65,429 (54)
Oregon	98,816	23,458 (24)	64,580	28,622 (44)
Iowa	35,441	8,667 (24)	53,933	29,944 (56)
Montana	11,989	2,468 (21)	16,417	8,936 (54)
Hawaii	19,769	3,918 (20)	7,721	3,892 (50)
New Hampshire	17,038	2,943 (17)	7,787	3,999 (51)

See footnotes at end of table.

Table 2. Number of repeat use of new unemployment insurance (UI) recipients, by state, 2003

State and total	Displaced workers		Workers on temporary layoff	
	All recipients	Repeat users	All recipients	Repeat users
Total	750,596	199,895 (27)	458,860	245,419 (53)

Note: Repeat users as a percentage of all recipients appear in parentheses.

Source: State UI administrative data.

Table 2 shows that repeat use among displaced workers was much lower than among workers on temporary layoff, but substantial nevertheless. For example, nearly a third of displaced recipients became repeat users in Pennsylvania, while about a quarter became repeat users in North Carolina, Oregon, and Iowa. These figures are revealing. During a period of moderate unemployment, 27 percent of displaced recipients in these seven states returned to the UI program within 12 months of the end of their initial claim. Repeat use among displaced recipients is presumably attributed to a number of factors. For example, one can speculate that some displaced recipients were not able to find sustainable jobs while collecting benefits, whereas others were not actually interested in obtaining stable employment and relied on the fact that they may qualify for a new claim once their initial claim expires.

Overall, in the seven states in this study, 445,314 (37 percent) of displaced and temporarily laid-off recipients started a new UI claim within a year after the end of their 2003 claim. These figures indicate that significant proportions of new UI claims started during that period were started by returning UI recipients. In fact, based on these figures, repeat users accounted for about 40 percent of the total UI claims started in these seven states in 2004.³⁰

The expectation is that the likelihood of returning to the UI program soon after the end of the initial claim would vary across key recipient characteristics that capture workforce attachment, job types, and human capital. For example, weak prior attachment to the workforce (prior UI claim, short tenure with prior employer) may indicate that the recipient is unable or, perhaps, unwilling to establish a consistent attachment to the workforce, thus more likely to become a repeat user. It also is likely that repeat use varies by job type—for example, recipients in volatile sectors such as construction and in blue-collar occupations may experience frequent unemployment spells, so they would be more likely to start a repeat claim. Similarly, recipients with low levels of human capital (low education, younger workers, etc.) may be less likely than are others to obtain stable employment while collecting benefits on their initial claim. To assess the relationship between repeat use and characteristics related to workforce attachment, job types, and human capital, the following model is used:

$$RU_i = \alpha + WORK_i \times \beta + JOB_i \times \gamma + X_i \times \delta + COND_i \times \varepsilon + u_i (1)$$

The dependent variable (RU_i) is the likelihood of repeat use (equals 1 if recipient i was a repeat user, 0 else). Control variables include all available recipient characteristics, as reported in table 1: $WORK_i$ includes variables capturing prior workforce attachment indicators (prior UI claim and tenure), JOB_i includes variables capturing recipient job type (industry, occupation, and union), and X_i includes 2003 claim benefit entitlements (weeks of eligibility and logarithm of weekly benefit amount) and available human capital characteristics (gender, race,

ethnicity, education, age, etc.). The model also includes fixed effects for the recipient's county of residence, the workforce area in which the claim was filed, and the month the 2003 claim was filed (COND_{*i*}) and a zero-mean disturbance term (u_i). The fixed effects remove variation in the repeat use probability caused by local economic conditions or the timing of the start of the 2003 claim, providing more accurate estimates of the relationship between repeat use and recipient characteristics to be produced. This model is estimated separately for displaced recipients and for recipients on temporary layoff, by state, using a linear regression model with clustered standard errors based on the month the 2003 claim was started.

Table 3 presents the regression results for displaced recipients. Those with prior UI use were significantly more likely to become repeat users in states where this information is available. In Pennsylvania, for example, recipients with a prior UI claim were 22.5 percentage points more likely to become repeat users relative to those with no prior use of UI. Furthermore, tenure with the prior employer was negatively related to repeat use in states where this variable is available. An additional year of tenure with the prior employer is associated with a lower repeat use likelihood of 0.1 to 0.5 percentage points. These results suggest that displaced recipients with a less stable employment history are more likely to return to the program either because they cannot secure stable employment or by choice.

Table 3. Regression results, repeat use probability, of displaced workers likely to become repeat users of unemployment insurance (UI), by category and state, where available, 2003

Category	Pennsylvania	North Carolina	Oregon	Iowa	Montana	Hawaii	New Hampshire
Prior UI claim	.225** (.002)	—	—	.140** (.005)	.096** (.009)	.265** (.043)	.098** (.007)
Tenure	-.001** (.000)	—	—	-.002** (.000)	-.001 (.001)	-.005** (.001)	-.003** (.001)
Industry sector							
Manufacturing	-.176** (.003)	—	-.049** (.005)	—	-.042* (.019)	—	—
Trade	-.204** (.002)	—	-.049** (.006)	—	-.037** (.017)	—	—
Services	-.176** (.003)	—	-.038** (.004)	—	-.030* (.015)	—	—
Other	-.152** (.003)	—	-.012* (.006)	—	-.016 (.016)	—	—
Occupational status							
White collar, high skill	—	—	-.115** (.005)	—	-.064** (.014)	-.250** (.010)	—
White collar, low skill	—	—	-.115** (.004)	—	-.038** (.014)	-.197** (.008)	—
Blue collar, high skill	—	—	-.074** (.004)	—	-.020 (.012)	-.186** (.008)	—
Union hiring hall	.200** (.003)	—	.281** (.027)	.329** (.008)	.327** (.016)	—	—
Men	.012** (.002)	.012** (.002)	-.007* (.003)	.044** (.005)	.004 (.008)	.009 (.006)	.029** (.007)
White	.004* (.002)	-.070** (.002)	-.219** (.003)	-.079** (.016)	.004 (.014)	.003 (.007)	-.044** (.012)
Hispanic	.022** (.004)	-.024** (.006)	-.011 (.006)	-.020 (.018)	-.022 (.025)	.049** (.012)	.014 (.021)
Age							

See footnotes at end of table.

Table 3. Regression results, repeat use probability, of displaced workers likely to become repeat users of unemployment insurance (UI), by category and state, where available, 2003

Category	Pennsylvania	North Carolina	Oregon	Iowa	Montana	Hawaii	New Hampshire
Less than 25	-.021** (.002)	-.048** (.003)	-.050** (.004)	-.011 (.007)	-.045** (.012)	-.051** (.011)	-.033** (.012)
55+	.008** (.002)	.031** (.003)	.019** (.004)	.018** (.007)	.008 (.010)	.027** (.008)	.009 (.009)
Education							
Less than high school diploma	.008** (.002)	.004 (.003)	—	—	—	-.001 (.010)	.002 (.011)
Associate's degree/some college	-.023** (.002)	-.084** (.003)	—	—	—	.012 (.007)	-.015 (.011)
College degree	-.061** (.003)	-.119** (.004)	—	—	—	-.001 (.010)	-.049** (.009)
Postgraduate degree	-.074** (.004)	-.130** (.007)	—	—	—	-.031** (.012)	-.060** (.002)
Disabled	-.054** (.004)	.027** (.007)	.068** (.007)	-.044 (.031)	.049* (.023)	-.017 (.030)	-.004 (.023)
U.S. citizen	.011* (.005)	-.010 (.007)	-.007 (.006)	-.014 (.019)	-.006 (.047)	.038** (.011)	-.115** (.017)
Veteran	-.024** (.002)	-.012** (.003)	.040** (.005)	-.001 (.009)	—	—	-.019 (.011)
Weeks of eligibility							
0–10	—	—	-.065** (.010)	-.016 (.020)	.033 (.032)	—	—
11–15	—	-.057** (.003)	-.033** (.004)	.005 (.007)	.033** (.012)	—	—
16–20	-.025** (.006)	-.014** (.003)	-.029** (.009)	.016* (.007)	.030** (.010)	—	—
21–25	—	.005 (.003)	-.001 (.007)	.013** (.006)	.032** (.010)	—	—
Log weekly benefit amount	.008** (.002)	.041** (.002)	-.036** (.003)	.026** (.006)	-.009 (.009)	.054** (.007)	.006 (.007)
R-squared	.1512	.068	.1036	.1221	.1408	.0894	.0577
Number of observations	354,851	212,692	98,816	35,441	11,989	19,769	17,038

Notes:

*Statistically significant at 5 percent.

**Statistically significant at 1 percent.

Note: Reported are linear regression coefficients, with clustered standard errors in parentheses. All specifications include fixed effects for county of residence, workforce area in which the 2003 claim was filed, and the month the 2003 claim was filed.

Source: State UI administrative data.

Industry and occupation also have a strong relationship to repeat use. Regression results in table 3 show that Pennsylvania recipients in construction (the omitted category) were at least 15.2 percentage points more likely to become repeat users than those in manufacturing, trade, services, and other sectors. In Oregon, construction recipients were between 1.2 and 4.9 percentage points more likely to be repeat users than those in manufacturing, trade, and other sectors. In Montana, construction recipients were more likely to be repeat users than those in manufacturing (4.2 percentage points), trade (3.7 percentage points), and services (3.0 percentage points); no statistical significant difference was detected between construction and other sectors. These results show that

repeat use was more prevalent for recipients in construction, a volatile and cyclical sector, in which workers are likely to experience frequent periods of unemployment.

The analyses also show that displaced recipients in blue-collar occupations were more likely than were their white-collar peers to become repeat users in Oregon, Montana, and Hawaii. In Oregon, white-collar high-skilled workers and white-collar low-skilled recipients were 11.5 percentage points less likely than were blue-collar low-skilled recipients to become repeat users. Further, blue-collar high-skilled recipients in Oregon and Hawaii were 7.4 and 18.6 percentage points less likely than were their blue-collar low-skilled peers to return to the program, respectively. These results partially reflect the fact that blue-collar jobs were less stable than white-collar jobs, as evidenced by unemployment rate differences between these two groups during the study period.³¹

Notably, the relationship between industry and repeat use was moderate in Oregon and Montana compared with Pennsylvania. Moreover, in Hawaii, occupation type had much larger effects on the likelihood of repeat use relative to the occupation effects in Oregon and Montana. These patterns may be partly due to the fact that only the Oregon and Montana data report both industry and occupation; Pennsylvania data only report industry and Hawaii data only report occupation. Industry and occupation are strongly correlated—for example, blue-collar workers are more likely than are white-collar workers to be employed in construction. Therefore, not controlling for the UI recipient's occupation in the Pennsylvania model may lead to overestimating the relationship between repeat use and industry, while the omission of industry in the Hawaii model may lead to overestimating the relationship between repeat use and occupation. Despite the data limitations, the results provide strong evidence that repeat use was more prevalent for workers in volatile sectors and low-skill jobs.

Results also show a strong relationship between repeat use and union status in Pennsylvania, Oregon, Iowa, and Montana. Recipients who were conducting their job search through a union hiring hall in these states were 20.0 to 32.9 percentage points more likely than their peers to become repeat users. Interestingly, the positive relationship between union and repeat use is very strong across the four states in which this information is available, including Oregon and Montana, in which the models also control for industry and occupation. These results are consistent with the findings of previous research that unions serve as good sources of information on the UI program for displaced workers, thus union members are overrepresented in the UI population.³²

Education is the most important human capital predictor of repeat use in the four states where this information is available (Pennsylvania, North Carolina, Hawaii, and New Hampshire). For example, in Pennsylvania, recipients with a college degree and those with a postgraduate degree were 6.1 and 7.4 percentage points less likely to become repeat users than were recipients with no more than a high school diploma. Similar results were obtained in the remaining three states, with the exception of Hawaii, where only those with a postgraduate degree were less likely to become repeat users.³³ The negative relationship between repeat use and education is partly attributable to that college-educated workers were less likely than were their peers to experience unemployment during the study period.³⁴

Finally, the results show a strong relationship between repeat use and age. Younger recipients (less than 25 years old) were much less likely than prime-age recipients (25–54 years old) to become repeat users. On the other hand, older recipients (55+ years old) were more likely to become repeat users in most states than were prime-age recipients. These differences may be caused by the fact that younger workers may be less likely than their peers

to find another job that has UI coverage, thus less likely to be eligible for a repeat claim once they lose their new jobs.³⁵

Table 4 presents the regression results for recipients on temporary layoff, which are mostly similar to those for displaced recipients. Workers on temporary layoff with prior UI use were much more likely than were those with no prior UI use to become repeat users. In addition, workers in blue-collar, low-skill occupations and those in construction and other sectors were significantly more likely than were their peers to start a new UI claim within 12 months of the end of their initial claim. Finally, a significant negative relationship was found between education attainment and repeat use and a significant positive relationship between age and repeat use for workers on temporary layoff. These results indicate that, even among recipients on temporary layoff, those with a weak prior workforce attachment, those employed in cyclical sectors and low-skill jobs, and older less-educated workers are more likely to become repeat users.

Table 4. Regression results, repeat use probability, of temporarily laid-off workers likely to become repeat users of unemployment insurance (UI), by category and state, where available, 2003

Category	Pennsylvania	North Carolina	Oregon	Iowa	Montana	Hawaii	New Hampshire
Prior UI claim	.225** (.002)	—	—	.216** (.005)	.225** (.008)	.280** (.071)	.183** (.013)
Tenure	.001** (.000)	—	—	-.006** (.000)	.001 (.001)	-.001 (.001)	-.002 (.001)
Industry sector							
Manufacturing	-.176** (.004)	—	-.043** (.006)	—	-.150** (.015)	—	—
Trade	-.155** (.005)	—	-.027** (.006)	—	-.096** (.015)	—	—
Services	-.105** (.004)	—	-.036** (.005)	—	-.037** (.011)	—	—
Other	-.076** (.004)	—	.013 (.008)	—	.001 (.011)	—	—
Occupational status							
White collar, high skill	—	—	-.138** (.007)	—	-.035** (.016)	-.184** (.047)	—
White collar, low skill	—	—	-.146** (.007)	—	-.036** (.016)	-.202** (.022)	—
Blue collar, high skill	—	—	-.055** (.005)	—	-.023** (.010)	-.135** (.014)	—
Men	-.031** (.003)	-.074** (.003)	-.056** (.005)	.011** (.005)	-.018 (.010)	.041** (.014)	-.008 (.014)
White	.023** (.004)	-.057** (.003)	-.206** (.004)	-.047** (.014)	-.002 (.015)	.018 (.019)	-.025 (.025)
Hispanic	.036** (.007)	-.119** (.006)	-.011 (.008)	-.028 (.018)	-.015 (.028)	.021 (.025)	-.068 (.040)
Age							
Less than 25	-.044** (.004)	-.100** (.006)	-.064** (.006)	-.026** (.007)	-.034** (.013)	-.070** (.023)	-.086** (.023)
55+	.001 (.003)	.040** (.004)	.027** (.005)	.033** (.006)	.054** (.011)	.033* (.016)	.067** (.017)
Education							
Less than high school diploma	-.001 (.003)	.035** (.003)	—	—	—	.038* (.016)	.023 (.016)

See footnotes at end of table.

Table 4. Regression results, repeat use probability, of temporarily laid-off workers likely to become repeat users of unemployment insurance (UI), by category and state, where available, 2003

Category	Pennsylvania	North Carolina	Oregon	Iowa	Montana	Hawaii	New Hampshire
Associate's degree/some college	-.038** (.003)	-.013** (.005)	—	—	—	-.022 (.017)	-.032 (.025)
College degree	-.068** (.005)	-.050** (.013)	—	—	—	-.005 (.031)	-.034 (.026)
Postgraduate degree	-.108** (.009)	-.052** (.021)	—	—	—	.014 (.044)	-.124** (.061)
Disabled	-.077** (.008)	.023 (.014)	.083** (.010)	-.063 (.045)	-.027 (.031)	-.052 (.092)	.057 (.059)
U.S. citizen	-.021** (.010)	.064** (.012)	-.003 (.009)	.006 (.015)	-.058 (.044)	.088** (.019)	.014 (.032)
Veteran	-.027** (.004)	-.012 (.006)	.051** (.007)	-.017 (.010)	—	—	-.060** (.020)
Weeks of eligibility							
0–10	—	—	-.172** (.012)	-.031 (.027)	.062* (.031)	—	—
11–15	—	-.081** (.006)	-.111** (.007)	-.005 (.008)	.141** (.013)	—	—
16–20	-.043** (.010)	-.036** (.005)	-.117** (.010)	.024** (.007)	.153** (.011)	—	—
21–25	—	.027** (.004)	-.052** (.012)	.030** (.005)	.125** (.011)	—	—
Log weekly benefit amount	.009** (.002)	.003 (.004)	.014** (.004)	.078** (.008)	.058** (.011)	.036** (.018)	-.037* (.015)
R-squared	.1153	.0793	.1601	.1443	.1479	.063	.1421
Number of observations	187,928	120,494	64,580	53,933	16,417	7,721	7,787

Notes:

*Statistically significant at 5 percent.

**Statistically significant at 1 percent.

Note: Reported are linear regression coefficients, with clustered standard errors in parentheses. All specifications include fixed effects for county of residence, workforce area in which the 2003 claim was filed, and the month the 2003 claim was filed.

Source: State UI administrative data.

Financial burden of repeat use

The high prevalence of repeat use, as evidenced by the analyses just presented, raises concerns about the potential financial burden that repeat use imposes on the UI Trust Fund. Recipients who return to the program soon after their initial claim ends are likely to receive much higher total benefit amounts than their peers. Perhaps more importantly, repeat users may collect benefits that exceed the contributions of their employers to the system, causing a potentially major source of deficit for the UI Trust Fund. When information on the benefit amounts collected on the entire 2003 claim and on the repeat claim is used, it is easy to compare the total benefit amounts that repeat users and nonrepeat users collected. Tables 5 and 6 present these comparisons for displaced and temporarily laid-off recipients, respectively.

As shown in table 5, the average displaced repeat user in Pennsylvania collected \$5,187 in benefits on the entire 2003 claim and \$4,777 on the repeat claim. Thus, the average displaced repeat user in Pennsylvania collected \$9,964 in total benefits, which is much higher than the \$5,578 collected by the average nonrepeat user. As the

table's right column shows, displaced repeat users collected \$4,386 higher total benefit amounts than their peers collected—this difference is statistically significant at the 1-percent level. Similar results are obtained for the remaining states, in which the difference in total benefits collected between repeat and nonrepeat users ranged from \$2,386 in Oregon to \$5,746 in Hawaii. Notably, repeat users in Pennsylvania and Hawaii collected much higher benefit amounts than did those in the remaining states, which is likely connected to the fact that these two states provided the highest benefit duration and monetary entitlements to eligible recipients (see table 1).

Table 5. Unemployment insurance benefit amounts collected by displaced recipients, by state, 2003

State	Repeat users			Nonrepeat users	Difference ⁽¹⁾
	2003 claim	Repeat claim	Total	Total	
Pennsylvania	\$5,187 (3,620)	\$4,777 (3,616)	\$9,964 (6,281)	\$5,578 (3,828)	\$4,386** (17)
North Carolina	4,737 (3,046)	3,323 (2,332)	8,060 (4,422)	4,154 (2,973)	3,906** (17)
Oregon	3,223 (3,375)	2,573 (2,443)	5,796 (4,527)	3,410 (3,970)	2,386** (31)
Iowa	3,572 (2,354)	3,049 (2,163)	6,621 (3,648)	3,409 (2,426)	3,212** (34)
Montana	3,101 (2,000)	2,394 (1,696)	5,495 (2,932)	2,876 (2,203)	2,619** (54)
Hawaii	6,095 (3,656)	5,314 (3,772)	11,409 (6,078)	5,662 (3,821)	5,746** (78)
New Hampshire	3,337 (2,732)	2,601 (2,336)	5,938 (3,855)	3,527 (2,958)	2,411** (63)

Notes:

⁽¹⁾ Difference is the mean in total benefit amounts collected between repeat users and nonrepeat users, with standard error in parentheses.

**Statistically significant at 1 percent.

Note: Reported are the average total benefit amounts collected, with standard deviations in parentheses.

Source: State UI administrative data.

Table 6 shows that repeat users on temporary layoff collected much higher benefit amounts than their peers collected in each of the seven states, with the difference ranging from \$2,565 in North Carolina to \$4,869 in Hawaii. Interestingly, a comparison of the figures in tables 5 and 6 shows that in all states except Montana, repeat users on temporary layoff collected significantly lower total benefit amounts than did displaced repeat users. These disparities are partly because displaced recipients had a steadier work history during the claim's base period, thus higher benefit entitlements. In fact, separate analyses show that in all seven states, displaced repeat users had higher benefit entitlements on their initial and repeat claims than temporarily laid-off repeat users. Similar disparities existed between displaced and temporarily laid-off nonrepeat users.

Table 6. Unemployment insurance benefit amounts collected by recipients temporarily laid off, by state, 2003

State	Repeat users			Nonrepeat users	Difference ⁽¹⁾
	2003 claim	Repeat claim	Total	Total	
Pennsylvania	\$3,750 (3,102)	\$3,714 (3,151)	\$7,464 (5,578)	\$3,334 (3,345)	\$4,130** (22)
North Carolina	1,875 (2,094)	2,164 (2,212)	4,039 (3,588)	1,474 (1,990)	2,565** (17)
Oregon	2,785 (2,745)	2,654 (2,484)	5,440 (4,258)	2,547 (3,283)	2,893** (30)
Iowa	2,642 (2,016)	2,644 (2,033)	5,286 (3,622)	2,128 (2,139)	3,158** (26)
Montana	2,763 (1,554)	2,651 (1,624)	5,414 (2,722)	1,973 (1,689)	3,441** (36)
Hawaii	3,705 (2,951)	3,499 (2,993)	7,204 (4,991)	2,334 (2,489)	4,869** (90)
New Hampshire	1,921 (1,728)	2,087 (1,800)	4,008 (3,077)	1,143 (1,500)	2,865** (55)

Notes:

⁽¹⁾ Difference is the mean in total benefit amounts collected between repeat users and nonrepeat users, with standard error in parentheses.

**Statistically significant at 1 percent.

Note: Reported are the average total benefit amounts received, with standard deviations in parentheses.

Source: State UI administrative data.

Separate calculations show that repeat users in these seven states collected a total of more than \$1.5 billion in benefits on their repeat claims, from \$16 million in New Hampshire to \$906 million in Pennsylvania. These numbers show that the benefit amounts collected by repeat users on their repeat claims were about 28 percent of the total benefits collected by all recipients in 2003 (\$5.5 billion) or about 35 percent of the total benefits collected by all recipients in 2004 (\$4.4 billion) in the seven study states.³⁶

These figures show that repeat use imposed a substantial financial burden on the UI Trust Fund, which raises an important policy question, Is the repeat use burden covered by employers responsible for repeat use (i.e., employers that employ repeat users prior to their initial and/or repeat claim) or is it shared by all employers? States use an experience-based system to determine employer UI tax rates, in which employers with high layoff rates—including, presumably, those responsible for repeat use—have higher tax rates. Therefore, employers responsible for repeat use are expected to have disproportionately higher contributions to the UI Trust Fund compared with employers that do not employ workers who are likely to repeatedly use UI. It is unknown, however, whether the potentially higher contributions of employers responsible for repeat use sufficiently cover the repeat use burden. Addressing this question is important from a policy perspective. For example, if employers responsible for repeat use do not cover the repeat use burden, states may want to adjust their system to penalize those employers with higher UI tax rates. On the other hand, the repeat use burden would not be an important policy concern if those employers had sufficiently high UI tax rates under the current experience-based system to cover the burden. Unfortunately, the data in this study do not contain information on employer UI contributions, thus this study does not attempt to tackle this question.

Reemployment assistance and repeat use

Considering that the analyses were conducted during a period of moderate unemployment, the findings of this study raise important policy concerns. High repeat use rates suggest that many recipients are unable to establish a consistent attachment to the workforce either because of the lack of necessary skills or the cyclical nature of their work. Both among displaced and temporarily laid-off recipients, repeat use was higher for those in cyclical sectors, those in low-skill jobs, and those with no college education. Repeat use also may be due to moral hazard; some recipients may be unwilling to exert the necessary effort to secure stable employment, relying on the fact that they may qualify for a repeat claim. This assertion is reasonable, considering that repeat use was substantially higher for workers with a short tenure with their prior employers and those with a history of using UI benefits.

The high prevalence of repeat use among displaced recipients is particularly disconcerting because it indicates that many of them struggle to find sustainable jobs while collecting benefits. The latter may be due to several factors, including that many displaced recipients lack the necessary skills or job search resources to find sustainable employment. Such recipients may become frequent users of the UI system throughout their worklife. Therefore, it is of particular interest to assess whether providing reemployment services to displaced recipients at the start of their initial claim is an effective policy tool for reducing repeat use.³⁷

During the study period, the only reemployment assistance program that specifically targeted displaced recipients is the WPRS program. This program requires states to use a profiling mechanism to identify displaced workers most likely to exhaust benefits on their claim and refer them to reemployment services, which may include individual skills assessment, job counseling sessions, job search workshops, and other resources available at the local workforce office. Most states use a profiling model that estimates the likelihood of exhaustion based on observed recipient characteristics, such as education, prior UI receipt, industry, and occupation.³⁸ Each week, based on available resources at each local workforce office, states refer recipients with the highest profiling scores (i.e., predicted likelihood of exhausting benefits) to WPRS.³⁹ Displaced recipients referred to WPRS are required to receive those services, otherwise they forfeit their UI eligibility. Temporarily laid-off recipients are exempt from WPRS requirements.

Multiple researchers have shown that reemployment assistance provided by the public workforce development system and the WPRS program, in particular, is effective in reducing initial UI spells (i.e., number of UI weeks collected by recipients on their initial claim).⁴⁰ Some of this research also has shown that reemployment assistance may have long-term impacts. For example, Bloom finds that reemployment services provided by the Texas Worker Adjustment Demonstration were effective in assisting displaced workers stay employed longer and reduce their future UI spells.⁴¹ Corson and Haimson find that displaced workers who were offered reemployment services by the New Jersey Job Search Assistance demonstration were more likely than were their peers to find sustainable jobs and avoid future unemployment spells.⁴² However, limited evidence exists on the effectiveness of reemployment services in reducing repeat use.

The Pennsylvania and Hawaii data used in this article report which recipients were referred to WPRS at the start of their 2003 UI claim.⁴³ Using this information, this article produces evidence about the potential efficacy of referral to reemployment services in reducing repeat use and the benefit amounts received on repeat claims. As just indicated, the likelihood of referral to WPRS is based on the recipient's profiling score and the available resources at the local workforce office where the recipient is assigned. Specifically, each week, recipients with the highest profiling scores in each local workforce office are referred to services. This selection procedure produces an

implicit profiling score cutoff point—each week, recipients with profiling scores below the cutoff point have a zero probability of being referred to services, while those above the cutoff point have a high probability of being referred to services. Based on this referral mechanism, one can estimate the impact of WPRS referral on recipient repeat use outcomes through a regression discontinuity design, in which the outcomes of recipients with a profiling score marginally above the cutoff point are compared with the outcomes of recipients with a profiling score marginally below the cutoff point. Unfortunately, recipient profiling scores and their local workforce office were not reported in the data, so implementing this approach is not feasible.

Instead, this article assesses the potential impact of WPRS on repeat use by estimating two models for Pennsylvania and Hawaii, in which the dependent variables are the likelihood of repeat use and the benefit amounts collected on the repeat claim. These models include all recipient characteristics used in the repeat use models (as shown in table 3) and *WPRS Referral*, a dummy variable that equals 1 if the recipient was referred to WPRS and 0 else. Although recipient profiling score is unavailable, the specifications include all characteristics used to construct the profiling score in Pennsylvania (industry, tenure, benefit entitlement, education, county of residence, and month of claim) and in Hawaii (prior use of UI, occupation, tenure, education, benefit entitlement, county of residence, and month of claim). Furthermore, although the local workforce office in which the claim was filed is not reported in the data, the specifications include workforce area fixed effects (i.e., the workforce area that includes the local workforce office where the claim was filed) and county of residence fixed effects. The profiling score variables and the workforce area and county of residence fixed effects capture, to a great extent, the variation in the likelihood of services referral produced by the WPRS selection mechanism. Thus, although the parameters of *WPRS Referral* do not constitute unbiased estimates of the effect of reemployment services on repeat use outcomes, they do strongly indicate whether such services may be effective in reducing repeat use.

Table 7 reports the regression results. As shown, displaced recipients referred to WPRS in Pennsylvania and Hawaii were 10.5 and 8.0 percentage points less likely to become repeat users than their peers, respectively. When these figures are compared with the average repeat use rate for displaced recipients in each state, referral to WPRS services is associated with a 34 percent and 40 percent lower repeat use probability in Pennsylvania and Hawaii, respectively. Table 7 also shows that referral to WPRS services is associated with significantly lower benefit amounts collected on repeat claims. Specifically, displaced recipients referred to reemployment services in Pennsylvania and Hawaii collected, on average, \$348 and \$424 lower benefit amounts on repeat claims than their peers. Compared with the average repeat benefits received, WPRS referral is associated with 24 percent and 40 percent lower repeat benefits collected in Pennsylvania and in Hawaii, respectively.

Table 7. Regression results of Worker Profiling and Reemployment Services (WPRS) and of repeat use and the benefit amounts collected for displaced workers, by category and state, where available, 2003

Category	Likelihood of repeat use		Repeat benefit amounts collected	
	Pennsylvania	Hawaii	Pennsylvania	Hawaii
WPRS referral	-.105** (.003)	-.080** (.008)	-\$348** (18)	-\$424** (54)
Prior unemployment insurance claim	.199** (.002)	.267** (.042)	796** (10)	1,117** (290)

See footnotes at end of table.

Table 7. Regression results of Worker Profiling and Reemployment Services (WPRS) and of repeat use and the benefit amounts collected for displaced workers, by category and state, where available, 2003

Category	Likelihood of repeat use		Repeat benefit amounts collected	
	Pennsylvania	Hawaii	Pennsylvania	Hawaii
Tenure	-.001** (.000)	-.005** (.001)	-3** (1)	-31** (4)
Industry sector				
Manufacturing	-.170** (.003)	—	-1,365** (19)	—
Trade	-.200** (.003)	—	-1,340** (20)	—
Services	-.170** (.003)	—	-1,225** (18)	—
Other	-.149** (.003)	—	-1,116** (20)	—
Occupational status				
White collar, high skill	—	-.235** (.010)	—	-1,352** (67)
White collar, low skill	—	-.184** (.008)	—	-1,097** (58)
Blue collar, high skill	—	-.172** (.008)	—	-995** (54)
Union hiring hall	.198** (.003)	—	2,350** (21)	—
Men	.012** (.002)	.008 (.006)	103** (10)	114** (44)
White	.005** (.002)	.005 (.007)	-54** (14)	139** (47)
Hispanic	.021** (.004)	.049** (.012)	78** (25)	268* (84)
Age				
Less than 25	-.023** (.002)	-.051** (.010)	-131** (16)	-314** (71)
55+	-.007** (.002)	.028** (.008)	75** (14)	209** (52)
Education				
Less than high school diploma	.013** (.002)	-.001 (.010)	12 (15)	-165** (66)
Associate's degree/some college	-.023** (.002)	.010 (.007)	-4 (13)	168** (51)
College degree	-.065** (.003)	-.008 (.009)	-178** (16)	-3 (65)
Postgraduate degree	-.078** (.004)	.025* (.012)	-222** (23)	162 (82)
Disabled	-.052** (.004)	-.017 (.030)	-172** (28)	-182 (206)
U.S. citizen	.013** (.005)	.040** (.011)	175** (34)	386** (76)
Veteran	-.024** (.002)	—	-38** (16)	—
Weeks of eligibility				
0–10	—	—	—	—
11–15	—	—	—	—

See footnotes at end of table.

Table 7. Regression results of Worker Profiling and Reemployment Services (WPRS) and of repeat use and the benefit amounts collected for displaced workers, by category and state, where available, 2003

Category	Likelihood of repeat use		Repeat benefit amounts collected	
	Pennsylvania	Hawaii	Pennsylvania	Hawaii
16–20	–.027** (.006)	—	78* (40)	—
21–25	—	—	—	—
Log weekly benefit amount	.009** (.002)	.066** (.007)	637** (10)	732 (48)
R-squared	.1546	.0941	.177	.0765
Number of observations	354,851	19,769	354,851	19,769
Dependent variable mean	31 percent	20 percent	1,460 (2,973)	1,053 (2,703)

Notes:

*Statistically significant at 5 percent.

**Statistically significant at 1 percent.

Note: Reported are linear regression coefficients, with clustered standard errors in parentheses. All specifications include fixed effects for county of residence, workforce area in which the 2003 claim was filed, and the month the 2003 claim was filed.

Source: State unemployment insurance administrative data.

THIS ARTICLE PRESENTS EVIDENCE of the prevalence of repeat use of UI benefits during a period of moderate unemployment using administrative data from seven states that represent a wide spectrum of programs in the U.S. UI system. The results show that more than half of temporarily laid-off recipients and more than a quarter of displaced recipients in 2003 started a new UI claim within 12 months of the end of their initial claim. The high prevalence of repeat use for recipients on temporary layoff was perhaps not surprising, because they are typically employed in seasonal sectors and experience frequent short-term unemployment spells. Furthermore, because they are not required to search for a job or receive reemployment assistance to remain eligible for benefits, most of the recipients on temporary layoff are likely to return to their prior jobs, thus experience unemployment soon after their initial claim expires. In contrast, the high repeat use rates for displaced recipients are quite revealing and suggest that many displaced recipients are unable to find sustainable jobs and establish a consistent attachment to the workforce.

Multivariate regression analyses show that recipient prior workforce attachment, job types, and human capital characteristics strongly predict repeat use for both displaced and temporarily laid-off recipients. Workers with a weak prior workforce attachment, as captured by prior participation in the UI program and short tenure with their prior employer, were significantly more likely to become repeat users than were their peers. Repeat use also was higher for recipients usually employed in cyclical sectors, particularly construction, and in blue-collar jobs, particularly low-skill jobs. The most important human capital predictors of repeat use were education and age; recipients with a college education and younger recipients were less likely to return to the program. Overall, these results show that repeat use is more prevalent for workers with an inconsistent employment history, those employed in low-skill and/or cyclical jobs, workers with low education, and older workers. Therefore, state UI programs that have a large intake of such workers are likely to experience high repeat use rates.

This study also shows that repeat use is very costly for the UI Trust Fund. Repeat users collected substantial benefit amounts on their repeat claims and, as a result, collected much higher benefit amounts than nonrepeat users. The benefit amounts collected by repeat users on their repeat claim accounted for about a third of the amounts collected by all UI recipients in the seven states during the study period. These results have important policy implications. States use an experience-based system to determine employer UI tax rates, which presumably imposes higher rates on employers responsible for repeat use. If in fact these employers have higher UI tax rates and their contributions suffice to cover the repeat use burden, then repeat use is not a cause of deficit for the UI Trust Fund. On the other hand, if the repeat use burden is not covered by the contributions of employers responsible for repeat use, states may want to adjust their system to penalize these employers with higher UI tax rates.

Finally, this article examines whether providing reemployment assistance to displaced recipients is an effective policy for reducing repeat use. With Pennsylvania and Hawaii data used, it is evident that displaced recipients who were referred to reemployment services under the WPRS program were 34 percent and 40 percent less likely than their peers to become repeat users, respectively. As a result, displaced recipients who were referred to reemployment services collected substantially lower benefit amounts on their repeat claims relative to their peers. These results provide some evidence that providing reemployment assistance to displaced recipients early in their initial claims may be an effective policy for reducing the prevalence and financial burden of repeat use.

In conclusion, this article fills a conspicuous gap in the literature about the prevalence of repeat use and its implications for the effectiveness and solvency of the U.S. UI system. The findings highlight the importance of better understanding the causes and consequences of repeat use, including examining repeat use during periods of high unemployment, particularly during the most recent recession, and assessing the effect of repeat use on the solvency of the UI Trust Fund and employer UI taxes. Finally, further research is needed to assist policymakers and program administrators identify strategies, including reemployment assistance, to help unemployed workers establish a strong attachment to the workforce and avoid becoming repeat users of the UI system.

SUGGESTED CITATION

Marios Michaelides, "Repeat use in the U.S. unemployment insurance system," *Monthly Labor Review*, U.S. Bureau of Labor Statistics, September 2014, <https://doi.org/10.21916/mlr.2014.30>.

NOTES

¹ For a detailed discussion of current eligibility rules by state, see "Comparison of state unemployment laws 2013," Employment and Training Administration (U.S. Department of Labor, June 2014), <http://workforcesecurity.doleta.gov/unemploy/comparison2011.asp>.

² In most states, the base period includes the first four of the five calendar quarters preceding the date the claim was filed.

³ For example, a claim filed on May 1, 2003, would expire on April 30, 2004.

⁴ Alaska, New Jersey, and Pennsylvania are the only states that levy a UI tax on employees, in addition to the UI tax on employers.

⁵ "Monthly program and financial data," Employment and Training Administration (U.S. Department of Labor, June 2014), <http://www.ows.doleta.gov/unemploy/claimssum.asp>.

⁶ See Walter Corson and Walter Nicholson, "An examination of declining UI claims during the 1980s," Unemployment Insurance Occasional Paper 88-3, Employment and Training Administration (U.S. Department of Labor, 1988); David C. Wittenburg, Michael Fishman, David Stapleton, Scott Scrivner, and Adam Tucker, "Literature review and empirical analysis of unemployment insurance reciprocity ratios: final report," The Lewin Group (U.S. Department of Labor, 1999); Jonathan Gruber, "The wealth of the unemployed:

adequacy and implications of unemployment insurance,” NBER Working Paper No. 7348 (Cambridge, MA: National Bureau of Economic Research, 1999); and Aisling Cleary, Joyce Kwok, and Rob Valletta, “New highs in unemployment insurance claims,” *FRBSF Economic Letter*, September 8, 2009, Series 2009-28.

⁷ See Harry Holzer, “Unemployment insurance and welfare recipients: what happens when the recession comes?” *New federalism: issues and options for states*, Series A-46 (Urban Institute, December 2001), <http://www.urban.org/publications/310032.html>.

⁸ See Stephen A. Wandner and Andrew Stettner, “Why are many jobless workers not applying for benefits?” *Monthly Labor Review*, June 2000, pp. 21–32; and Wayne Vroman, “Unemployment insurance recipients and nonrecipients in the CPS,” *Monthly Labor Review*, October 2009, pp. 44–53.

⁹ See Jonathan Gruber, “The consumption smoothing benefits of unemployment insurance,” *American Economic Review*, March 1997, pp. 192–205; and Jonathan Gruber, “The wealth of the unemployed: adequacy and implications of unemployment insurance,” NBER Working Paper No. 7348 (Cambridge, MA: National Bureau of Economic Research, October 2001).

¹⁰ See Lawrence Chimérine, Theodore S. Black, and Lester Coffey, “Unemployment insurance as an automatic stabilizer: evidence on the effectiveness over three decades,” Unemployment Insurance Occasional Paper 99-8, Martha K. Matze, ed. (U.S. Department of Labor, 1999); and Wayne Vroman, “The role of unemployment insurance as an automatic stabilizer during a recession,” ETA Occasional Paper 2010-10 (U.S. Department of Labor, November 2010).

¹¹ See Bruce D. Meyer, “Unemployment insurance and unemployment spells,” *Econometrica*, July 1990, pp. 757–782; Elena G. F. Stancanelli, “Unemployment duration and the duration to unemployment benefits: an empirical study for Britain,” *Applied Economics*, 1999, pp. 1043–1051; and Štěpán Jurajda and Frederick J. Tannery, “Unemployment durations and extended unemployment benefits in local labor markets,” *Industrial and Labor Relations Review*, February 2003, pp. 324–348.

¹² See James M. Poterba and Lawrence H. Summers, “Unemployment benefits and labor market transitions: a multinomial logit model with errors in classification,” *Review of Economics and Statistics*, May 1998, pp. 207–216; Štěpán Jurajda, “Estimating the effect of unemployment insurance compensation on the labor market histories of displaced workers,” *Journal of Econometrics*, May 2001, pp. 227–252; and Chris Riddell and Peter J. Kuhn, “The long-term effects of unemployment insurance: evidence from New Brunswick and Maine,” 1940–1991, *Industrial and Labor Relations Review*, January 2010, pp. 183–204.

¹³ See Wayne Vroman, “The history of state UI financing,” in *Topics in Unemployment Insurance Financing* (Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 1998); Ernest Goss and James Knudsen, “Evaluation of solvency standards for state Unemployment Insurance Trust Funds,” *Public Budgeting and Finance*, Winter 1999, pp. 3–20; and Wayne Vroman, “The recession of 2001 and unemployment insurance financing,” Research Report (The Urban Institute, January 2005).

¹⁴ See Paul T. Decker, Robert B. Olsen, and Lance Freeman, “Assisting unemployment insurance claimants: the long-term impacts of the job search assistance demonstration,” Office of Workforce Security Occasional Paper 2000-02 (U.S. Department of Labor, February 2000); Gary Burtless and Wayne Vroman, “New policy opportunities for unemployment insurance,” IMPAQ International Paper, submitted to U.S. Department of Labor, 2006; and Walter Nicholson and Karen Needels, “Unemployment insurance: strengthening the relationship between theory and policy,” *Journal of Economic Perspectives*, Summer 2006, pp. 47–70.

¹⁵ Decker et al., “Assisting unemployment insurance claimants”; Burtless and Vroman, “New policy opportunities”; and Nicholson and Needels, “Unemployment insurance,” pp. 47–70.

¹⁶ See Brian P. McCall, “Repeat use of unemployment insurance in the United States: evidence from the NLSY79,” Working Paper (University of Minnesota, 2005).

¹⁷ See Saul Schwartz, Wendy Bancroft, David Gyarmati, and Claudia Nicholson, “The frequent use of unemployment insurance in Canada,” Earnings Supplement Project Report (Social Research and Demonstration, March 2001); Lori M. Stratychuk, “Repeat users of employment insurance,” *Perspectives on Labour and Income*, Summer 2001.

¹⁸ See Miles Corak, “Unemployment insurance once again: the incidence of repeat participation in the Canadian UI Program,” *Canadian Public Policy*, June 1993, pp. 162–176.

¹⁹ See Shawn de Raaf, Constantine Kapsalis, and Carole Vincent, “Seasonal work and employment insurance use,” MPRA Working Paper 25700 (University Library of Munich, Germany, September 2003).

²⁰ In 2003, the U.S. economy was recovering from the early 2000s recession, which according to the National Bureau of Economic Research (NBER) lasted from March 2001 through November 2001. In 2003, the U.S. unemployment rate was 6.0 percent and dropped to 5.5 percent in 2004 and 5.1 percent in 2005. See “Unemployment,” Databases, Tables & Calculators by Subject (U.S. Bureau of Labor Statistics), <https://www.bls.gov/data/#unemployment>. Similarly, the insured unemployment rate (UI claims as a percentage of covered employment) was 2.8 percent in 2003 and dropped to 2.3 percent and 2.1 percent in 2004 and 2005, respectively. See “Unemployment Insurance Chartbook,” Employment and Training Administration (U.S. Department of Labor, February 2013), <http://workforcesecurity.doleta.gov/unemploy/chartbook.asp>. These rates are about average for the 1991–2011 period (5.9-percent unemployment and 2.5 percent insured unemployment) but are much lower than the rates for the 2008–2010 period (8.2-percent unemployment and 3.5-percent insured unemployment), which includes the most recent recession (December 2007–July 2009, according to NBER).

²¹ For example, consider a recipient who started a new UI claim on June 1, 2003—this claim expired on May 31, 2004. The data report whether the recipient started a new UI claim at any time from June 1, 2004 through May 31, 2005.

²² These quarterly data report estimates of key indicators for the UI system (overall and by state), including number of new UI claims started, total benefit amounts paid, total benefit weeks paid, average weekly benefit amounts, and total revenue from UI employer taxes. The data also report average weeks of benefits received (total benefit weeks paid divided by number of new UI claims started), average benefit amounts received (total benefit amounts paid divided by number of new UI claims started), and average UI Trust Fund revenue (total revenue divided by number of new UI claims started). For more details, see <http://www.ows.doleta.gov/unemploy/content/data.asp>.

²³ Because of state differences in the information gathered for UI claimants during the application process, availability of recipient characteristics varies across the seven states in this study.

²⁴ Industry information is only available in Pennsylvania, Oregon, and Montana. As shown in table 1, of these three states, Montana had the highest proportion of recipients in construction (21 percent) and in the other sectors category (20 percent), which includes agriculture, mining, and transportation.

²⁵ For convenience, four occupation groups are defined: (1) *white collar, high skilled*, which includes high-wage, white-collar occupations (e.g., management; business and financial operations; legal and healthcare practitioners); (2) *white collar, low skilled*, which includes low-wage white-collar jobs (e.g., community and social service; education, and office and administrative support); (3) *blue collar, high skilled*, which includes high-wage blue-collar occupations (e.g., protective service; personal care and service; and installation, maintenance, and repair occupations); and (4) *blue collar, low skilled*, which includes low-wage blue-collar occupations (e.g., cleaning and maintenance; farming, fishing, and forestry; and laborers).

²⁶ These seven states represent several states in the UI system in terms of eligibility duration in 2003, including Connecticut, Illinois, Maryland, and New York (26 weeks); Indiana (8–26 weeks); Arkansas (9–26 weeks); Massachusetts, Minnesota, and Texas (10–26 weeks); Arizona and Wisconsin (12–26 weeks); and California and Colorado (14–26 weeks).

²⁷ See Alan B. Krueger and Andreas I. Mueller, “Job search and unemployment insurance: new evidence from time use data,” *Journal of Public Economics*, April 2010, pp. 298–307.

²⁸ See Stephen A. Wandner, “Employment programs for recipients of unemployment insurance,” *Monthly Labor Review*, October 2008.

²⁹ See Donald R. Deere, “Unemployment insurance and employment,” *Journal of Labor Economics*, October 1991, pp. 307–324; Patricia M. Anderson and Bruce D. Meyer, “The unemployment insurance payroll tax and interindustry and interfirm subsidies,” in *Tax Policy and the Economy* (Cambridge, MA, National Bureau of Economic Research, October 1993), pp. 111–144; and Patricia M. Anderson and Bruce D. Meyer, “Unemployment insurance in the United States: layoff incentives and cross subsidies, Part 2: U.S. and Canadian Income Maintenance Programs,” *Journal of Labor Economics*, January 1993, pp. S70–S95.

[30](#) In 2004, seven states in this study reported about 1.1 million new UI claims. For details, see http://ows.doleta.gov/un_employ/content/data.asp.

[31](#) Tabulations of the January 2004 Current Population Survey, Displaced Worker Supplement (CPS-DW) show 8.3 percent of blue-collar and 4.0 percent of white-collar workers experienced unemployment at least once during 2003. Furthermore, tabulations of the monthly CPS data show the average unemployment rate in 2004–2005 was 6.9 percent for blue-collar workers and 3.7 percent for white-collar workers.

[32](#) See Brian P. McCall, “The effect of unions on the receipt of unemployment insurance benefits,” *Industrial and Labor Relations Review*, 1997, pp. 478–492; and McCall, “Repeat use of unemployment insurance in the United States.”

[33](#) The relationship between education, industry, and occupation may affect the results since none of the seven states reports all three variables. For example, education attainment may be negatively correlated with blue-collar jobs; if so, the coefficients of college degree and postgraduate degree may be underestimated when occupation is not available. Data limitations do not allow us to disentangle these relationships; nevertheless, the results suggest that, overall, repeat use is higher for recipients with low educational attainment.

[34](#) Tabulations of the January 2004 CPS-DW show 7.2 percent of workers with no college degree and 3.0 percent of college-educated workers experienced unemployment at least once in 2003. Also, monthly CPS data tabulations show the unemployment rate in 2004–2005 was 2.4 percent for college-educated workers and 5.6 percent for all other workers.

[35](#) See “Unemployment insurance: information on benefit receipt,” GAO-05-291 (U.S. Government Accountability Office, March 2005); and Wayne Vroman, “An analysis of unemployment insurance non-filers: 2005 CPS supplement results,” ETA Occasional Paper 2009-7 (U.S. Department of Labor, 2005a).

[36](#) “Unemployment insurance data summary,” Employment and Training Administration (U.S. Department of Labor, March 2004), http://ows.doleta.gov/un_employ/content/data.asp.

[37](#) As indicated earlier in the text, recipients on temporary layoff are exempt from reemployment assistance requirements.

[38](#) See William F. Sullivan, Lester Coffey, Lisa Kolovich, Charles W. McGlew, Douglas Sanford, and Richard Sullivan, “Worker profiling and reemployment services: evaluation of state worker profiling models,” ETA Occasional Paper 2007-15 (U.S. Department of Labor, 2007).

[39](#) The median proportion of displaced recipients referred to WPRS services across all states is 15 percent. See Sullivan et al., “Worker profiling and reemployment services evaluation.”

[40](#) See Howard S. Bloom, “The demonstration,” in *Back to Work: Testing Reemployment Services for Displaced Workers*, Research Report 143 (Kalamazoo, MI: W.E. Upjohn Institute for Employment Research); Walter Corson, Joshua Haimson, “The New Jersey unemployment insurance reemployment demonstration project: six-year follow-up and summary report,” Unemployment Insurance Occasional Paper 95-2 (U.S. Department of Labor, January 1995); Decker et al., “Assisting unemployment insurance claimants”; and Dan A. Black, Jeffrey A. Smith, Mark C. Berger, Brett J. Noel, “Is the threat of reemployment services more effective than the services themselves? Evidence from Random Assignment in the UI System,” *American Economic Review*, September 2003, pp. 1313–1327.

[41](#) Bloom, “The demonstration.”

[42](#) See Corson and Haimson, “The New Jersey unemployment insurance.”

[43](#) In 2003, Pennsylvania and Hawaii referred 27,059 (or 8 percent) and 3,289 (or 17 percent) of displaced recipients to reemployment services, respectively.

Related Articles

[Unemployment Insurance participation by education and by race and ethnicity](#), *Monthly Labor Review*, October 2012.

[Recent trends in the characteristics of unemployment insurance recipients](#), *Monthly Labor Review*, July 2012.

[Employment programs for recipients of unemployment insurance](#), *Monthly Labor Review*, October 2008.

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Stay-at-home mothers through the years

Jacob Galley

For decades, the number of stay-at-home moms had been declining, but a recent report by the Pew Research Center shows that the number of stay-at-home mothers has risen in recent years. In the report, titled [“After decades of decline, a rise in stay-at-home mothers”](#) (Pew Research Social and Demographic Trends, April 7, 2014), researchers D’Vera Cohn, Gretchen Livingston, and Wendy Wang analyze data from the Current Population Survey, the American Time Use Survey, and Pew’s public opinion polls to show how the proportions of employed and stay-at-home mothers have changed over the years.

In 1967, 49 percent of mothers were stay-at-home mothers. That proportion steadily dropped through the decades until 1999, when only 23 percent of moms stayed at home. Since 1999, the percentage of mothers who stayed at home began to increase again, rising by 6 points to 29 percent in 2012. The researchers note that recent declines in the labor force participation rate and rising immigration were likely factors in the increase of the stay-at-home rate. They also indicate that the rise in the proportion of mothers who stayed at home will not likely continue because most mothers surveyed would like to work part-time or full-time.

The researchers use demographic data to observe differences between mothers who stay at home and those who have paid employment. Mothers at home tend to be younger than working mothers: 42 percent of stay-at-home moms in 2012 were under age 35 compared with 35 percent of working moms, and stay-at-home mothers are more likely to have children under age 5. In addition, stay-at-home mothers have lower levels of educational attainment and are more likely than working mothers to be living in poverty. Nearly half of the stay-at-home mothers have a high school diploma or less, compared with 30 percent of working mothers, and 34 percent of stay-at-home moms are living in poverty, compared with 12 percent of working mothers.

In 2012, approximately 28 percent of American children—a total of 12.2 million children—were being raised by stay-at-home mothers. On average, mothers at home spend 18 hours a week caring for their children compared with 11 hours for employed mothers. The researchers’ analysis of time-use data also shows disparities in how stay-at-home moms and working moms spend their time. Stay-at-home mothers spend more time on child care, housework, leisure, and sleep than do their employed counterparts, including spending an extra 7 hours each week on childcare.

Husbands' job loss and wives' labor force participation during economic downturns: are all recessions the same?

Earlier research showed an added-worker effect for wives when their husbands stopped working during the Great Recession (December 2007–June 2009) but not when husbands stopped working in recent years of prosperity (2004–2005). By including one recession per decade for the 1980s, 1990s, and 2000s, this article builds upon that research by using Current Population Survey data to compare wives' labor force responses to their husbands stopping work across three recessions to determine whether wives' employment responses during the Great Recession differed from those during earlier recessions. Additionally, we hypothesize motivations for wives entering the labor force and consider the occupations they enter. Across all three recessions included in this study, wives entered the labor force more often when their husband stopped working. More nuanced analyses show that during both the Great Recession and the 1990–1991 recession, wives were more likely to seek work and find a job if their husband became not employed, while in the 1981–1982 recession wives were more likely to seek work but less likely to find a job. We also find that wives who started a job during the Great Recession or the 1990–1991 recession were more likely to enter service occupations than professional or managerial occupations, but this was not the case during the 1981–1982 recession. Furthermore, during the three recessions, college-educated wives who started a job were more likely than wives with less education to enter professional and managerial occupations relative to service occupations or other occupations. However, these newly employed college-educated wives were somewhat more likely to enter service or other occupations than their college-educated counterparts who were employed continuously.



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The recent economic recession, widely dubbed the “Great Recession,”¹ has brought several issues that typify challenging economic times to the fore of both family life and national policy discussions. Recessions are generally characterized by high unemployment, income declines, losses on investments, high rates of home foreclosures, and a reduction in the availability of credit.² As a result, families often face daily pressures during recessions and must find ways of dealing with new economic challenges.

Although the Great Recession is widely acknowledged as the nation’s worst financial situation since the Great Depression, research is just beginning to reveal how it compares to previous recessions.³ During the Great Recession, job loss among the highly educated was more prevalent than in other recent recessions,⁴ and women’s increased education may have allowed families new options in responding to economic strain. One strategy couples have been using since at least the Great Depression is to have wives who were not in the labor force seek employment if their husband stops working.⁵ Such a strategy can both buffer income loss and, in some cases, provide continued access to employment-related benefits, including health insurance coverage.

Although the proportion of families characterized by a sole male breadwinner declined from 56 percent in 1970 to 25 percent in 2001,⁶ many married couples at the onset of the Great Recession were made up of an employed husband and a wife outside of the labor force. Given the changing demographics, increased female education, and economic restructuring over the past 30 years—all factors that have increased job opportunities for women⁷—one might expect wives in sole male breadwinner families to be better prepared to enter the labor force during the Great Recession than during past recessions.

Previous research found that wives who were out of the labor force more often sought and found work during the Great Recession if their husband had stopped working than did wives of husbands who stopped working during 2004–2005, a period of relative prosperity.⁸ However, this change was not equal for all women: wives with at least some college education were more likely to enter the labor force and more likely to find work than were those who had not completed high school, indicating that education was an important determinant of both seeking and landing a job. Likewise, the economic context during which the husband stopped working (i.e., whether the country was in recession or not) played a role in whether the wife undertook a job search and gained employment. Wives were less responsive to husbands’ job loss during 2004–2005, years of economic prosperity.⁹ Given that the Great Recession had much worse economic outcomes compared with previous recessions, these factors in combination may translate into an environment where wives were much more likely to enter the labor force during the Great Recession than in earlier recessions.

Despite declines in the gender wage gap, women still typically earn less than men,¹⁰ and employed wives contributed 47 percent of total family earnings in 2012.¹¹ This means that wives’ earnings, although important, are typically not sufficient to maintain households when husbands experience job loss. For example, research based on longitudinal data from the Panel Study of Income Dynamics from 1968 to 1992 shows that wives’ increased employment in response to husbands’ job displacement only replaced about 25 percent of husbands’ lost income.¹² Although somewhat outdated, this finding raises the question of how well wives who enter the labor force are able to augment their family income. We speculated that wives may have been pushed during the Great Recession into jobs that they would not have otherwise considered.¹³ Some of these wives may have taken jobs that were readily available and easy to enter, such as those in the services sectors. In sum, the recessionary context—with high unemployment, limited access to credit, and declines on investments—may push women to take jobs to help recover lost family income; however, even when wives do enter the labor force, they are unlikely

to entirely offset lost income because of both the gender wage gap and the greater availability of lower-paying service-related jobs, even among highly educated women. In this study, we build upon previous findings of an added-worker effect among wives during the Great Recession by considering how these patterns compare with those observed during two earlier recessions, the 1990–1991 and 1981–1982 recessions. Taking into account differences by education, we also examine the occupations of newly employed wives and previously employed wives to see if newly employed wives entered occupations similar to those of wives who had already been employed.

These analyses fill a gap in the literature by providing a nuanced understanding of how wives have responded across three recessions that were qualitatively different and took place across approximately three decades. By better understanding the patterns, we are able to offer new insights into how families have coped with job loss during recessions and how this has changed over time. We also add to the broad literature examining the role of women’s increased educational attainment and employment opportunities within the specific context of family responses to economic strain.

Economic theory on family labor supply: the added-worker effect

Families can respond to economic hardship by cutting back on expenditures, generating additional income, or both.¹⁴ Decreasing the consumption of entertainment or food, postponing major purchases, and moving to less expensive housing are some strategies families use to reduce expenditures.¹⁵ Lower income families can access resources through participation in public assistance programs, such as food stamps and welfare, or, if eligible, through unemployment insurance benefits. However, a common strategy to generate additional income in the face of economic strain is to increase the family’s paid work load. In the case of a married couple with a wife outside of the labor force, the wife may opt to seek and find work, particularly in the face of her husband’s job loss.

Economic theory provides a basic model of such family labor supply decisions.¹⁶ A reduction in income due to a husband’s job loss, especially when coupled with the inability to borrow against future earnings or rely on savings, will cause some women not currently in the labor market to enter it and will increase the labor supplied by those women already in the market.¹⁷ This phenomenon has been dubbed the “added worker effect,” whereby the added worker enters the labor force or increases hours worked to help cushion the negative financial effect when a husband stops working. Because families can adapt to financial hardship in several ways, one of which is increasing the labor supply of the wife, the magnitude of the added worker effect should be related to the costs and benefits of other methods, such as borrowing or a more intensive job search by the husband.¹⁸ Recessions offer a unique opportunity for exploring this effect, given not only tighter labor markets but also more restrictive borrowing climates.¹⁹

Previous research on the added worker effect has found mixed results, with some research finding an added worker effect for families or subgroups,²⁰ while others found no effect,²¹ but most of the research did not consider the effect during economic recession (for a full review of the literature, see our 2010 article titled “Changes in wives’ employment when husbands stop working: a recession–prosperity comparison”). Research on an added worker effect specific to the Great Recession does find an effect.²² The current study advances our understanding of how wives adjust their employment in the wake of their husbands’ job loss in four important ways. First, we compare the Great Recession to two previous recessions to determine if its patterns represent a shift from earlier adaptations to family financial strain. Second, we explore whether wives who were not in the labor force were more

likely to commence work when their husbands stopped working during three recessions. Third, our focus on the employment context—that is, the occupation—of those who commence work illuminates shifts over time in wives' ability to bridge the income gap when husbands stop working. Finally, we pay special attention to the occupations of highly educated wives as we examine whether their employment suggests a lower threshold for accepting a job during a recession than their education would suggest they qualify for.

The Great Recession in the context of previous recessions

Table 1 compares the recent (December 2007–June 2009) economic recession to the economic recessions of July 1990–March 1991 and July 1981–November 1982. As shown in table 1, the recent recession, officially lasting 18 months, was more than double the length of the 1990–1991 recession (8 months).²³

Table 1. Comparison of the 2007–2009, 1990–1991, and 1981–1982 recessions

Category	2007–2009	1990–1991	1981–1982
Duration ⁽¹⁾	18 months	8 months	16 months
Recessionary period	December 2007–June 2009	July 1990–March 1991	July 1981–November 1982
Job loss	7.5 million	1.6 million	2.8 million
Gender that encountered greater job loss	men	men	men
Unemployment rate at start of recession	5.0 percent	5.5 percent	7.2 percent
Unemployment rate at end of recession	9.5 percent	6.8 percent	10.8 percent
Mean length of unemployment at recession end	23.9 weeks	12.9 weeks	17.1 weeks
Sectors hardest hit	Manufacturing, construction, trade, professional services, financial ⁽²⁾	Financial services, construction, trade, goods-producing ⁽³⁾	Goods-producing, manufacturing ⁽⁴⁾
Percent of jobs lost by women	28.6 percent	1.8 percent	7.2 percent
Women's employment rate at start of recession	72.4 percent	70.2 percent	60.4 percent
Women's share of labor force at start of recession	48.8 percent	47.1 percent	42.4 percent
Women's share of labor force at end of recession	49.9 percent	47.6 percent	43.5 percent
Recession dubbed	"Mancession" and "The Great Recession"	"White-Collar Recession"	"Double-Dip Recession"
Gender wage gap during year recession began ⁽⁵⁾	77.8	71.6	59.2
Gender wage gap during year recession ended ⁽⁵⁾	77.0	69.9	61.7

Notes:

⁽¹⁾ Recession start and end dates are determined by the National Bureau of Economic Research.

⁽²⁾ Timothy Parker, Lorin Kusmin, and Alexander Marré, "Economic recovery: lessons learned from previous recessions," *Amber Waves*, March 2010, U.S. Department of Agriculture Economic Research Service.

⁽³⁾ Cynthia J. Brown and Jose A. Pagan, "Changes in employment status across demographic groups during the 1990–1991 recession," *Applied Economics*, vol. 30, issue 12, 1998, pp. 1,571–1,583.

⁽⁴⁾ Michael A. Urquhart and Marilyn A. Hewson, "Unemployment continued to rise in 1982 as recession deepened," *Monthly Labor Review*, February 1983.

See footnotes at end of table.

(5) All ratios from Robert Drago and Claudia Williams, "The gender wage gap: 2009," fact sheet, IWPR #C350 (Washington, DC: Institute for Women's Policy Research), September 2010.

Sources: Authors' calculations from Current Population Survey and Current Employment Statistics survey data and data from sources noted above.

In all, 7.5 million jobs were lost during the Great Recession;²⁴ the 7.5 million jobs lost in the Great Recession represent 5 percent of total jobs held in December 2007, while the economy lost 3 percent of the jobs during the 1981–1982 recession and 1 percent of the jobs during the 1990–1991 recession. The unemployment rate before the Great Recession (5.0 percent) was lower than prior to the 1990–1991 recession (5.5 percent),²⁵ yet the rate grew during the Great Recession to 9.5 percent, nearly 3 percentage points higher than when the 1990–1991 recession ended.²⁶ At the beginning of the 1981–1982 recession, unemployment, at 7.2 percent, was higher than unemployment at the onset of either of the later recessions; in addition, at 10.8 percent, it was higher at the end of the recession than after either later recession. This is likely because the nation had not fully recovered from a short recession preceding it from January through July 1980.

Further evidence of the severity of the Great Recession is the average duration of unemployment. In June 2009, as the Great Recession officially ended, the mean (median) length of unemployment was 23.9 (17.1) weeks compared with 12.9 (6.7) weeks at the official end of the 1990–1991 recession, and 17.5 (10.0) weeks at the official end of the 1981–1982 recession.²⁷

Job losses during all recessions were higher for men than women,²⁸ but contrary to popular discourse, women held a larger percentage of the jobs lost during the Great Recession than in previous recessions. Different sectors of the economy contracted during each recession. For example, the 1990–1991 recession hit "white collar" employees harder than did the other recessions,²⁹ whereas in the recent recession, manufacturing and construction jobs were hardest hit, followed by trade, professional services, and financial services.³⁰ The 1981–1982 recession saw declines largely in jobs in manufacturing goods.

Women's share of the civilian labor force grew during all recessions but was higher at the start of the recent recession than at the start of the other recessions; moreover, the proportion of jobs held by women increased by 1.1 percentage points during the Great Recession to reach 49.9 percent, or just shy of half of all workers, in 2009.³¹ The gender wage gap was smaller at the onset of the Great Recession, evidenced by a higher ratio of women's-to-men's earnings, but grew during it.³² In contrast, the gender wage gap decreased slightly during the 1981–1982 recession.

Variation in added-worker effect by recession

In light of the observed differences between recessions, we seek to understand whether families used the same strategy across recessions when faced with a husband's job loss. In our previous research, we found that wives who were neither employed nor seeking work were more than twice as likely to enter the labor force and find employment when their husbands stopped working during the Great Recession than were wives whose husband remained working,³³ strongly supporting the notion of an added-worker effect during the Great Recession. We consider whether the added-worker effect is similar in a less severe, shorter recession (1990–1991) or in a similarly long but historically removed recession (1981–1982), when the job market, women's opportunities, and gender roles were different.

There are good reasons to suspect that the visible added-worker effect is unique to the Great Recession. The magnitude of job loss and the rise in unemployment during the Great Recession was much larger than in the two previous recessions, suggesting that wives may have had a greater need to enter the labor force during the Great Recession than in the other two recessions. Furthermore, the bulk of the job loss was concentrated in male-dominated industries (which is true of all three recessions), but female-dominated industries such as health, education, and government added or at least maintained jobs throughout the recession.³⁴ Increased job opportunities for women are a unique characteristic of the Great Recession and may have influenced wives' response to husbands' job loss differently than in other recessions. Further, because the Great Recession was longer than the 1981–1982 or the 1990–1991 recessions, women may have sought employment as the long financial downturn took a toll on family savings. For these reasons, we hypothesize that the added-worker effect will be positive and larger during the Great Recession than in the 1990–1991 and 1981–1982 recessions.

Educational attainment

There have also been societal changes during the three decades that encompass the three recessions that we study. For one, women's educational attainment has increased dramatically: only 14 percent of wives earned a 4-year college degree in 1981 compared with 35 percent in 2008. As table 2 shows, this translates into a larger pool of highly educated wives who were not in the labor force during the early months of the Great Recession than in previous recessions (26 percent of wives with a 4-year degree were not in the labor force in 2008 compared with 24 percent in 1990 and 11 percent in 1981). There is a well-established link between higher levels of education and employment, and thus it is reasonable to expect that nonemployed wives with higher educational attainment may have an easier time gaining employment, even during a recession, compared with women who have less education. Thus, we anticipate that wives with higher education levels will be more likely to seek work and to gain employment than wives with lower education levels.

Table 2. Percent distribution of wives on dependent and independent variables by labor force participation status in time 1

Category	May 2008–2009		May 1990–1991		May 1981–1982	
	All wives	Wives not in labor force	All wives	Wives not in labor force	All wives	Wives not in labor force
Wife enters labor force	4.0	14.2	5.5	17.6	6.7	16.3
Wife increases work hours	15.8	10.0	24.4	14.9	22.4	14.1
Husband becomes unemployed	3.8	3.5	2.5	2.8	3.4	3.5
Husband becomes not employed	6.3	6.5	5.2	6.3	5.8	6.6
Wife's characteristics						
Wife's education						
Less than high school	7.4	14.4	15.3	21.4	20.0	26.3
High school graduate	29.1	33.9	33.8	33.0	47.0	46.6
Some college	28.2	25.4	23.5	21.1	18.9	16.6
Bachelor's degree or higher	35.3	26.4	26.6	23.8	14.2	10.5

See footnotes at end of table.

Table 2. Percent distribution of wives on dependent and independent variables by labor force participation status in time 1

Category	May 2008–2009		May 1990–1991		May 1981–1982	
	All wives	Wives not in labor force	All wives	Wives not in labor force	All wives	Wives not in labor force
Wife's age (mean)	43.9	44.7	40.8	42.7	40.1	41.6
Wife's race and ethnicity						
White, non-Hispanic	74.5	70.1	83.9	83.2	87.2	88.0
Black, non-Hispanic	6.7	5.6	6.1	4.5	5.9	4.7
Other, non-Hispanic	7.0	8.1	3.4	4.2	1.8	1.6
Hispanic	11.8	16.3	6.6	8.1	5.1	5.7
Family variables						
Number of children under age 18						
0 children	48.1	47.5	43.3	42.8	40.7	38.8
1 child	19.8	16.0	22.1	18.4	22.4	21.3
2 children	21.2	21.0	22.4	21.6	23.1	23.8
3 or more children	10.9	15.5	12.2	17.3	13.9	16.1
Child under age 5	22.7	29.6	26.4	32.9	NA	NA
Family income ⁽¹⁾						
Less than \$25,000	6.4	12.9	10.6	16.5	8.3	11.8
\$25,000 to \$49,999	16.5	22.3	20.2	25.2	25.6	28.6
\$50,000 to \$74,999	20.0	17.9	17.5	17.0	17.7	17.4
\$75,000 to \$99,999	16.3	12.2	24.0	18.2	34.8	26.8
\$100,000 or more	27.7	18.5	21.0	14.9	7.1	7.6
Family income data missing	13.21	16.4	6.7	8.2	6.5	7.7
Region						
Northeast	18.5	17.9	21.0	20.6	21.7	22.7
Midwest	23.5	19.1	26.1	24.3	28.0	27.2
West	37.0	39.0	33.5	34.3	31.8	31.6
South	21.0	24.1	19.4	20.8	18.6	18.4
Residence						
Rural	17.4	17.6	23.4	23.8	29.6	28.6
Urban	81.9	81.5	75.7	75.7	70.5	71.4

Notes:

⁽¹⁾ Because of data limitations, the 1990–1991 and 1981–1982 family income categories are slightly different. After adjusting for inflation, the 1990–1991 categories are the following: less than \$24,707.94, \$24,709.59 to \$49,417.53, \$49,419.18 to \$65,890.59, \$65,892.24 to \$97,191.05, \$98,838.36 or more. The 1981–1982 categories are the following: less than \$23,683.32, \$23,685.68 to \$47,368.99, \$47,371.36 to \$59,211.84, \$59,214.20 to \$118,426.04, \$118,428.41 or more.

Note: NA indicates that the data for whether a family has a child under age 5 are not available for 1981 and 1982.

Source: Individual matched 2008–2009, 1990–1991, and 1981–1982 May Current Population Survey, U.S. Bureau of Labor Statistics, and authors' calculations.

Occupational attainment

Finally, shifts in the economy and in job opportunities for women also have changed since the 1980s. Economic restructuring has fundamentally altered the economy: we have seen declines in male-dominated manufacturing and resource-extraction jobs and a rise in service jobs, which are typically filled by women.³⁵ This shift affords more job options to women. Concurrently, occupational segregation by gender has declined since the 1980s in part because of women's higher educational attainment³⁶ and the opening up of male-dominated occupations primarily to more highly educated women.³⁷ These shifts may come into play when we compare the occupations that women enter when they seek employment during recessions.

Research in the United Kingdom suggests that mothers returning to employment were clustered into low-wage occupations (such as service occupations, sales, and administrative/clerical) and part-time work, and that those who entered part-time employment were likely to be overqualified for the jobs they took.³⁸ Further, qualitative research on a select group of highly educated mothers who had left their prestigious jobs in the United States suggests that some women seek jobs for which they are overqualified because such jobs provide greater flexibility in balancing their work and family roles.³⁹ In fact, this may be a normative trend for women returning to employment. Some researchers, particularly economists, link occupational segregation and the jobs that women hold to women's childrearing responsibilities, while others disagree.⁴⁰

Yet, a 2009 case study⁴¹ finds concrete differences between mothers who return to work full-time and those who return to work part-time, in that mothers who return to work full-time are more highly educated, work in occupations with less gender segregation, and have higher earnings. Our study published in 2010 found that wives whose husbands stopped working were both more likely to start a job and equally likely to seek employment during the Great Recession compared with 2005–2006, a time of relative prosperity.⁴² Our findings suggested that although wives may have been searching for work at both times, they may have been less particular about the jobs they accepted during the Great Recession, perhaps taking jobs that they would not have considered during times of prosperity or if their husband had not lost his job. Yet wives' choice of job is also dependent on the job market and which jobs are available at the time of the job search as well as on the human capital of the jobseeker. In a tight labor market such as during a recession, there may be fewer job options available and more competition for those scarce jobs.

Because of the labor market constraints in addition to existing demands upon their time, we expect women who enter employment during the Great Recession to be more likely to enter service occupations than professional or managerial occupations. Taking this a step further, we also expect to see newly employed college-educated wives entering occupations that are atypical for their educational attainment. Put another way, we anticipate that highly educated wives would be less likely to enter professional or managerial occupations and more likely to enter service or other occupations if they commence work during the Great Recession.

Other factors associated with wives' employment patterns

We included, as controls in our multivariate models, several variables that have been shown to be linked to wives' labor force participation, including wives' characteristics (such as her age and race/ethnicity), family variables (such as number of children under age 18, presence of children under age 5, and family income level), and geographic variables (such as region and place of residence). We included race because black women have historically been more likely to be employed than white women.⁴³ Further, the presence of young children has been shown to be a strong negative predictor of wives' employment after a husband's job loss.⁴⁴ We included

region in our models to control for differences in unemployment rates, and place of residence as there are typically more job opportunities in urban than rural areas.

Research questions

To address differences among married couples across three recessions, we consider the following three research questions:

1. Are wives more likely to enter the labor force if their husband stops working during the Great Recession than during the 1990–1991 recession or the 1981–1982 recession?
2. Are these wives who are outside of the labor force more or less likely a) to be seeking employment or b) to have started a new job during the Great Recession compared with the previous two recessions?
3. What types of occupations do newly employed wives enter during the three recessions? Specifically, are newly employed wives more likely to be in service occupations than professional or managerial occupations, as compared to wives who were continuously employed?

Data

We analyzed the May Current Population Survey (CPS) data files during three recessions: 2008 and 2009, 1990 and 1991, and 1981 and 1982. The CPS is collected monthly by the U.S. Census Bureau and includes a nationally representative sample of roughly 57,000 households each month. Each household is included in the CPS for 2 years, with a total of eight interviews during the same 4 months of each year. Thus, there are two May surveys with each household. For example, roughly half of respondents interviewed in May 2008 were also interviewed in May 2009; the same holds for May 1990 and May 1991 as well as for May 1981 and May 1982. Respondents who were married at both time points constitute the base of our analytic sample.⁴⁵

We matched respondents in 2008 (1990, 1981) and 2009 (1991, 1982) in consultation with Census Bureau employees. In addition to linking respondents by their household identifiers and personal identifiers available from the data (person line numbers), we required them to match on nativity, gender, and race, and allowed only minimal variation in educational attainment and age. Cross tabulations of the data indicated that we captured individuals in months 1–4 of their interviews in May 2008 (1990, 1981) and 5–8 in May 2009 (1991, 1982). Further, we limited our sample to wives (and their husbands) from age 18 through 65 with valid spouse information, to include the ages during which wives are most likely to be in the labor force. In our first set of analyses, we predict whether wives enter the labor force; therefore our sample is limited to wives who were out of the labor force at time 1. In our second set of analyses, we predict wives' occupation at time 2; therefore, our sample consists of employed wives at time 2 (both those who became employed and those who were already employed).

The CPS data are well suited for our analyses for several reasons. First, the monthly files provide sufficient economic and demographic information to assess changes in family labor force status. Second, the data include very detailed information about time committed to the labor force. Third, the CPS is well tested; it has been ongoing since 1948 and also provides timely information that can be used to assess the impact of economic downturns. Finally, the CPS tracks addresses over 2 years, thus allowing us to see changes within families during each financial downturn.

Because of cyclical and seasonal variations in the labor market, we wanted to be consistent in which months we used for analyses across the three recessions. Yet, because each recession started at different months during the given year and had different durations, our snapshot year captures varying parts of the business cycle for each recession. For the Great Recession, we examine May 2008 (time 1), which is 6 month after the onset of the recession, to May 2009 (time 2). For the 1990 recession, we analyze change between May 1990 (time 1), just prior to the onset of the recession, and May 1991 (time 2). As noted previously, this shorter recession officially commenced in July 1990 and ended in March 1991, lasting a total of 8 months. Finally, we consider May 1981 to May 1982, as a snapshot of the recession that began in July 1981, and ended in November 1982.

Because of survey design, the best way to capture the most respondents longitudinally was to use surveys conducted 12 months apart. Theoretically, 50 percent of all households would be in both samples. In reality, this number was lowered by sample attrition, household moves, and other data collection factors.

Measures

Table 2 presents the distribution of all wives by their labor force participation status in May 2008, May 1990, and May 1981 for all variables used in our analyses. Some of the wives' characteristics changed substantially over the three decades these recessions span. Wives attained higher levels of education and had fewer children in 2008 than in 1990 or 1981; by 2008, wives were less likely to be non-Hispanic white or to live in rural areas.

Dependent variables. There are three dependent variables in our analyses. First is a dichotomous variable indicating whether the *wife entered the labor force* (all variables discussed here have been italicized) by time 2; the variable is coded 1 if the wife transitioned from not in the labor force to employed or unemployed and is coded 0 otherwise. Second is a categorical variable indicating whether the wife transitioned a) from not in the labor force to *employed*, b) from not in the labor force to *unemployed*, or c) if she remained not in the labor force (reference group). Third, we explore the *occupations* entered by wives who started work compared with the occupations of wives who were already employed. A series of dummy variables were created to indicate employment in a) service occupations, b) professional or managerial occupations, and c) other occupations.

Independent variables. One principal measure of interest is the variable measuring whether the *husband became unemployed*. This variable was coded 1 if the husband was employed at time 1 and transitioned to either unemployed or not in the labor force by time 2. This measure is broader than one that examines transitions from employment to unemployment only since we wanted the measure to encompass other husbands including both those who have become discouraged (thus abandoning their job search) and those who may have retired earlier than planned given labor market pressures. Another principal measure is whether the *wife entered employment*. This variable is coded 1 if the wife was out of the labor force at time 1 and transitioned into employment by time 2.

Time variables. We constructed three dummy variables for each recession: 1981–1982, 1990–1991, and 2008–2009. In addition to separate models for each recession, we ran pooled models where the 1981–1982 data were aggregated with 2008–2009 data and then another set of pooled models where the 1990–1991 data were aggregated with 2008–2009 data. Each model controls for year (2008–2009 is included in the model each time, and 1990–1991 and 1981–1982 each serve as reference years in pooled models), and we interacted the year variable with husband's unemployment. The time variables were only included in models where we pooled data across two recessions.

Wives' characteristics. Categorical variables indicated whether the *wife's education* level was less than high school (reference category), high school graduate, some college (1 to 3 years of college) or college graduate (4-plus years). We included a continuous measure of *age* (in years) and categorical variables for *race*: whether the wife was white, non-Hispanic (reference category); black, non-Hispanic; other race, non-Hispanic; or Hispanic. All of these measures were constructed on the basis of responses at time 1.

Family variables. A continuous variable indicated the *number of children* in the household and a dichotomous variable measured the *presence of a child under age 5*. (This variable was excluded from the 1981–1982 models as the information is not available for that recession). *Family income* is a categorical variable. The Census Bureau used different categories across the three recessions. To create consistent measures of family income across time, we first inflated the categories to 2008 dollars and then created five categories for each recession with similar cutpoints. For 2008, family income was divided into \$25,000 increments up to \$100,000 with dummy variables included in the model (less than \$25,000 is the reference group). Because the earlier CPS collects categorical family income data rather than continuous data, we assign similar categories to the 2008 cutpoints. For 1990, the five categories also are similar: 1) less than \$24,707.94, 2) \$24,709.59 to \$49,417.53, 3) \$49,419.18 to \$65,890.59, 4) \$65,892.24 to \$97,191.05, and 5) \$98,838.36 or more. For 1981, the five categories are 1) less than \$23,683.32, 2) \$23,685.68 to \$47,368.99, 3) \$47,371.36 to \$59,211.84, 4) \$59,214.20 to \$118,426.04, and 5) \$118,428.41 or more. An indicator variable that flags missing family income was also included.

Geographic controls. Four binary variables were constructed indicating the *region* of residence— Northeast (omitted reference category), Midwest, West, and South. In addition, measures of *rural* and *urban* (reference category) residence were included in the models. Rural referred to people living outside the officially designated metropolitan areas, while urban referred to people living within metropolitan areas. Metropolitan residence was based on Office of Management and Budget delineation at the time of initial data collection.

Data analyses

Multivariate regression analyses were used to assess the extent to which wives respond to their husbands' stopping work by entering the labor force between May 2008 and May 2009, May 1990 and May 1991, and May 1981 and May 1982.⁴⁶ For ease of presentation, we show odds ratios for each of the three time periods. Coefficient estimates and standard errors are shown in appendices. We present two sets of analyses. First, we present logistic regression models to assess the relationship between a husband's job loss and a wife's transition from being not in the labor force to being in the labor force (unemployed or employed). We then disaggregate our outcome variable into three categories: a) no change in wives' employment status, remaining out of the labor force (comparison group); b) transition from not in labor force to employed; and c) transition from not in labor force to unemployed. For this first set of analyses, we compared the regression coefficients across years. Following previous research, we calculate a z-score (a measure that quantifies the distance a data point is from the mean of the variable across respondents) to compare regression coefficients between years by subtracting the coefficient at time 2 from the coefficient at time 1 and dividing by the sum of their squared standard errors.⁴⁷ This z-score is then compared to a critical value to determine statistical significance. In our second set of analyses, we use a multinomial logistic regression analysis to examine the occupations that newly employed wives enter compared with wives who were already employed. Here our outcome variable is three categories: a) service occupations, b) professional or managerial occupations, and c) other occupations. We then consider interactive effects between

wives entering the labor force and educational attainment. All analyses were weighted to account for sample design.

Results

Table 3 presents odds ratios from logistic regression models predicting wives entering the labor force by time 2. Coefficients and standard errors are presented in appendix 1. The analytic sample is wives who were not in the labor force (e.g., keeping house, retired, disabled, discouraged workers) in May 2008, May 1990, or May 1981. We found a strong, statistically significant effect of husband's job loss on wives' propensity to enter the labor force for all three recessions: wives of husbands who stopped working during any recession were more likely to enter the labor force than those whose husbands remained in the labor force. The largest effect appears to be for the Great Recession where a husband's stopping work was associated with more than double the likelihood the wife entered the labor force. To test whether this effect was different during the Great Recession compared with each of the two previous recessions under consideration, we computed the difference between coefficients and tested for statistically significant differences. We found a statistically significant effect indicating that families adapted to husbands stopping work during the Great Recession differently than during the 1981–1982 recession; during the Great Recession, wives had a greater likelihood of entering the labor force, but no statistically significant difference was found between the 1990–1991 recession and the Great Recession. However, it is worth noting that the CPS does not provide data showing when wives enter the labor force and when their husbands stop work. That is, using CPS data, it is not possible to determine whether husbands stop work because their wives' employment frees them to do so.

Table 3. Odds ratios from logistic regression analysis predicting wife entering the labor force by time 2 among wives not in the labor force at time 1

Category	May 2008–2009	May 1990–1991	May 1981–1982
Husband becomes not employed ⁽¹⁾	1.918***	1.673***	1.318***
Wife's characteristics			
Wife's education			
Less than high school (reference category)			
High school graduate	.930	1.958***	1.509***
Some college	1.451*	2.487***	1.809***
Bachelor's degree or higher	1.625**	2.613***	1.626***
Wife's age	.969***	.934***	.953***
Wife's race and ethnicity			
White, non-Hispanic (reference category)			
Black, non-Hispanic	1.059	1.457***	1.674***
Other, non-Hispanic	.677*	.804***	1.233***
Hispanic	1.034	1.039*	1.035***
Family variables			
Number of children under age 18	1.110*	1.083***	.945***
Child under age 5	.585***	.447***	NA
Family income ⁽²⁾			
Less than \$25,000 (reference category)			
\$25,000 to \$49,999	.888	1.046***	.849***
\$50,000 to \$74,999	.999	1.169***	1.035***

See footnotes at end of table.

Table 3. Odds ratios from logistic regression analysis predicting wife entering the labor force by time 2 among wives not in the labor force at time 1

\$75,000 to \$99,999	1.066	.920***	.817***
\$100,000 or more	.730	.966*	.637***
Family income data missing	.707**	1.161***	.759
Region			
Northeast (reference category)			
Midwest	1.095	1.099***	1.123***
West	.943	1.051***	1.089***
South	.901	1.227***	1.080***
Residence			
Rural	.780**	1.194***	1.308***
Constant	.683	.334***	.334***
<i>N</i>	2,243	3,150	4,795
<i>df</i>	19	19	18

Notes:

(1) The coefficients for husbands stopping work differ significantly between both 1990–1991 and 1981–1982, and between 2008–2009 and 1981–1982. However, the coefficients for 1990–1991 and 2008–2009 do not differ significantly.

(2) Because of data limitations, the 1990–1991 and 1981–1982 family income categories are slightly different. After adjusting for inflation, the 1990–1991 categories are the following: less than \$24,707.94, \$24,709.59 to \$49,417.53, \$49,419.18 to \$65,890.59, \$65,892.24 to \$97,191.05, \$98,838.36 or more. The 1981–1982 categories are the following: less than \$23,683.32, \$23,685.68 to \$47,368.99, \$47,371.36 to \$59,211.84, \$59,214.20 to \$118,426.04, \$118,428.41 or more.

* $p < .05$

** $p < .01$

*** $p < .001$

Note: NA indicates that the data for whether a family has a child under age 5 are not available for 1981 and 1982.

Source: Individual matched 2008–2009, 1990–1991, and 1981–1982 May Current Population Survey, U.S. Bureau of Labor Statistics, and authors' calculations.

We see similar patterns by education and age across the three recessions. Wives have a greater likelihood of entering the labor force as education rises, and younger wives have a greater likelihood of entering the labor force than do older wives. There is variation across recessions when considering race and ethnicity, with a weakening effect of race over time. In the 1981–1982 recession, black and Hispanic wives were more likely to enter the labor force than were white non-Hispanic wives. However, by 2008–2009, the likelihood that Hispanic and black non-Hispanic wives entered the labor force was no different than that for white non-Hispanic wives, while other non-Hispanic wives were less likely to enter the labor force than white non-Hispanic wives.

The effect of children in a family changed over the three recessions. In 1981–1982, more children in a family was associated with a reduced likelihood that the wife would enter the labor force, yet in the 1990–1991 and 2008–2009 recessions, more children in the family increased the odds that the wife entered the labor force. There is also a weakening association between wives' employment and family income over time, which is consistent with previous research.⁴⁸ In the 1981–1982 and 1990–1991 recessions, as family income rose wives were less likely to enter the labor force. In contrast, during the Great Recession, only wives from the highest family-income-group families were less likely to enter the labor force, and this effect is only marginally significant ($p < 0.10$).

Similarly, wives living in the Midwest, West, and South were more likely to enter the labor force than wives living in the Northeast during the 1981–1982 and 1990–1991 recessions, but during the Great Recession there was no statistically significant difference by region. This may be due to the breadth and depth of the Great Recession, as substantial job losses occurred in all regions of the United States.⁴⁹ Rural wives were more likely than wives residing in urban areas to enter the labor force during the 1981–1982 and 1990–1991 recessions, but less likely to enter during the Great Recession.

In table 4 we take a more nuanced look at labor force transitions among wives who were not in the labor force at time 1. Table 4 presents the relative risk ratios from multinomial regression models that compared wives who commenced work (became employed) and wives who sought work and did not find it (became unemployed) with wives who remained out of the labor force (coefficients and standard errors are displayed in appendix 2). We found that when a husband transitioned out of the labor force, his wife was more likely to become either employed or unemployed (relative to staying out of the labor force) in both 2009 and 1991. Although wives had a similar propensity to enter employment in 2009 and 1991 if their husband became not employed, wives in 2009 were more likely to seek employment than wives in 1991. In contrast, we find that wives were less likely to seek work but more likely to find work when their husband stopped work during the Great Recession than during the 1981–1982 recession, indicating that wives responded differently during the Great Recession compared with the 1981–1982 recession (see note 1 in table 4).

Table 4. Relative risk ratios from multinomial logistic regression analysis predicting wife becoming employed or unemployed by time 2 among wives not in the labor force at time 1

Category	May 2008–2009		May 1990–1991		May 1981–1982	
	Wife becomes employed	Wife becomes unemployed	Wife becomes employed	Wife becomes unemployed	Wife becomes employed	Wife becomes unemployed
Husband becomes not employed ⁽¹⁾	1.582**	3.404***	1.469***	3.616***	0.953**	4.055***
Wife's characteristics						
Wife's education						
Less than high school (reference category)						
High school graduate	1.170	.471**	2.215***	1.064†	1.622***	1.022
Some college	1.858***	.617	2.724***	1.757***	2.034***	0.791***
Bachelor's degree or higher	1.977***	.946	3.192***	.372***	1.678***	1.510***
Wife's age	.975***	.945**	.940***	.894***	.957***	.933***
Wife's race and ethnicity						
White, non-Hispanic (reference category)						
Black, non-Hispanic	.848	2.127*	1.063**	5.137***	1.504***	3.068***
Other, non-Hispanic	.652*	.772	.836***	.569***	1.293***	.900
Hispanic	.997	1.143	.927***	1.833***	.914***	1.789***
Family variables						
Number of children under age 18	1.155**	.926	1.107***	.938***	.954***	.883***

See footnotes at end of table.

Table 4. Relative risk ratios from multinomial logistic regression analysis predicting wife becoming employed or unemployed by time 2 among wives not in the labor force at time 1

Category	May 2008–2009		May 1990–1991		May 1981–1982	
	Wife becomes employed	Wife becomes unemployed	Wife becomes employed	Wife becomes unemployed	Wife becomes employed	Wife becomes unemployed
Child under age 5	.602***	.521*	.454	.416	NA	NA
Family income ⁽²⁾						
Less than \$25,000 (reference category)						
\$25,000 to \$49,999	.831	1.114	1.004	1.433***	.840***	.920**
\$50,000 to \$74,999	1.077	.604	1.183***	.882**	1.041**	.967
\$75,000 to \$99,999	1.066	1.052	.867***	1.553***	.794***	.989
\$100,000 or more	.760	.550	.894***	1.894***	.650***	.407***
Family income data missing	.670†	.844	1.077***	1.765***	.718***	1.070†
Region						
Northeast (reference category)						
Midwest	1.139	.892	1.147***	.645***	1.099***	1.295***
West	.953	.891†	1.055***	1.003	1.085***	1.118***
South	1.004	.552*	1.174***	1.694***	1.098***	.972
Residence						
Rural	.887	.314**	1.236***	.851***	1.287***	1.462***
N	2,243		3,150		4,795	

Notes:

(1) For wife becomes employed, the coefficients for husband becomes not employed differ significantly between 2008–2009 and 1981–1982, and between 1990–1991 and 1981–1982. For wife becomes unemployed, the coefficients for husband becomes not employed differ significantly between 2008–2009 and 1990–1991, and between 2008–2009 and 1981–1982.

(2) After adjusting for inflation, the 1990–1991 categories are the following: less than \$24,707.94, \$ 24,709.59 to \$49,417.53, \$49,419.18 to \$65,890.59, \$65,892.24 to \$97,191.05, \$98,838.36 or more. The 1981–1982 categories are the following: less than \$23,683.32, \$23,685.68 to \$47,368.99, \$47,371.36 to \$59,211.84, \$59,214.20 to \$118,426.04, \$118,428.41 or more.

(†) p<.10

* p<.05

** p<.01

*** p<.001

Note: NA indicates that the data for whether a family has a child under age 5 are not available for 1981 and 1982.

Source: Individual matched 2008–2009, 1990–1991, and 1981–1982 May Current Population Survey, U.S. Bureau of Labor Statistics, and authors' calculations.

In addition, we see differential effects by education across recessions. In the 1981–1982 recession, the effect of having a high school degree or higher level of education on wives' likelihood of gaining employment was positive and significant: wives with some college were less likely to seek work and wives with college degrees were more likely to seek work than wives with less than a high school degree. In the 1990–1991 recession, again we see the positive and significant effect of education on gaining employment, but wives with some college education were more likely to seek work and wives with a bachelor's degree or higher were less likely to seek work than wives with

less than a high school degree. Finally, in the Great Recession, wives with some college or a bachelor's degree or higher were gaining employment, but wives with a high school degree were no more likely to get a job than wives with less than a high school degree. Wives with a high school degree were less likely to look for work than wives with less than a high school degree. This implies that wives with lower education levels had a harder time in the labor market between May 2008 and May 2009, a time of massive job loss and high levels of labor market uncertainty.

Wives who were out of the labor force whose husbands stopped working increased their labor force activity across all recessions and, in fact, started jobs in the Great Recession and in the 1990–1991 recession. This highlights the role a wife's employment can play in stemming the negative consequences of her husband's job loss. Yet it is important to consider the types of job wives started if we are to measure the ability of wives to make up for lost income due to job loss among husbands and for the overall negative impact of recessions on family economic well-being. While the May CPS does not allow us to examine personal earnings, another avenue is to examine the occupation that wives entered during the recession compared with the occupations of wives already employed before the recession began.

Table 5 shows the occupational distribution of wives who gained employment during the recession compared with wives who were already employed. Across all recessions, wives who became employed were more likely to get jobs in service and other occupations and less likely to get professional and managerial jobs. The proportion of newly employed wives in service occupations was larger in the Great Recession and in the 1990–1991 recession than in the 1981–1982 recession; however, the proportion of previously employed wives in service occupations changed little. This suggests that more service occupations were available in the latter two recessions or perhaps these newly employed wives were taking whatever jobs were available rather than waiting for a more lucrative job consistent with their skill, experience, and education. An examination of the difference in detailed occupations between newly and already-employed wives working in professional and managerial occupations highlights this gap.

Table 5. Occupation of newly employed wives and continuously employed wives at time 2 by recession year

Occupation	May 2008–2009			May 1990–1991			May 1981–1982		
	Newly employed (percent distribution)	Continuously employed (percent distribution)	Percentage point change	Newly employed (percent distribution)	Continuously employed (percent distribution)	Percentage point change	Newly employed (percent distribution)	Continuously employed (percent distribution)	Percentage point change
Professional/managerial	33.1	48.6	-15.5	17.1	32.0	-14.9	16.3	26.7	-10.4
Professional, technical	9.6	16.5	-7.0	10.7	19.1	-8.4	12.0	18.6	-6.7
Managers and administrators	23.6	32.1	-8.5	6.4	12.9	-6.5	4.4	8.1	-3.7
Service workers	24.9	14.0	10.8	24.3	12.0	12.3	17.6	14.3	3.3

See footnotes at end of table.

Table 5. Occupation of newly employed wives and continuously employed wives at time 2 by recession year

Occupation	May 2008–2009			May 1990–1991			May 1981–1982		
	Newly employed (percent distribution)	Continuously employed (percent distribution)	Percentage point change	Newly employed (percent distribution)	Continuously employed (percent distribution)	Percentage point change	Newly employed (percent distribution)	Continuously employed (percent distribution)	Percentage point change
Other	42.0	37.4	4.6	58.6	56.0	2.5	66.1	59.0	7.1
Sales workers	11.0	8.7	2.3	12.3	10.7	1.6	10.3	6.5	3.8
Clerical	22.5	23.1	-5	24.4	30.2	-5.8	33.7	37.1	-3.5
All other ⁽¹⁾	8.5	5.6	2.8	21.8	15.1	6.8	22.1	15.4	6.7
N	330	5,871		515	6,123		809	5,602	

Notes:

⁽¹⁾ Occupations in 2008–2009 include farming, fishing, and forestry occupations; construction and extraction occupations; installations, maintenance, and repair occupations; and transportation and material moving occupations. Occupations in 1990–1991 include technicians and related supports; private household; protective service; precision production, craft, and repair; machine operators, assemblers, and inspectors; transportation and material moving; handlers, equipment cleaners, etc.; and armed forces. Occupations in 1981–1982 include craftsmen and kindred workers; operatives, except transportation; transportation equipment operatives; nonfarm laborers; private household workers; farmers and farm managers; and farm laborers and foremen.

Note: Newly employed wives are those who entered employment between time 1 and time 2; continuously employed wives are those who were employed at both time 1 and time 2.

Source: Individual matched 2008–2009, 1990–1991, and 1981–1982 May Current Population Survey, U.S. Bureau of Labor Statistics, and authors' calculations.

Table 6 presents multinomial logistic regression results that predict wives' occupation (service occupation, professional or managerial occupation, and all other occupations) at time 2 while controlling for whether the wife became employed in the past year, whether the husband stopped working in the past year, as well as controlling for education, age, race and ethnicity, number of children, income, region, and rural residence. These models are based on the full sample of wives employed at time 2 for each recession. In the 1981–1982 recession, there was little difference in the occupations of newly employed wives and already-employed wives—wives who became employed were less likely to enter a professional or managerial occupation compared with other occupations but were no more likely to enter service occupations than other occupations. This makes sense because in the 1980s fewer women had college degrees, occupational segregation was more commonplace,⁵⁰ and there were fewer people employed in service occupations in the economy.⁵¹ However, this was not the case in the 1990–1991 recession when newly employed wives were more likely than already-employed wives to work in service occupations compared with professional and managerial occupations or other occupations, and were more likely to enter occupations other than professional and managerial occupations; this supports our contention that newly employed wives entered service jobs as those kinds of jobs became more prevalent. In the 2008–2009 recession, we again see occupational differentiation between newly and already-employed wives—newly employed wives were more likely to enter service occupations than to enter professional and managerial occupations, supporting our expectation that newly employed wives would be employed in service jobs rather than in professional or

managerial jobs. When comparing coefficients across models, we find no difference between the Great Recession and the other two recessions regarding the occupations of newly employed wives.

Table 6. Multinomial logistic regression predicting occupation at time 2 for employed wives at time 2, by recession

Category	May 2008–2009		May 1990–1991		May 1981–1982	
	Service compared with professional/managerial	Other compared with professional/managerial	Service compared with professional/managerial	Other compared with professional/managerial	Service compared with professional/managerial	Other compared with professional/managerial
Wife enters labor force	1.568*	1.309	2.694***	1.678***	1.302	1.432*
Husband becomes not employed	.953	.882	1.458	1.552*	1.256	1.128
Wife's characteristics						
Wife's education						
Less than high school (reference category)						
High school graduate	.522*	.698	.229***	.379***	.404***	.667**
Some college	.219***	.323***	.087***	.174***	.143***	.252***
Bachelor's degree or higher	.045***	.073***	.011***	.037***	.022***	.052***
Wife's age	.995	1.002	1.001	.996	1.007	.997
Wife's race and ethnicity						
White, non-Hispanic (reference category)						
Black, non-Hispanic	1.479*	.856	1.772**	1.091	1.428*	.892
Other, non-Hispanic	1.423†	1.115	2.463**	2.317***	1.647	1.048
Hispanic	1.800***	.983	2.085**	1.984**	1.204	1.426
Family variables						
Number of children under age 18	1.073	.981	1.105†	1.007	1.246***	1.084*
Child under age 5	.959	1.054	1.025	.914	NA	NA
Family income ⁽¹⁾						
Less than \$25,000 (reference category)						
\$25,000 to \$49,999	.765	1.255	1.045	1.245	.863	1.028
\$50,000 to \$74,999	.432***	.892	.832	1.214	.618†	.929
\$75,000 to \$99,999	.206***	.641*	.418***	.916	.327***	.722
\$100,000 or more	.106***	.541***	.212***	.727†	.116***	.531**

See footnotes at end of table.

Table 6. Multinomial logistic regression predicting occupation at time 2 for employed wives at time 2, by recession

Category	May 2008–2009		May 1990–1991		May 1981–1982	
	Service compared with professional/managerial	Other compared with professional/managerial	Service compared with professional/managerial	Other compared with professional/managerial	Service compared with professional/managerial	Other compared with professional/managerial
Family income data missing	.395***	.776	.531*	.918	.506*	.714
Region						
Northeast (reference category)						
Midwest	.795	.937	1.077	1.155	1.095	.845
West	.986	1.065*	.988	1.030	.960	.999
South	.607***	1.001	.581***	.960	.690*	.856
Residence						
Rural	.853	.861	.954	.960	.954	.936

Notes:

(1) For 1990–1991: less than \$24,707.94, \$24,709.59 to \$49,417.53, \$49,419.18 to \$65,890.59, \$65,892.24 to \$97,191.05, \$98,838.36 or more. For 1981–1982: less than \$23,683.32, \$23,685.68 to \$47,368.99, \$47,371.36 to \$59,211.84, \$59,214.20 to \$118,426.04, \$118,428.41 or more.

† p < .10

* p < .05

** p < .01

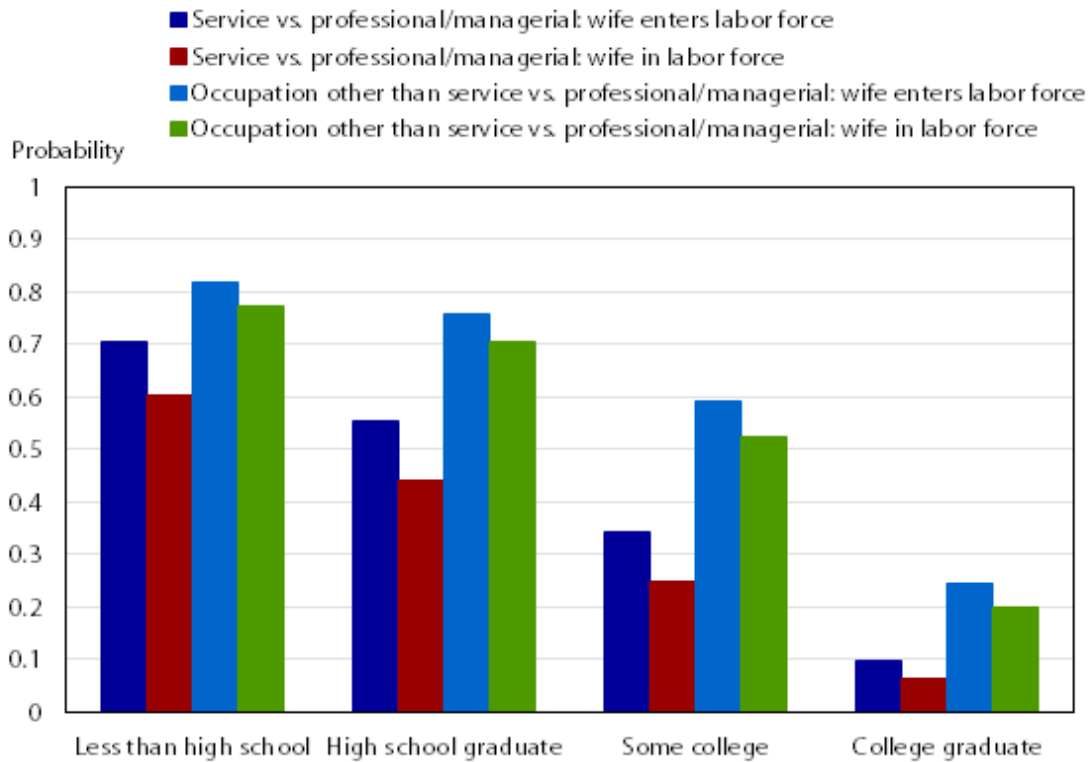
*** p < .001

Note: NA indicates that the data for whether a family has a child under age 5 are not available for 1981 and 1982.

Source: Individual matched 2008–2009, 1990–1991, and 1981–1982 May Current Population Survey, U.S. Bureau of Labor Statistics, and authors' calculations.

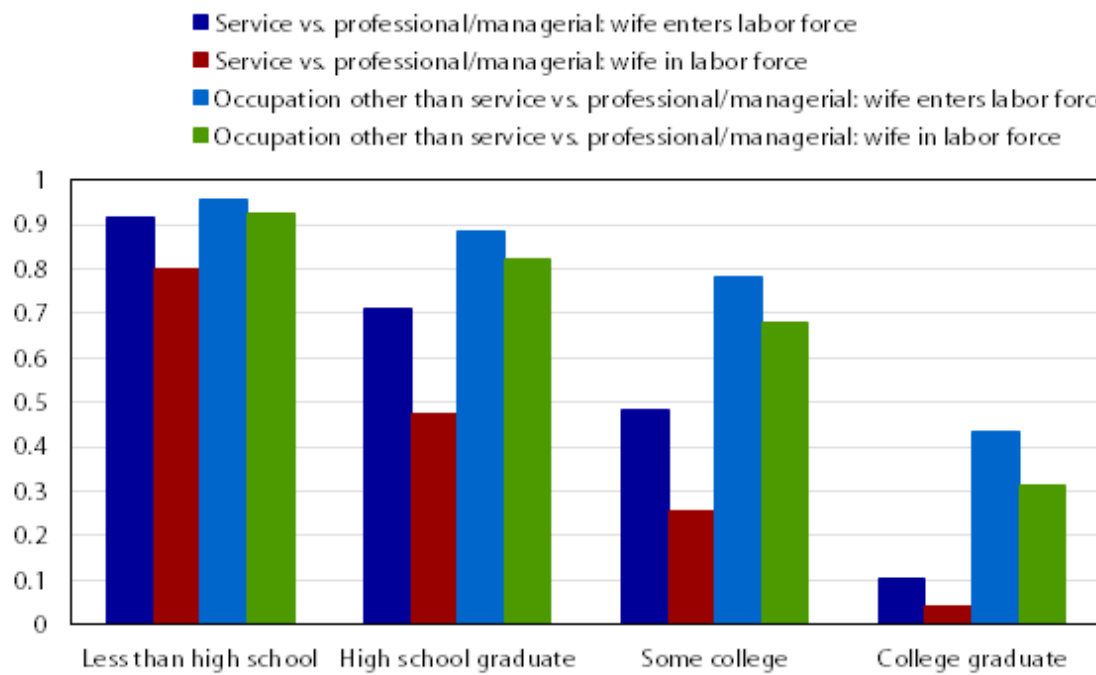
Table 6 also shows that wives with higher levels of education were more likely to work in professional or managerial occupations than in service occupations or other occupations. This is consistent with our expectations that higher levels of human capital, such as a college degree, are typically job qualifications of professionals and managers. When we compare the 1990–1991 recession with the Great Recession, we find that college graduates during the Great Recession were more likely to enter professional or managerial occupations than service or other occupations; this finding is contrary to our expectation that the severity of the Great Recession would limit college graduates' ability to gain employment in line with their qualifications. Figures 1–3 show predicted probabilities by educational attainment for wives who were already working and for wives who started a job during the recession for each recession analyzed. These figures suggest that female college graduates who entered the labor force during the Great Recession were somewhat more likely to enter service occupations than professional occupations and were more likely to enter other occupations compared with professional occupations than their counterparts who were already in the labor force. However, this latter pattern is most evident during the Great Recession and the recession of 1990–1991, suggesting the possibility that wives were entering occupations for which they were overqualified during recession (models available upon request). Figures 1–3 also show declines over time in wives' likelihood of entering service or other occupations, as we expect given female rising education.

Figure 1. Predicted probability of wife entering occupation type by education level, 2008–2009

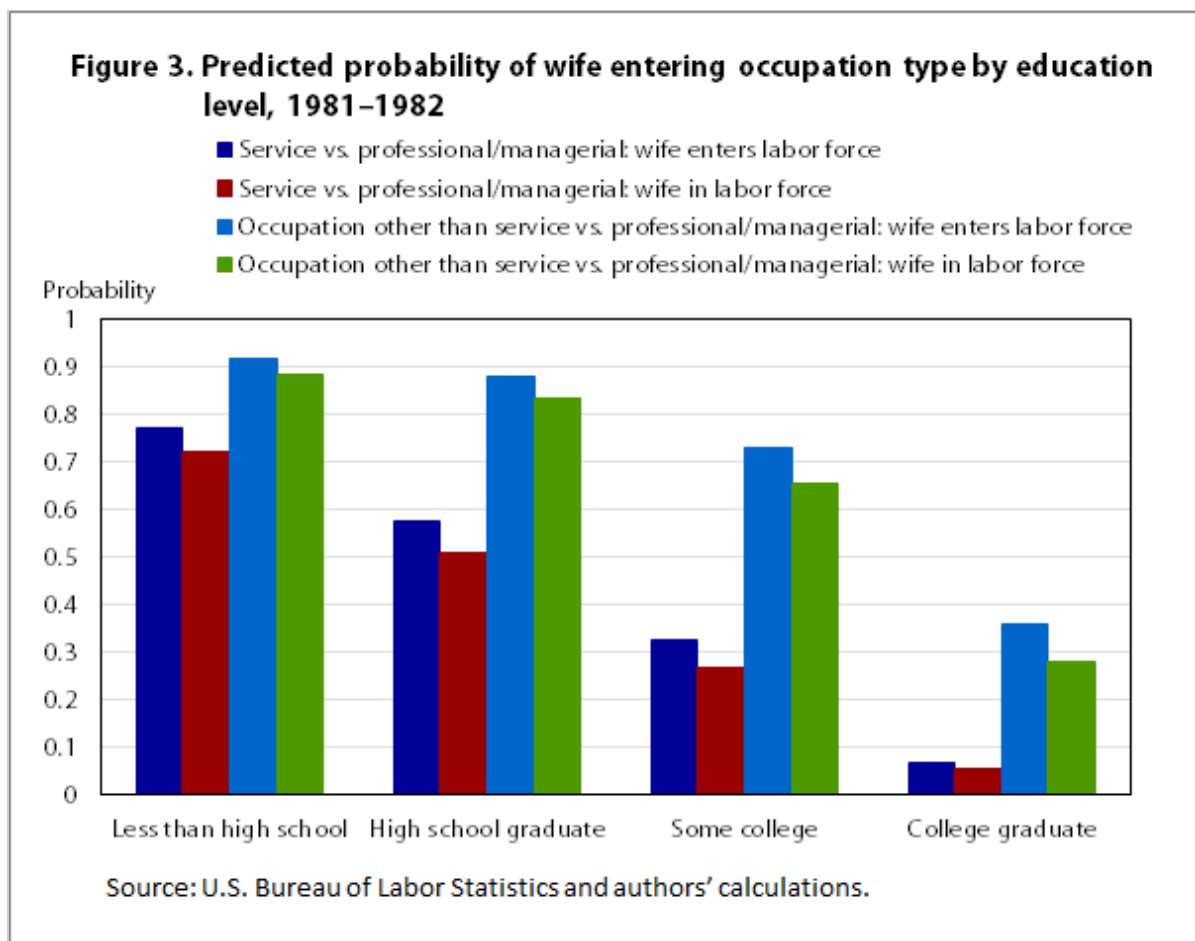


Source: U.S. Bureau of Labor Statistics and authors' calculations.

Figure 2. Predicted probability of wife entering occupation type by education level, 1990–1991



Source: U.S. Bureau of Labor Statistics and authors' calculations.



WE BEGAN THIS ARTICLE with three research questions. First, we considered whether wives who were not working or seeking work at first observation were more likely to enter the labor force if their husband stopped working during the Great Recession compared with the 1990–1991 recession and the 1981–1982 recession. Our results suggest that a husband's stopping work is associated with a higher likelihood that a wife entered the labor force during all three recessions, but that the effect was stronger during the Great Recession than in the 1981–1982 recession.

Second, we broke the outcome variable down to determine if a wife who was not in the labor force when her husband stopped working was a) more often finding a job (becoming employed) and b) more often seeking a job (becoming unemployed) than were other wives who were not in the labor force. A wife whose husband stopped working was more likely to find work than were other wives previously outside of the labor force during the Great Recession and during the 1990–91 recession. However, during the 1981–1982 recession, such wives were actually less likely to find work. During all three recessions wives were more likely to commence a job search if their husbands stopped working. This suggests that the recessionary context may be pushing women into the labor force, but only in the two more recent recessions were such wives likely to be successful in finding a job. Further research is needed to determine why this is so. It is possible that with increased education and perhaps increased job experience, wives who were not initially in the labor force were better poised to find a job when their husbands stopped working. It is also plausible that wives were less selective about the jobs they took during the more recent recessions because of the long length of the recession, the long duration of unemployment, and its

associated long-term financial pressures. Future research that considers these possibilities would advance our understanding of how couples navigate economic downturns.

Third, we explored the type of occupations wives commencing work entered and compared these with the occupations of wives who already were employed at the time of the initial data collection. We found some evidence that newly employed wives were more often in service jobs rather than professional and managerial jobs in 2008–2009 and 1990–1991, but not in 1981–1982. This is consistent with the transformation of the economy and the dramatic growth in service occupations. There are also several other possibilities: service occupations may be easier to obtain, and wives, who otherwise would only consider professional or managerial jobs, may be pushed into service jobs during time of economic strain. It is also possible that service jobs are more easily balanced with the demands of family life or that wives entering jobs were seeking temporary employment. Also, perhaps some wives seek any kind of employment so they could obtain key benefits like health insurance coverage, although service occupation workers are less likely to have health insurance coverage than workers in professional or managerial jobs.⁵² Finally, if these wives see their employment as temporary and lasting just until their husbands resume working, service occupations may be an attractive option. Qualitative research could help us gain leverage on the answers to these questions.

One limitation of our study is that the CPS does not track people who relocate. In the context of a recession with both higher than average foreclosures and frozen housing markets, it is unclear whether those same families experiencing a husband's job loss are more or less apt to move. Another limitation is the short window of observation. We can analyze employment status at two time points that are a year apart. However, we do not know what happened in the preceding or following months. Thus a wife who is unemployed in May may have commenced work the following month, in June. Similarly, we do not know the precise dates when husbands stopped working and when wives started. However, even if a wife entered the labor force within the same year but in advance of when her husband stopped working, it is plausible that the ending of his work was anticipated or facilitated by her employment. Our analysis is also limited in that the May CPS data do not include variables measuring personal earnings; thus, we cannot assess the extent to which a wife's earnings make up for lost earnings of her husband or help keep the family out of poverty when faced with a husband's job loss. Future research on the added-worker effect would do well to analyze longitudinal data with these limitations in mind.

Our research points to the possibility that wives entering employment during the Great Recession and the 1990–1991 recession may have been less particular about the jobs they took, a pattern that holds even for college graduates. This finding has implications for gender equality and lifetime earnings. Women who otherwise would have entered more lucrative jobs but instead entered lower paying service jobs, for whatever reason, will have lower earnings in the short-term and reduced lifetime earnings and pension benefits, and these reductions contribute to an increase in the gender wage gap.⁵³ However, future research is needed to determine if the occupational patterns found during recessions are typical entry points for women when they return to work regardless of business cycle, and whether the “on ramps” for women differ by education in nonrecession years. This is beyond the scope of this paper but is an important next step.

Appendix tables

Appendix 1. Coefficients and standard errors from logistic regression analysis predicting wife entering the labor force by time 2 among wives not in the labor force at time 1

Category	May 2008–2009		May 1990–1991		May 1981–1982	
	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
Husband becomes not employed	0.651	0.145***	0.515	0.016***	0.276	0.013***
Wife's characteristics						
Wife's education						
Less than high school (reference category)						
High school graduate	-.073	.145	.672	.013***	.411	.009***
Some college	.372	.150*	.911	.014***	.593	.012***
Bachelor's degree or higher	.485	.156**	.960	.016***	.486	.014***
Wife's age	-.032	.005***	-.068	.000***	-.048	.000***
Wife's race and ethnicity						
White, non-Hispanic (reference category)						
Black, non-Hispanic	.058	.176	.376	.018***	.515	.015***
Other, non-Hispanic	-.390	.169*	-.218	.021***	.210	.025***
Hispanic	.034	.127	.038	.016*	.035	.015***
Family variables						
Number of children under age 18	.104	.045*	.080	.004***	-.057	.004***
Child under age 5	-.536	.120***	-.804	.011***	NA	
Family income ⁽¹⁾						
Less than \$25,000 (reference category)						
\$25,000 to \$49,999	-.119	.143	.045	.013***	-.164	.012***
\$50,000 to \$74,999	-.001	.151	.156	.014***	.034	.013***
\$75,000 to \$99,999	.064	.163	-.083	.015***	-.203	.013***
\$100,000 or more	-.314	.164	-.035	.016*	-.451	.019***
Family income data missing	-.347	.164*	.150	.018***	-.275	.017
Region						
Northeast (reference category)						
Midwest	.091	.132	.095	.013***	.116	.010***
West	-.059	.033	.050	.003***	.085	.003***
South	-.104	.118	.204	.012***	.077	.010***
Residence						
Rural	-.249	.119*	.177	.010***		.008***
Constant	-.382	.319	.334	.028***	-.169	.021***
<i>N</i>		2,243		3,150		4,795
<i>df</i>		19		19		18

Notes:

⁽¹⁾ For 1990–1991: less than \$24,707.94, \$24,709.59 to \$49,417.53, \$49,419.18 to \$65,890.59, \$65,892.24 to \$97,191.05, \$98,838.36 or more. For 1981–1982: less than \$23,683.32, \$23,685.68 to \$47,368.99, \$47,371.36 to \$59,211.84, \$59,214.20 to \$118,426.04, \$118,428.41 or more.

* $p < .05$

** $p < .01$

*** $p < .001$

Note: NA indicates that the data for whether a family has a child under age 5 are not available for 1981 and 1982.

Source: Individual matched 2008–2009, 1990–1991, and 1981–1982 May Current Population Survey, U.S. Bureau of Labor Statistics, and authors' calculations.

Appendix 2. Coefficients and standard errors from multinomial logistic regression analysis predicting wife becoming employed or unemployed by time 2 among wives not in the labor force at time 1

Category	May 2008–May 2009				May 1990–May 1991				May 1981–May 1982			
	Wife becomes employed		Wife becomes unemployed		Wife becomes employed		Wife becomes unemployed		Wife becomes employed		Wife becomes unemployed	
	Coef-ficient	Standard error	Coef-ficient	Standard error	Coef-ficient	Standard error	Coef-ficient	Standard error	Coef-ficient	Standard error	Coef-ficient	Standard error
Husband becomes not employed	0.384	0.017**	1.285	0.032**	0.459	0.169***	1.225	0.253**	-0.048	0.016**	1.400	0.022***
Wife's characteristics												
Wife's education												
Less than high school (reference category)												
High school graduate	.795	.014	.063	.029**	.157	.168***	-.753	.282†	.484	.010***	.022	.022
Some college	1.002	.015***	.564	.031	.620	.172***	-.483	.306***	.710	.012***	-.235	.031***
Bachelor's degree or higher	1.161	.017***	-.990	.059	.682	.180***	-.055	.306***	.517	.015***	.412	.033***
Wife's age	-.062	.001***	-.112	.001***	-.026	.006***	-.056	.010***	-.044	.000***	-.069	.001***
Wife's race and ethnicity												
White, non-Hispanic (reference category)												
Black, non-Hispanic	.061	.021	1.637	.032*	-.165	.207**	.755	.306***	.408	.016***	1.121	.031***
Other, non-Hispanic	-.179	.021*	-.563	.073	-.428	.188***	-.259	.351***	.257	.026***	-.106	.070
Hispanic	-.076	.018	.606	.034	-.003	.140***	.133	.271***	-.090	.017***	.582	.030***
Family variables												
Number of children under age 18	.102	.005**	-.064	.012	.144	.049***	-.076	.102***	-.047	.004***	-.124	.009***
Child under age 5	-.790	.011***	-.877	.028*	-.508	.130***	-.652	.265***	NA		NA	
Family income ⁽¹⁾												
Less than \$25,000 (reference category)												
\$25,000 to \$49,999	.004	.014	.360	.032	-.186	.160	.108	.283***	-.174	.012***	-.083	.026**
\$50,000 to \$74,999	.168	.015	-.126	.044	.075	.163***	-.505	.362**	.040	.013**	-.034	.031
\$75,000 to \$99,999	-.143	.015	.441	.040	.064	.178***	.051	.350***	-.231	.013***	-.011	.031
\$100,000 or more	-.112	.017	.639	.046	-.274	.178***	-.597	.381***	-.432	.019***	-.898	.064***
Family income data missing	.075	.019*	.568	.044	-.401	.182***	-.170	.334***	-.332	.018***	.068	.039†
Region												

See footnotes at end of table.

Appendix 2. Coefficients and standard errors from multinomial logistic regression analysis predicting wife becoming employed or unemployed by time 2 among wives not in the labor force at time 1

Northeast (reference category)												
Midwest	.138	.013	-.439	.040	.130	.145***	-.114	.281**	.095	.011***	.259	.026***
West	.054	.003	.003	.009 [†]	-.048	.036***	-.116	.069	.081	.003***	.111	.007***
South	.160	.012	.527	.032*	.004	.129***	-.594	.261**	.094	.011***	-.029	.027
Residence												
Rural	.212	.010	-.161	.028**	-.120	.124***	-1.160	.379**	.252	.008***	.380	.019***
Constant	-.103	.030***	.015	.065	-1.124	.357***	-.051	.641	-.449	.022***	-1.414	.048***
N	2,243				3,150				4,795			

Notes:

(1) For 1990–1991: less than \$24,707.94, \$24,709.59 to \$49,417.53, \$49,419.18 to \$65,890.59, \$65,892.24 to \$97,191.05, \$98,838.36 or more. For 1981–1982: less than \$23,683.32, \$23,685.68 to \$47,368.99, \$47,371.36 to \$59,211.84, \$59,214.20 to \$118,426.04, \$118,428.41 or more.

[†] p<.10

* p<.05

** p<.01

*** p<.001

Note: NA indicates that the data for whether a family has a child under age 5 are not available for 1981 and 1982.

Source: Individual matched 2008–2009, 1990–1991, and 1981–1982 May Current Population Survey, U.S. Bureau of Labor Statistics, and authors' calculations.

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NOTES

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Millennials after the Great Recession

Scott Berridge

An often-discussed topic regarding the Great Recession is its effects on millennials. The recession has caused them to defer decisions about home and car purchases and also marriage. The decisions millennials make now in the aftermath of the recession's effects can reverberate for years. In "[The economic plight of millennials](#)" (Federal Reserve Bank of Atlanta, *EconSouth*, January–April 2014), author Mark Carter looks at the financial hardships facing millennials.

Millennials—defined as people born after 1980—are straying from historic patterns, and this is having a negative impact on the wider economy. Preceding generations purchased houses and got married earlier. According to Pew data, as of 2012, 36 percent of young adults ages 18 to 31 were living with their parents. In 2007, 30 percent of this age group were married, but in 2012, only 25 percent were married. Using BLS data, the author shows that young people ages 16 to 24 had an unemployment rate of 15.5 percent in 2013 and 14.2 in early 2014, leaving many of them unable to rent apartments and purchase or furnish homes. In contrast, the unemployment rate for people ages 25 and over was 5.4 percent in early 2014.

While facing difficulties in the labor market, many millennials are also dealing with the burden of high student debt. More young adults are taking on loans to pay for their education than did previous generations. According to New York Federal Reserve Board data quoted by the author, since 2005 the educational debt of Americans under age 30 has increased from about \$13,000 to \$21,000. While every other type of debt decreased among the general population since the recession began, student debt has increased; by 2012, it totaled more than \$1 trillion. Yet despite the cost of acquiring an education, young adults are generally glad they did: around 90 percent of those who took out an education loan say their indebtedness has been worth it, according to Pew. The Pew survey data back their thinking, with millennials who have at least a bachelor's degree earning about \$17,000 more per year than millennials who have only a high school degree. While higher education offers better prospects of higher income, the cost of that education is delaying entry to the housing market, which is a major driver of the overall economy.

The recent recession negatively affected all Americans' household formation, but it was among young adults that the largest shortfall occurred. Timothy Dunne, an economist for the Atlanta Fed, in 2012 used Current Population Survey data to show that people ages 18 to 24 composed the group with the largest shortfall in expected household formation between 2007 and 2011. The second largest group was made up of people 25 to 34 years of age. Together they accounted for 1.9 million of the 2.6 million total shortfall of expected new households. Similarly, the homeownership rate for these two groups peaked at 44 percent in 2004 but was down to 37 percent by 2011. Basically, a tough labor market and high debt levels are forcing the postponement of major decisions among young adults that will affect them for years to come. But not everything is against this demographic group.

While millennials have acquired more student loan debt than previous generations, they also are better educated. The author also points out that though getting an education may be expensive, not getting one can cost more. Finally, student loan debt of millennials will decrease and their prospects for household formation, car purchases, and general economic participation are expected to pick up as the labor market improves.

Consumption patterns and economic status of older households in the United States

This article holistically maps the consumption patterns of older Americans and compares the economic status of different groups (clusters) of elderly U.S. consumers. Using data from the 2010–2011 Consumer Expenditure Survey, the analysis focuses on the consumption patterns of households whose heads or spouses were age 65 and over. Our factor and cluster analyses revealed six consumption clusters (listed in order of cluster size): “basic-need-meeters,” “housing burdened,” “healthcare burdened,” “transportation burdened,” “happy retirees,” and “balanced budgeters.” We found that substantial financial vulnerabilities exist for the first three groups, which represent approximately 74 percent of older Americans, and that these vulnerabilities are due to expenses for housing, healthcare, and everyday necessities. These results demonstrate the need for more effective provision and targeting of healthcare services for the vulnerable consumption groups and highlight the importance of timely retirement planning.



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The U.S. population is aging rapidly. The number of Americans age 65 and over was 40.4 million in 2010 and is expected to reach 72.1 million by 2030.¹ This age group accounted for 12.8 percent of the U.S. population in 2011 and is projected to account for 20.4 percent in 2040.² The growing size of the elderly population has attracted considerable research and policy interest, raising questions about the economic well-being of retired and older Americans. A household is considered to be adequately prepared for retirement if its accumulated wealth is sufficient for the maintenance of a preretirement level of consumption.³ By examining household net worth or capital accumulation levels, previous studies have employed various methods for assessing the adequacy of a retirement resource and concluded that most households are not

adequately prepared for retirement and thus require additional savings.⁴ What is not clear, however, is whether households use their savings or wealth to maintain preretirement consumption levels.

Many empirical studies of expenditure patterns do not consistently confirm life-cycle or permanent-income theories, which assert that consumers attempt to maintain their lifetime consumption levels by saving during periods of high income and by dissaving when incomes are low. Contrary to the life-cycle hypothesis, several studies have found that older Americans maintain their wealth by reducing consumption, and that this reduction is attributable

to uncertainties regarding health, life expectancy, and ability to maintain household independence.⁵ These findings imply that income or assets may not fully represent the actual economic well-being of older Americans.

The purpose of this article is to examine the variation in the economic status of older U.S. households—a variation conditioned upon what these households consume, how much they spend, and the types and quantity of financial resources they have. The older population is often viewed as vulnerable; however, some statistics indicate that the current generation is better educated, more productive, and wealthier than past generations.⁶ Further, previous research has revealed large differences in the economic well-being of older Americans, differences due to the variety of income sources and the existing stratification of wealth levels.⁷ Considering the possible heterogeneity in socioeconomic characteristics, life experiences, tastes and preferences, and financial needs and resources, a more careful investigation is needed to understand that diversity.

Rather than focusing on a specific target group or consumption item, this article attempts to map the demographics of older households on the basis of their consumption patterns, income needs, and expenditure measures. We expect that an approach that combines both expenditure and resource analyses will provide more complete and detailed information about the variation in consumer demands and economic status of older households. Thus, the results of this article may be useful for financial planners and policymakers interested in identifying a target group of elderly Americans with more urgent economic needs.

The specific research questions addressed here are as follows. First, what are the important components of household consumption that determine the consumption patterns of older Americans? Second, how are older Americans segmented into various consumption clusters according to their expenditure shares for different consumption components? Third, how is the economic status of each group assessed in terms of its needs-based income and expenditure measures? Finally, what demographic characteristics are significantly associated with older American household segmentation? The answers to these questions are expected to provide a unique contribution to the field, because our analysis focuses on the entire older population (rather than on a specific subpopulation, such as women or those in poverty) and reveals diverse consumer needs and resource constraints (rather than a single consumption category).

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Literature review

Consumption patterns of older households. A number of previous studies have identified household consumption patterns of older Americans. The data used in these studies come mostly from the Bureau of Labor Statistics Consumer Expenditure Survey (CE). Consumption patterns have been investigated in terms of both total dollar expenditures and expenditure (budget) shares of different consumption categories.

Some studies in the relevant literature have contrasted expenditure patterns of elderly people with those of the nonelderly, whereas others (discussed in the next section) have examined differences in expenditure patterns among older households. Studies in the former group have found that older households spend less than do younger households. As noted earlier, the life-cycle hypothesis and the permanent-income hypothesis predict that consumers will maintain their lifetime consumption patterns by saving during periods of high income and by dissaving during periods of low income.⁸ However, empirical research on expenditure patterns does not consistently confirm these predictions. Using the 1972!1973 CE, for example, Sheldon Danziger et al. found that not only did older Americans not dissave to finance their consumption during retirement, but they also spent less on consumer goods and services than did nonelderly people at all levels of income.⁹ In other words, older Americans maintained their wealth by reducing their consumption. Similar conclusions were proposed in another study, which examined the asset and consumption trends of four cohorts of older Americans.¹⁰ This study found that older Americans—homeownership rates were stable until age 80, showing that the elderly were not converting their housing assets into other types of income or consumption. In addition, other authors have suggested that, contrary to the life-cycle hypothesis, certain household expenditures (e.g., medical expenses) provide an important reason for older households to keep their assets in old age.¹¹

Previous studies on how the elderly allocate their expenditures have repeatedly confirmed that older households spend more of their income on basic needs than do younger households. Compared with the nonelderly, the elderly spend more on housing, food, and healthcare—the three most important items in their total consumption—and less on clothing, transportation, and household furnishings.¹²

Further, Jonathan D. Fisher et al. found that older Americans maintained a relatively constant budget share of housing expenditures as they aged—a share of approximately 30 percent.¹³ In another study, Stephen Crystal et al. found that out-of-pocket medical expenditures averaged 19 percent of the total income of older Americans.¹⁴ Moreover, Gong-Soog Hong and Soo Yeon Kim reported that, compared with their younger counterparts, older households not only spent more for healthcare but also devoted a greater budget share to healthcare expenses.¹⁵ In terms of food consumption, J. Michael Harris and Noel Blisard showed that older households spent between 8 and 10 percent of their average weekly income on food (compared with an average of 5 percent for all households) and that nearly 73 percent of the weekly food expenditures of the oldest group were spent on food at home.¹⁶

Differences in consumption patterns of older households. The literature reviewed thus far suggests that the necessities of housing, healthcare, and food become major expenditure burdens later in life. According to some studies, however, the individual financial burdens of older households vary by age, gender, income, assets, health, marital status, and other factors. Poor older households have been found to have the largest financial burdens, spending approximately three-fourths of their total expenditures on housing, food, and healthcare.¹⁷ In addition, a significant variation in food expenditures has been reported among older households—a variation due to differences in age, income, place of residence (rural versus urban), education level, race, and marital status.¹⁸

Kathleen McGarry and Robert F. Schoeni found that out-of-pocket medical expenditures of married older households in the final 2 years of life were equal to 30 percent of their annual income; for people in the lowest income quartile, that share was equal to approximately 70 percent.¹⁹ Out-of-pocket medical expenditures and their burden among the elderly also appear to vary according to age, income, health condition, and insurance coverage. For example, it has been reported that these expenditures increase (in terms of dollar amounts) with income and that their budget share is higher for low-income individuals than for high-income individuals.²⁰

In recent years, many studies have examined how the burden of paying for healthcare affects the wealth of older Americans. Because out-of-pocket medical expenditures are particularly large at the end of one's life, their burden in old age may severely affect the financial well-being of the elderly. Moreover, Hyungsoo Kim and Jinkook Lee have found that the financial burden and wealth depletion caused by health problems differ greatly across elderly populations of different ethnic and racial backgrounds.²¹ Kim and Lee also have found that new health events and existing health conditions significantly influence the wealth depletion of the elderly, but that these impacts vary across individuals of different marital status; whereas an occurrence of new health events results in wealth depletion for elderly people in married households, existing chronic health conditions are associated with wealth depletion for older people in single households.²² Further, Gong-Soog Hong and Soo Yeon Kim have reported that insurance status, liquid assets, life-cycle stage, household size, education, and self-employment status are significant factors affecting an elderly household's budget share of healthcare expenses.²³ Other researchers have determined that out-of-pocket medical expenditures increase by approximately 200 percent in the few years before death, an increase resulting in a significant asset depletion in the last year of life.²⁴

Literature gaps. While previous research unequivocally suggests that older Americans tend to allocate a large portion of their income to necessities, such as food, housing, and healthcare, it is less clear whether (and how much) the financial burden of these necessities affects the consumption of other goods and services and, in turn, the economic well-being of the elderly. Reduced consumption of other goods and services, if present, has the potential to lower the quality of life of older Americans, an adverse effect that would vary according to age, income, and other household characteristics. Thus, to improve our understanding of the relationship between consumption and well-being, a more careful investigation examining the interrelationships among different consumption categories is needed. When financial resources are limited, an increase in need and spending for one category is likely to be associated with consumption decreases in other categories.

Existing studies concerned with the consumption behavior of older households either focus on specific demographic or socioeconomic groups or analyze their spending on various consumption items. Although these studies provide ample evidence for the economic status associated with aging, there has been little effort to piece these separate aspects into one complete picture. By considering all consumption categories and their interdependence, the present article takes a more holistic approach to understanding the differences in consumption patterns among older Americans and their economic well-being.

Methods

Data and study sample. This article uses 2010–2011 data from the CE,²⁵ an ongoing, nationally representative survey of the U.S. civilian noninstitutional population.²⁶ The CE has introduced multiple imputations since 2004 in order to address nonresponses to income questions.²⁷ Besides providing more complete information on income,

expenditures, and other household characteristics useful for the analysis of older consumers' spending patterns, the 2010!2011 data also permit an investigation of these patterns after the most recent recession.

The study sample includes only those households whose heads or spouses were age 65 and over and who participated in four consecutive quarters of CE interviews. In addition, to reduce the possible distortions in spending patterns produced by households with extreme means, the sample excludes households within the highest and lowest 1 percent of disposable incomes. The final sample includes 1,943 older American households; their sociodemographic characteristics are presented in table 1.

Table 1. Descriptive statistics of the sample, 2010–2011 data

Variables	Percent in sample
Demographic characteristics	
Race	
White	87.53
Black	8.30
Other	4.17
Marital status	
Married couple	48.58
Other	51.42
Education	
Less than high school	21.89
High school	30.93
More than high school	47.18
Household characteristics	
Living arrangement	
Couple only	45.64
Single	43.14
Other	11.22
Housing tenure	
Own without mortgage	58.57
Other	41.43
Employed household member	
Yes	27.68
No	72.32
Region	
Northeast	20.21
Midwest	22.22
South	37.54
West	20.03
City population size	
> 4.0 million	27.97
1.2–4.0 million	23.08
0.33–1.19 million	6.23
125.0–329.9 thousand	26.05
< 125.0 thousand	16.67
Mean age of sample (years) ⁽¹⁾	74.44 (7.38)

See footnotes at end of table.

Table 1. Descriptive statistics of the sample, 2010–2011 data

Variables	Percent in sample
Mean household income (dollars) ⁽¹⁾	43,431 (40,439)
Mean household expenditures (dollars) ⁽¹⁾	38,199 (17,481)
Notes:	
⁽¹⁾ Standard deviations are shown in parentheses.	
Note: All values are weighted.	
Source: 2010–2011 CE data and authors' calculations.	

Variables. We regrouped the original CE expenditure categories into 17 mutually exclusive categories; table 2 lists these categories and their descriptions. The expenses for food, alcoholic beverages, lodging, and transportation while on trips were categorized as –travel.– The quarterly data on expenditures for each category were aggregated to produce their annual sums. To obtain a disposable income measure, we added tax refunds and other monetary receipts, such as refunds from insurance policies, to the mean of the five imputed values for after-tax income.

Table 2. Descriptions of consumption categories

Categories	Descriptions
Food	Food expenditures in home city
Utilities	Utilities, fuels, and public services
Contributions	Cash contributions, personal insurance, and pensions
Clothing	Apparel and services
Personal care	Personal care appliances and services (e.g., wigs, hairpieces, or toupees; electric personal care appliances; and personal care services for men and women, including haircuts)
Housing equipment	Household furnishings and equipment (household textiles, furniture, floor coverings, major appliances, small appliances, and miscellaneous household equipment)
Shelter	Shelter expenditures in home city, including mortgage principle and interest for owned home and/or vacation home, rents, insurance, taxes, and maintenance
Transportation	Transportation in home city
Healthcare	Health insurance, medical services, prescription drugs, and medical supplies
Reading	Books, magazines, and newspapers
Entertainment	Total entertainment, including sound systems, sports equipment, toys, cameras, and downpayments on boats and campers
Travel	Total of all trip expenditures (airfare, local transportation fees, tolls and parking fees, and car rentals for trips; rent for lodgings, such as vacation homes and motels; and expenditures on food and alcoholic beverages)
Household operations	Domestic services (e.g., gardening and lawn care services, including management fees for lawn care in co-ops and condos, and babysitting and daycare) and other household expenses (e.g., cost of materials purchased for termite and pest control and for jobs considered replacement or maintenance/repair; moving, storage, and freight express; and repair of household appliances, excluding garbage disposals, range hoods, and built-in dishwashers)
Tobacco	Tobacco and smoking supplies
Alcoholic beverages	Alcoholic beverage expenditures in home city
Education	Tuition; fees; and textbooks, supplies, and equipment for public and private nursery schools, elementary and high schools, colleges and universities, and other schools
Miscellaneous	Safety deposit box rentals, checking account fees and other bank service charges, credit card memberships, legal fees, accounting fees, funerals, cemetery lots, union dues, occupational expenses, expenses for other properties, and finance charges other than those for mortgages and vehicles

See footnotes at end of table.

Source: Authors' compilation based on CE expenditure categories.

With respect to weighting, we created a longitudinal weighting factor. As pointed out by Sally E. Reyes-Morales, CE participants who have completed all four interviews are more likely to be older, married, and homeowners.²⁸ Consistent with this observation, using 2010–2011 data, we found that the complete interview sample (consisting of those who completed all four interviews) and the intermittent interview sample (consisting of those who did not complete all four interviews) had significantly different sample characteristics. (See table 3.) (Note that the complete and intermittent interview samples differ from the study sample used in subsequent analyses and presented in table 1.) Previous studies have adjusted the weight variable to account for the underrepresented young renters.²⁹ Likewise, we rescaled the weight variable provided in the CE by the inverse proportion of the elderly population (for which either the household head or spouse was 65 years old or over) who completed all four interviews.

Table 3. Demographic characteristics of complete and intermittent sample, 2010–2011 data

Variables	Complete sample		Intermittent sample		T-value
	Mean	Standard deviation	Mean	Standard deviation	
Age of reference person (years)	52.65	16.71	46.86	17.84	24.58***
Married (percent)	54.63	49.79	46.76	49.90	11.43***
Owned house without mortgage (percent)	28.25	45.03	20.41	40.31	12.99***
Sample size	7,419		17,844		”
Notes:					
***Statistically significant at $p < .001$.					
Source: 2010!2011 CE data and authors' calculations.					

Analyses. The first set of analyses was performed to identify the consumption patterns of older households. We conducted a factor analysis using the annual expenditures for all consumption categories and identified six categories that reflect the consumption behaviors of the elderly. The two consumption categories with factor loadings of less than 0.4—the categories of education and miscellaneous—indicated significantly loose connectivity with the other consumption categories for grouping and were therefore dropped from further analyses. Using these dimensions as classification criteria, we performed a cluster analysis to group older households with similar spending patterns.

The second set of analyses was applied to further examine and compare the economic status of each consumption cluster in a multivariate setting. Generalized linear model (GLM) tests and F-tests were employed to investigate group differences in terms of sociodemographic characteristics and economic status. Household income and expenditure levels were reexamined with the use of a needs-based measure; the official poverty line and the sources of household income also were compared across clusters.

Results

Components of consumption. Six aggregate consumption categories, or factors, drawn from the factor analysis are presented in table 4. Each factor represents a dimension of the underlying consumption needs of households. Our results point to an interdependence among the consumption categories within the same factor.

Table 4. Results of factor analysis, 2010–2011 data

Variables	Factor 1 Essentials and contributions	Factor 2 Postponables	Factor 3 Healthcare and reading	Factor 4 Shelter and transportation	Factor 5 Expendables	Factor 6 Treats	Communality
Food	83	16	–17	–9	–9	4	0.65
Utilities	70	–20	10	–5	12	–11	.64
Contributions	–47	0	37	4	9	–17	.34
Clothing	4	79	–15	8	–1	–1	.64
Personal care	11	64	23	–23	–13	–14	.51
Housing equipment	–18	45	–1	19	11	0	.32
Healthcare	–5	–13	83	–2	–20	–1	.66
Reading	–22	25	49	–19	–1	20	.38
Shelter	–23	–12	–52	–50	–27	–6	.93
Transportation	–16	0	–8	94	–22	–4	.83
Entertainment	18	0	–14	–9	80	2	.62
Travel	–37	9	–19	–1	56	1	.47
Household operations	–16	–12	9	–26	44	–6	.24
Alcoholic beverages	–9	2	7	–12	11	74	.57
Tobacco	10	–13	0	8	–13	73	.57
Eigen value	1.92	1.67	1.34	1.25	1.14	1.06	–
Variance explained	1.65	1.35	1.39	1.27	1.20	1.17	–
Percent of variance	19.71	16.13	16.61	15.17	14.34	13.98	–

Note: All values are weighted.

Source: 2010–2011 CE data and authors' calculations.

The first factor, –essentials and contributions,– includes spending on necessities, such as food and utilities, as well as cash contributions. The contributions had a negative loading on this factor, meaning that there was a tradeoff relationship between necessities and contributions (e.g., those who spent more on food and utilities were less likely to contribute).

The second factor includes expenditures on clothing, personal care, and housing equipment and furnishings. Because these categories represent less immediate needs, we labeled them with the moniker –postponables.–

The “healthcare and reading” factor, which is the third factor, includes spending for healthcare and books. Compared with other consumption categories, expenditures on medical services, prescription drugs, and health insurance were more likely to be correlated with spending on books and magazines. This could mean that those who spend more for their health could either be more health conscious or actually have more health problems. People in the former group might be more willing to spend money for their physical and mental health, whereas

people in the latter group might lead less outgoing lifestyles, staying longer at their homes or in hospitals and having more time to read.

Shelter and transportation expenditures, taken together, represent the fourth factor (“shelter and transportation”). Shelter was found to have a negative loading, which means that those who spend more on rent and mortgages spend less on transportation. The same consumption pattern was found by Liisa Uusitalo in her study for Finland, a pattern she called a “mobility” dimension.³⁰ Uusitalo determined that among the poorer population, higher investment in housing strongly restricted the possibilities for mobility spending, such as buying a new car or auto maintenance. Thus, the budget share for shelter was extremely high in the consumer segment with low mobility.

The “expendables” factor includes what households spend for their enjoyment in terms of travel and entertainment. This factor also includes expenditures on various types of household operations, such as gardening, babysitting, and other less frequent household services (e.g., moving, storage, and repair of household appliances). Some of these expenditures could be considered a replacement for household labor, which could perhaps be self-served or privately transferred in households with more limited means.

The last factor, labeled “treats,” had high loadings of tobacco and alcoholic beverages.

In the following analyses, the six factors were reorganized into eight factors, so that the effects of the variables within the same factor have the same direction. “Contributions” and “shelter” which had negative loadings on the “essentials and contributions” and “shelter and transportation” factors, respectively—were separated from each factor and treated as independent factors.

Consumption clusters. Based on the results of the factor analysis, a K-means cluster analysis was conducted on the expenditure shares for the eight factors, or “clustering criteria.” The standardized scores and the frequencies of each cluster are shown in table 5.

Although eight clusters were derived in the final run of the cluster analysis, the “givers” and the “impatient self-treaters” were dropped from further analysis because of their small sample sizes; these groups represented 2.2 percent and 0.2 percent of the total sample, respectively. The discussion in the remaining sections is based on the following six clusters: the “basic-need-meeters” (cluster 1; n = 522), the “transportation burdened” (cluster 2; n = 235), the “healthcare burdened” (cluster 3; n = 410), the “housing burdened” (cluster 4; n = 503), the “happy retirees” (cluster 5; n = 123), and the “balanced budgeters” (cluster 7; n = 105).

Table 5. Results of cluster analysis, mean standardized scores of consumption, by cluster, 2010–2011 data

Factors	Cluster 1 Basic-need-meeters	Cluster 2 Transportation burdened	Cluster 3 Healthcare burdened	Cluster 4 Housing burdened	Cluster 5 Happy retirees	Cluster 6 Impatient self-treaters	Cluster 7 Balanced budgeters	Cluster 8 Givers
Cluster size ⁽¹⁾	522 (26.87)	235 (12.09)	410 (21.10)	503 (25.89)	123 (6.33)	3 (0.15)	105 (5.40)	42 (2.16)
Factor 1 Essentials	.0053	-.0022	-.0003	-.0028	-.0029	-.0011	-.0016	-.0046
Factor 2 Contributions	-.0010	-.0005	.0002	-.0009	.0005	-.0019	.0004	.0211
Factor 3 Postponables	-.0008	-.0006	-.0009	-.0011	.0012	-.0039	.0132	-.0010

See footnotes at end of table.

Table 5. Results of cluster analysis, mean standardized scores of consumption, by cluster, 2010–2011 data

Factors	Cluster 1 Basic-need-meeters	Cluster 2 Transportation burdened	Cluster 3 Healthcare burdened	Cluster 4 Housing burdened	Cluster 5 Happy retirees	Cluster 6 Impatient self- treaters	Cluster 7 Balanced budgeters	Cluster 8 Givers
Factor 4 Shelter	−.0015	−.0024	−.0024	.0062	−.0022	−.0051	−.0019	−.0026
Factor 5 Transportation	−.0009	.0095	−.0011	−.0019	−.0020	−.0019	−.0004	−.0030
Factor 6 Healthcare	−.0017	−.0019	.0066	−.0023	−.0020	−.0030	−.0010	−.0014
Factor 7 Expendables	−.0009	−.0009	−.0007	−.0014	.0129	−.0012	.0008	−.0006
Factor 8 Treats	.0007	−.0004	−.0005	−.0004	−.0004	.0562	.0002	−.0008
Pseudo F- statistic	266.09							
R-squared	.3961							
Notes:								
(1) Values in parentheses are in percent.								
Note: All values are weighted.								
Source: 2010–2011 CE data and authors' calculations.								

Budget shares and expenditure levels of each cluster. The budget shares and expenditure levels of the eight clusters are shown in table 6. The –happy retirees– were the richest group, with a total expenditure of \$53,880. They could afford to spend as high as 30.7 percent of their expenditures on –expendables– (e.g., entertainment, travel, and household operations), a spending level well above the range of 7–11 percent for the other clusters. The –balanced budgeters– were the second-richest group, with a total expenditure of \$46,518. While their spending share on “postponables” (e.g., personal care, clothing, and housing equipment) was 15.8 percent, that share ranged from 3 to 5 percent in other clusters. This group’s budget shares also were the most evenly distributed across consumption categories. Judging from their spending behavior, the –balanced budgeters– appear to be a more static group of older households than the “happy retirees,” a more active and outgoing cluster. Together, these two groups constituted 11.7 percent of the sample.

Table 6. Mean budget shares and expenditure levels, by cluster, 2010–2011 data

Factors	Cluster 1 Basic-need-meeters	Cluster 2 Transportation burdened	Cluster 3 Healthcare burdened	Cluster 4 Housing burdened	Cluster 5 Happy retirees	Cluster 6 Impatient self-treaters	Cluster 7 Balanced budgeters	Cluster 8 Givers
Budget shares of consumption expenditure (percent) ⁽¹⁾								
Factor 1 Essentials	43.39 (11.11)	23.87 (8.12)	28.89 (7.91)	22.36 (7.26)	22.25 (7.06)	26.68 (9.71)	25.44 (6.80)	17.84 (6.96)
Factor 2 Contributions	3.24 (4.91)	3.98 (4.96)	4.99 (5.45)	3.42 (5.06)	5.53 (6.44)	1.89 (1.71)	5.30 (5.21)	36.86 (11.18)
Factor 3 Postponables	3.70 (2.98)	3.86 (2.89)	3.65 (2.75)	3.49 (2.79)	5.41 (3.49)	1.08 (.68)	15.78 (4.50)	3.53 (2.67)

See footnotes at end of table.

Table 6. Mean budget shares and expenditure levels, by cluster, 2010–2011 data

Factors	Cluster 1 Basic-need-meeters	Cluster 2 Transportation burdened	Cluster 3 Healthcare burdened	Cluster 4 Housing burdened	Cluster 5 Happy retirees	Cluster 6 Impatient self-treaters	Cluster 7 Balanced budgeters	Cluster 8 Givers
Factor 4 Shelter	16.71 (9.97)	13.8 (8.77)	13.92 (8.07)	42.19 (12.60)	14.52 (9.40)	5.07 (7.70)	15.44 (9.13)	13.23 (9.49)
Factor 5 Transportation	10.61 (6.61)	32.74 (9.66)	10.14 (5.74)	8.34 (5.69)	8.17 (5.57)	8.37 (7.94)	11.62 (5.97)	6.15 (3.44)
Factor 6 Healthcare	11.26 (5.92)	10.76 (6.05)	27.53 (7.66)	10.10 (5.51)	10.67 (5.34)	8.54 (5.71)	12.48 (6.21)	11.7 (6.10)
Factor 7 Expendables	7.93 (5.05)	7.98 (5.10)	8.24 (5.01)	7.11 (5.17)	30.74 (9.73)	7.34 (1.65)	10.65 (5.06)	8.37 (4.75)
Factor 8 Treats	1.75 (3.58)	.99 (2.12)	.90 (2.15)	1.00 (2.34)	.98 (2.01)	39.75 (13.30)	1.38 (2.60)	.70 (1.24)
Factors total	98.60 (3.91)	97.98 (4.30)	98.26 (4.74)	98.00 (5.66)	98.27 (4.24)	98.73 (1.12)	98.09 (3.72)	98.38 (2.70)
Levels of annual consumption expenditure (dollars) ⁽¹⁾								
Factor 1 Essentials	9,434 (4,486)	9,323 (4,260)	7,867 (3,328)	8,392 (5,237)	11,228 (5,652)	4,267 (1,975)	10,997 (5,543)	10,169 (5,160)
Factor 2 Contributions	943 (1,817)	2,020 (2,975)	1,641 (2,185)	1,546 (2,684)	3,192 (4,760)	315 (282)	2,178 (2,362)	27,580 (29,268)
Factor 3 Postponables	1,005 (1,143)	1,841 (1,967)	1,210 (1,315)	1,667 (2,240)	2,983 (2,604)	153 (107)	7,785 (6,546)	2,386 (2,494)
Factor 4 Shelter	3,942 (3,340)	6,328 (6,857)	4,347 (4,001)	16,499 (11,881)	8,118 (7,249)	906 (1,393)	8,278 (11,153)	7,733 (6,172)
Factor 5 Transportation	2,713 (2,495)	14,800 (10,766)	3,182 (2,829)	3,782 (4,215)	4,454 (4,048)	1,391 (1,312)	5,577 (4,582)	3,801 (2,985)
Factor 6 Healthcare	2,663 (1,949)	4,530 (3,224)	7,925 (4,447)	3,937 (3,022)	5,697 (4,181)	1,084 (470)	5,482 (3,727)	6,968 (4,814)
Factor 7 Expendables	2,058 (2,094)	3,972 (4,233)	2,710 (2,724)	3,367 (4,081)	17,665 (16,068)	1,143 (463)	5,603 (5,292)	5,931 (5,638)
Factor 8 Treats	464 (1,091)	450 (1,045)	270 (620)	355 (708)	544 (1,078)	5,555 (1,062)	618 (1,081)	373 (588)
Factors total	23,223 (13,516)	43,263 (25,871)	29,151 (15,923)	39,544 (26,971)	53,880 (30,728)	14,816 (3,562)	46,518 (30,427)	64,940 (43,314)
Notes:								
⁽¹⁾ Standard deviations are shown in parentheses.								
Note: All values are weighted.								
Source: 2010–2011 CE data and authors' calculations.								

The “transportation burdened” represented approximately 12.1 percent of older households. Nearly 33 percent of their total consumption went to transportation expenses, compared with 8–12 percent for the other clusters. The “transportation burdened– and the –housing burdened“ were the middle groups in terms of total expenditure levels, with expenditures of \$43,263 and \$39,544, respectively. Representing 25.9 percent of the sample, the “housing burdened– were the second-largest cluster. Households in this group spent 42.2 percent of their total expenditures on rent and mortgages, whereas those in other clusters spent between 5 and 17 percent.

The “healthcare burdened” and the “basic-need-meeters” which, together, represented nearly 48 percent of older Americans were the poorest groups. Their annual expenditures of \$29,151 and \$23,223, respectively, were significantly lower than those of the aforementioned clusters. The “healthcare burdened” were the third-largest group, making up 21.1 percent of the sample. This group’s households spent 27.5 percent of their total expenditures on healthcare, compared with 10–12 percent for the other clusters. The —basic-need-meeters— were the largest cluster, representing 26.9 percent of the sample. Approximately 43.4 percent of their total expenditures were spent on food and utilities, leaving limited resources for other necessities, such as healthcare and housing. Interestingly, the “basic-need-meeters” spent more on ‘treats– (e.g., alcohol and tobacco) than did the average older household.

Table 7 shows the results of the F-tests, which indicate significant mean differences in sociodemographic characteristics among the six consumption clusters. The “transportation burdened” were the youngest group, with an average age of 71.7 years. Relative to other clusters, they had a higher percentage of married couples (58.6 percent) and a higher percentage of employed household members (37.4 percent). A majority in this group (60.0 percent) tended to live in southern or midwestern cities with less than 1.19 million people. Possible trips to nearby cities or transportation expenses due to work commutes could have added to this group’s high budget share in transportation, the highest among all clusters.

Table 7. Sociodemographic characteristics of the sample, by cluster, 2010–2011 data

Variables	Cluster 1 Basic-need-meeters	Cluster 2 Transportation burdened	Cluster 3 Healthcare burdened	Cluster 4 Housing burdened	Cluster 5 Happy retirees	Cluster 7 Balanced budgeters	X ² /GLM (F-value)
Cluster size ⁽¹⁾	522 (26.87)	235 (12.09)	410 (21.10)	503 (25.89)	123 (6.33)	105 (5.40)	”
Demographic characteristics							
Age (years)	74.18 b	71.67 c	77.13 a	74.13 b	73.87 bc	72.43 bc	21.41***
Race (percent)							
White	81.89	86.93	94.50	86.69	93.45	82.27	2,474,447***
Black	13.41	8.84	3.36	8.31	1.26	12.28	
Other	4.71	4.22	2.14	5.00	5.29	5.45	
Marital status (percent)							
Married	40.27	58.63	54.81	42.59	58.84	57.51	2,072,216***
Other	59.73	41.37	45.19	57.41	41.16	42.49	
Education (percent)							
Less than high school	31.85	23.54	21.19	18.29	5.12	12.89	6,539,286***
High school	36.76	29.30	36.35	26.34	13.27	30.01	
More than high school	31.39	47.16	42.46	55.37	81.60	57.11	
Household characteristics							
Living arrangement (percent)							
Couple only	38.56	55.83	50.82	38.69	54.95	57.51	3,380,061***
Single	44.21	31.27	41.63	53.04	38.39	30.89	

See footnotes at end of table.

Table 7. Sociodemographic characteristics of the sample, by cluster, 2010–2011 data

Variables	Cluster 1 Basic-need-meeters	Cluster 2 Transportation burdened	Cluster 3 Healthcare burdened	Cluster 4 Housing burdened	Cluster 5 Happy retirees	Cluster 7 Balanced budgeters	X ² /GLM (F-value)
Other	17.24	12.90	7.56	8.27	6.66	11.60	
Housing tenure (percent)							
Own without mortgage	67.10	66.43	76.65	22.01	70.08	71.11	16,377,985***
Other	32.90	33.57	23.35	77.99	29.92	28.89	
Working household members (percent)							
Yes	20.19	37.40	21.24	32.57	33.60	39.00	2,212,361***
No	79.81	62.60	78.76	67.43	66.40	61.00	
Region (percent)							
Northeast	18.18	17.68	18.37	25.59	16.88	19.54	4,457,488***
Midwest	17.56	26.67	27.64	18.51	21.58	28.21	
South	49.12	42.95	36.19	28.41	27.17	32.94	
West	15.13	12.70	17.81	27.49	34.37	19.31	
City population size (percent)							
> 4.0 million	27.31	20.04	20.02	39.34	24.34	32.20	6,245,116***
1.2–4.0 million	21.15	19.97	17.28	29.58	27.88	26.51	
0.33–1.19 million	7.97	12.31	5.96	2.82	7.31	1.94	
125.0–329.9 thousand	24.93	26.58	35.66	19.41	23.29	26.35	
< 125.0 thousand	18.65	21.10	21.08	8.84	17.19	13.00	

Notes:

(1) Values in parentheses are in percent.

***Statistically significant at $p < .001$.Note: All values are weighted. The subscripts **a**, **b**, **c**, and **bc** indicate the Scheffe-test results for significant group differences in the GLM test. Means that do not share subscripts within a quintile in the same row differ at $p < .05$.

Source: 2010–2011 CE data and authors' calculations.

The –balanced budgeters² and the –happy retirees– were relatively younger, with average ages of 72.4 years and 73.9 years, respectively. Compared with most other groups, the –balanced budgeters– included more married people and more members with higher education degrees. This group was the most ethnically diverse, with the highest share of nonwhite people (17.7 percent). A large percentage of its members lived in the Midwest (28.2 percent) and in metropolitan areas and large cities with more than 1.2 million people (58.7 percent).

The –happy retirees“ had the second-highest percentage of white members (93.5 percent), the highest percentage of married couples (58.8 percent), and the highest percentage of members with higher education degrees. Nearly 82 percent of the individuals in this group had more than a high school diploma, a proportion that ranged only from 31.4 to 57.1 percent in other clusters. The group also had the highest percentage of people living in the West (34.4 percent), compared with only 20 percent for the total sample.

The "housing burdened" and the "basic-need-meeters" were relatively older groups, with an average age of 74 years. The "housing burdened" had the highest share of single households (53.0 percent) and, as expected, the highest share of mortgage payers. While the percentage of mortgage-paying members in other clusters ranged between 23.4 and 33.6 percent, nearly 78 percent of the "housing burdened" were still paying mortgages. Compared with other clusters, the "housing burdened" had more people living in the Northeast (25.6 percent) and in larger cities with more than 1.2 million people (68.9 percent). The relatively higher cost of housing in these areas could have increased the shelter-related expenditures of members of this group.

The "basic-need-meeters" had the highest share of Blacks (13.4 percent) and the least educated members among all clusters. In this group, 31.9 percent had less than a high school diploma. This group also had the lowest percentage of married couples (40.3 percent) and the highest percentage of people with living arrangements other than couples or singles (17.2 percent). These findings perhaps indicate less stable household arrangements. Further, compared with other clusters, the "basic-need-meeters" had the lowest percentage of households with employed members (20.2 percent) and the largest percentage of southerners (49.1 percent). The variation in the size of the cities they lived in was about the same as that of the total sample.

The "healthcare burdened" were the oldest group, with an average age of 77.1 years. They had the highest share of white members (94.5 percent) and tended to be less educated, with 57.5 percent of them having a high school diploma or less. This group had the highest percentage of homeowners (76.7 percent) and, after the "basic-need-meeters," the second-highest percentage of households without employed household members (78.8 percent). Its members were more likely to live in smaller cities in the Midwest, and nearly 56.7 percent of them were living in cities with less than 330,000 people.

Economic status of the consumption clusters. To further examine the variation in economic status across different consumption clusters, we reexamined their household income and expenditure levels relative to the poverty threshold. We also compared the diversity of income sources.

As shown in table 8, household income and expenditure levels across clusters were between two and nearly five times the official poverty line. Our Scheffe test revealed that older households were more diverse in terms of their expenditure-to-needs ratio than in terms of their income-to-needs ratio.³¹ The "happy retirees" and the "balanced budgeters" had significantly higher income-to-needs ratios than did the other clusters (clusters 1, 2, 3, and 4). These results suggest that these two clusters are the most affluent in terms of income. The expenditure-to-needs ratio of the "happy retirees" was significantly higher than the ratios of clusters 1, 2, 3, and 4, whereas the expenditure-to-needs ratio of the "balanced budgeters" was significantly higher than the ratios of clusters 1 and 3 and not significantly higher than the ratios of clusters 2 and 4. These results imply that the "happy retirees" might have a higher propensity to consume compared with the "balanced budgeters," even though these two clusters have similar levels of household income.

Table 8. GLM and Scheffe tests of income-to-needs and expenditure-to-needs ratios, by cluster, 2010–2011 data

Variables	Cluster 1 Basic-need-meeters	Cluster 2 Transportation burdened	Cluster 3 Healthcare burdened	Cluster 4 Housing burdened	Cluster 5 Happy retirees	Cluster 7 Balanced budgeters	F-value
Mean income (dollars) ⁽¹⁾	33,124 (29,079) c	50,402 (45,017) b	35,531 (29,221) c	46,376 (43,388) b	66,326 (57,727) a	65,668 (51,588) a	27.98 ***
<i>Income-to-needs ratio</i>	2.28 (1.86) c	3.41 (2.94) b	2.57 (2.02) c	3.30 (2.81) b	4.76 (3.97) a	4.66 (3.59) a	33.35***
Mean expenditure (dollars) ⁽¹⁾	23,679 (14,116) d	44,245 (26,625) b	29,818 (16,756) c	40,771 (29,247) b	54,813 (31,394) a	47,920 (33,671) ab	64.89***
<i>Expenditure-to-needs ratio</i>	1.65 (.89) d	3.06 (1.75) b	2.19 (1.09) c	2.96 (1.8) b	4.07 (2.42) a	3.44 (2.58) ab	80.38***

Notes:

⁽¹⁾ Standard deviations are shown in parentheses.

***Statistically significant at $p < .001$.

Note: All values are weighted. *Income-to-needs* and *expenditure-to-needs ratios* represent income and expenditure relative to the official poverty line. The subscripts **a**, **b**, **c**, **d**, and **ab** indicate the Scheffe-test results for significant group differences in the GLM test. Means that do not share subscripts within a quintile in the same row differ at $p < .05$.

Source: 2010–2011 CE data and authors' calculations.

The “housing burdened” and the “transportation burdened” were confirmed as forming the middle groups of the economic status hierarchy and were not statistically different from each other (see table 8). The income-to-needs ratios of the “basic-need-meeters” and the “healthcare burdened”—whose incomes were 2.28 times and 2.57 times the poverty threshold, respectively—stood below the ratios of the other groups. While the income-to-needs ratio of the “basic-need-meeters” was not statistically different from that of the “healthcare burdened,” the former’s expenditure-to-needs ratio of 1.65 was the lowest and significantly below that of the “healthcare burdened.”—These results suggest that the “basic-need-meeters” represent the least well-off group among older households.

The results of our GLM analyses, which examine the composition of household income, are shown in table 9. These results indicate that the household incomes of older Americans are heavily dependent on social insurance programs, with contributions across clusters ranging from about 64 percent to more than 82 percent. Earnings were as high as 26 percent in the “transportation burdened” group (the youngest group) and in the “balanced budgeters’ group (the richest group). The “healthcare burdened,” the oldest group, had the lowest earnings share (12.3 percent) and the highest social insurance share (82.2 percent). The “basic-need-meeters” had the second-largest income share from social insurance.

Table 9. GLM and Scheffe tests of income sources, by cluster, 2010–2011 data (percent)

Income source	Cluster 1 Basic-need-meeters	Cluster 2 Transportation burdened	Cluster 3 Healthcare burdened	Cluster 4 Housing burdened	Cluster 5 Happy retirees	Cluster 7 Balanced budgeters	F-value
Earning	18.40 (32.58) ab	26.28 (35.24) a	12.26 (25.24) b	23.44 (34.76) a	21.07 (33.00) ab	25.66 (34.61) a	8.69***
Social insurance	77.01 (33.21) ab	69.00 (35.65) bc	82.16 (27.88) a	71.06 (35.60) bc	69.70 (35.07) bc	63.49 (35.14) c	10.12***
Social assistance	1.14 (5.18) a	.29 (2.00) ab	.07 (.74) b	.58 (4.02) ab	.31 (2.89) ab	.41 (2.48) ab	4.65***
Assets	2.54 (10.11) b	3.68 (12.36) ab	4.33 (13.02) ab	4.16 (12.92) ab	8.27 (16.66) a	5.86 (12.89) ab	4.79***
Private transfer	.21 (2.86)	.27 (2.75)	.31 (3.36)	.28 (2.98)	.06 (.70)	1.14 (7.09)	1.55
Other	.68 (5.24) b	.47 (3.08) b	.87 (6.06) b	.48 (4.01) b	.59 (2.94) b	3.44 (13.51) a	5.08***

Notes:

***Statistically significant at $p < .001$.

Note: All values are weighted. Standard deviations are shown in parentheses. The subscripts **a**, **b**, **c**, **d**, **ab**, and **bc** indicate the Scheffe-test results for significant group differences in the GLM test. Means that do not share subscripts within a quintile in the same row differ at $p < .05$.

Source: 2010–2011 CE data and authors' calculations.

Together, contributions from other income sources—including income from social assistance, assets, private transfers, and “other”—ranged from 5 to 10 percent. The “basic-need-meeters” had the highest share of social assistance income; however, this share was just above 1 percent of their total income. Even though this number might seem small in absolute terms, the income contribution of social assistance for the —healthcare burdened— was significantly lower, at 0.07 percent, and the lowest among all clusters. As expected, the two richest groups, the —happy retirees— and the “balanced budgeters,— had the highest income shares from assets (8.3 percent and 5.9 percent, respectively). The “balanced budgeters” also had a substantially higher income share from other sources. This result, along with the finding that the “balanced budgeters” had the second-largest earnings income, the lowest social insurance income, the second-largest asset income, and the third-largest social assistance income, suggests that this group is more “balanced” in terms of income sources, which is consistent with its more diversified consumption behavior.

THE MAJOR PURPOSE OF THIS ARTICLE was (1) to group older households into meaningful consumption clusters that capture the interrelationships among different consumption categories and (2) to provide a more detailed picture of the economic status of different clusters. The results of our factor analysis revealed eight consumption categories: “essentials,” “contributions,” “postponables,” “shelter,” “transportation,” “healthcare,” “expendables,” and “treats.” These categories were used to perform a cluster analysis, which yielded six consumption clusters (listed in order of cluster size): the “basic-need-meeters,” the “housing burdened,” the “healthcare burdened,” the “transportation burdened,” the “happy retirees,” and the “balanced budgeters.”

According to the cluster analysis, the two relatively well-off groups are the “balanced budgeters” and the “happy retirees,” which together represent only 12 percent of older households. However, at least one in four older households is part of the “basic-need-meeters,” the poorest group, whose average annual income is about \$33,000. Together, the “basic-need-meeters,” the “housing burdened,” and the “healthcare burdened” represent nearly 74 percent of older households that might be under financial stress because of spending on necessities such as food, utilities, healthcare, and housing. In addition, nearly 12 percent of older Americans incur significant transportation expenses. When more strict needs-based measures were taken into account, the financial vulnerability of the two poorest clusters—the “basic-need-meeters” and the “healthcare burdened”—became even more evident; the household incomes of these groups were only between 2.28 times and 2.57 times the poverty threshold. This limited amount of financial resources and the two groups’ high dependence on income from social programs might expose them to further vulnerability if any unforeseen negative life events were to occur.

Overall, this article reveals that there are substantial differences in consumption patterns among older Americans and that more than two-thirds of the elderly might experience considerable financial stress because of burdens from healthcare or housing expenditures. Considering that Americans, on average, are expected to spend one-third of their lives in retirement, their economic well-being during the postretirement period could be negatively affected as they struggle to allocate limited resources among necessities, such as food and utilities.

The findings of this article provide policymakers and consumer educators with more detailed information on the quality of life of current retirees. Based on these results, the following suggestions can be made. First, consumer educators and financial planners might need to increase efforts to provide financial knowledge and tools that can help individuals manage their financial life before retirement and thus prepare themselves for the expenses of old age. For example, individuals can become better prepared by securing various sources of retirement income, clearing mortgages before retirement, downsizing (if necessary) to keep their housing assets, and preparing private medical insurance plans for the potential large medical expenses that may arise in the later years of retirement. With nearly 40 million baby boomers reaching retirement, the role of timely retirement planning is essential in determining the quality of retirement life. Second, education in financial planning and resource management has to target the more vulnerable subgroups of the older population. This article found that the “basic-need-meeters” were more likely to be less educated, nonwhite, and without working household members. Individuals in this group should be educated on how to effectively set retirement goals and how to wisely invest and allocate their limited resources for retirement.

This article has some limitations. First, it is purely empirical and does not provide in-depth theoretical explanations of the phenomena revealed by its results. As no general consumption theory exists that is specifically applicable to the older population, the assessment of consumption patterns and their relationship to economic well-being is quite arbitrary. Hence, a general theory of older household consumption has to be developed and tested. Second, the results indicate that the “older old” people were more likely to suffer from economic distress than were the “younger old” people. Because this article uses cross-sectional data, it is hard to tell whether this finding reflects a life-cycle effect or the continuation of a vulnerable economic status acquired earlier in life. Furthermore, future research has to investigate the dynamics of the changes in consumption patterns and financial resources during old age.

SUGGESTED CITATION

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NOTES

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Teacher staffing and pay differences: public and private schools

A study using Current Population Survey data shows that, from 1996 to 2012, elementary, middle, and high school teachers earned less than other college graduates, but the gap was smaller for public school teachers and smaller still if they had union representation; moreover, the mitigating effects are stronger for female than male teachers, so the within-gender pay gaps are much larger for male teachers.

The current school choice debate has many possible consequences, not just for students, but also for teachers. Broadly speaking, schools are either publicly or privately funded. Public schools are funded by the government through federal, state, and local taxes, and most are part of a larger school system. Elected school board members and education officials implement and oversee strict rules and procedures that public schools must follow. Private schools do not receive government money and thus have to raise their own funds. Private school officials may have more leeway to run schools as they see fit, but funders and others may play a significant administrative role.

Given the proliferation in school privatization, this article analyzes the fundamental differences between the two sectors with regard to teacher staffing and pay disparities. We employ the Current Population Survey (CPS) to document differences between teachers in the two sectors with regard to unionization density, gender and race or ethnicity, educational attainment, and relative pay gaps between public and private sector teachers and between both and other college graduates.

The debate about school privatization and the push toward both publicly and privately funded charter schools should include differences in teacher staffing and relative pay by school ownership. Staffing and pay differences across type of ownership may be due to or may influence factors such as teacher cohesion and student achievement. For example, teachers may trade off between pay and safer schools or smaller class sizes. (The



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pupil–teacher ratio in 2010 was 16.0 for public schools and 12.2 for private schools.)¹ Or it could be that lower paid teachers desire to work at higher paying schools but competition prevents them from finding such employment.

The teachers studied in this article are elementary, middle, and secondary school teachers. Previous research on relative teacher pay has either analyzed teachers without respect to the type of school ownership or restricted the analysis to those employed in the public sector. Moreover, much of the focus has been on identifying a reasonable comparison group or set of occupations similar to teaching.² Not much inquiry has been directed specifically toward pay differentials of teachers across ownership structures—that is, teachers in publicly or privately funded school systems.³

Student academic achievement depends in large part on the quality and experience of teachers. Thus, the ability of schools to recruit and retain excellent instructors is of great importance and is fundamentally linked to relative teacher pay. The opportunity cost of choosing to become a teacher is high if relative teacher pay falls substantially behind the pay of other professionals or other career paths. This consideration of opportunity cost also applies when teachers are deciding between the two sectors.

Research on elementary and secondary school teachers has shown that their pay has not been commensurate with that of other professionals and the gap has been widening.⁴ Although research on this topic has been contradictory,⁵ two previous studies by Sylvia Allegretto, Sean Corcoran, and Lawrence Mishel clearly evidenced a long-run decline in relative teacher pay.⁶ In their 2004 piece, they analyzed teachers in the public and private sectors as a group in comparison to other college graduates. Critics of the article inveighed against their selection of teachers from both sectors, because the two sectors differ on several fronts, making the teacher pay gap appear even larger with the inclusion of the private sector teachers. In response, in 2008 Allegretto, Corcoran, and Mishel published the results of a study in which the sample of teachers was restricted to those in the public sector. This work showed that public school teachers earned, on average, 15 percent less than comparable workers in 2006 but had slightly better fringe benefits than other professionals had—making up close to 2 percentage points of the pay gap.

Both studies documented long-run increases in the teacher pay gap, especially for women. In their 2008 paper, Allegretto, Corcoran, and Mishel found that the pay gap between female public school teachers and comparably educated women—for whom the labor market changed dramatically over the 1960–2000 period—fell by nearly 28 percentage points, from a relative wage *advantage* of 14.7 percent in 1960 to a pay *disadvantage* of 13.2 percent in 2000.⁷ Among *all* public school teachers, the relative wage disadvantage fell by almost 20 percentage points over the same period. Furthermore, the teacher pay gap has been linked to a sharp decline in high-achieving graduates entering the teaching profession, with potential candidates preferring other careers.⁸ The research design and data for the analysis presented here follow those employed by Allegretto, Corcoran, and Mishel. Among the main demographic findings are that (1) teachers, regardless of whether they are in the public or private sphere, are overwhelmingly female and (2) Whites are overrepresented, while Blacks and Hispanics are underrepresented, in the teaching profession, compared with their respective shares in the workforce. Also, unionization rates differ starkly by sector, by Census division, and for teachers, compared with the workforce in general: regardless of the Census division in which they work, teachers in both sectors have higher union density compared with the overall workforce in the corresponding sector. Furthermore, the union density of public sector

teachers is greater than that of their private sector counterparts—and this public–private disparity holds for the overall workforce, by sector, for each division.

Given the documented importance of gender, other demographics, and union representation in the literature,⁹ a regression-based approach is utilized to estimate relative teacher pay. A repeated cross section of respondent data from 1996 to 2012 is pooled to estimate pay gaps for four teacher groups: unionized public sector teachers, unionized private sector teachers, nonunionized public sector teachers, and nonunionized private sector teachers. Thus, we compare teacher pay relative to that of comparable workers and among the four teacher groups. Main results from our regression-based analyses reveal that nonunionized teachers in the private sector have the largest pay gap (–32.1 percent), and unionized public sector teachers have the smallest pay gap of the four teacher groups, but still a negative one (–13.2 percent), relative to comparable nonteacher workers. The relative teacher pay gaps are larger for male teachers than for female teachers.

Data

We use CPS data from 1996 through 2012. These data allow for the identification of workers by occupation, education, industry, age, gender, race, union affiliation, and state of residence, along with weekly earnings. Thus, we are able to identify teachers and whether they work in publicly or privately owned schools. The use of the CPS does not allow for the separate identification of finer sector details, such as breaking out religious-based schools or comparing private and public sector charter schools.

The CPS data used in this analysis are nonimputed data.¹⁰ When a survey respondent fails to report any earnings, the Bureau of Labor Statistics (BLS, the Bureau) imputes his or her earnings. The imputation procedure is based on a Census Bureau “hot deck” methodology that finds a respondent or “donor” in the survey who closely matches the nonrespondent in characteristics such as location, age, race, and education. Importantly, occupation is not necessarily one of the criteria used to impute earnings, and nonresponding teachers are often assigned the average earnings of nonteacher college graduates. Thus, on average, the inclusion of imputed data creates a systemic bias that increases average teacher pay and decreases the average pay of other college graduates.¹¹

In addition, the share of CPS earnings data that are imputed has grown markedly over time; hence, the bias has worsened. In 1983, imputed earnings data in the CPS were 12.3 percent; by the start of our research in 1996, imputations accounted for 24.5 percent of the sample, and at the end of the research in 2012, imputations made up 35.2 percent of the sample. Imputed data are not available in 1994 and only for the last 4 months of 1995; thus, for consistency, we begin our analysis in 1996.

The sample is restricted to workers 21 years of age and older who worked at least 35 hours per week. It is composed of 1.486 million total (weighted) observations pertaining to 56,531 teachers, 47,779 in the public sector and 8,752 in the private sector.

The first part of the analysis is descriptive and reports differences in staffing trends between the two sectors by demographics, as well as differences in union affiliation and average weekly pay. Then, econometric methods are used to analyze and compare the relative pay differentials between teachers in the two sectors and between teachers and nonteachers. The fundamental differences reported in the descriptive statistics are utilized as important controls in the econometric analysis. Initially, a pooled repeated cross-sectional dataset generates

regression-based estimates, controlling for time. Lastly, annual estimates are generated from 1996 through 2012 to report relative pay trends over time.

Descriptive analysis

Table 1 shows the staffing differences of teachers in the two sectors by demographic and other characteristics. On average over the entire sample period, the majority of teachers were employed in public schools (85 percent) while most nonteachers worked in the private sector (84 percent). However, the public sector share of all teachers decreased over time, falling from 85 percent in 1996 to 81 percent in 2012. Thus, the incidence of teachers in the private sector has trended upward over time, with the share of private sector teachers working at for-profit schools increasing (from 6 percent in 1996 to 10 percent in 2012) more than the share working at nonprofit schools (from 9 percent to 10 percent).

Table 1. Descriptive statistics and individual characteristics, private and public school teachers, 1996–2012

Characteristic ⁽¹⁾	Teachers		Nonteacher workers		All
	Public	Private	Public	Private	
Percentage of all workers	4		96		100
Percentage of sample of teachers	85	15	...	...	...
Percentage of sample of nonteachers	...	...	16	84	...
Female	72	73	51	42	44
Mean age	41.6	41.1	43.3	39.4	40.0
Standard deviation	(10.8)	(11.2)	(10.6)	(11.0)	(11.0)
Race:					
White	84	85	71	70	71
Black	8	6	14	9	10
Hispanic	6	6	9	15	14
Other	2	3	6	6	6
Married	71	70	66	60	62
Education: ⁽²⁾					
Some college or associate's degree	2	5	31	29	28
Bachelor's degree	50	54	24	21	22
Master's degree and above	47	40	20	8	11
Mean weekly pay, 2010 dollars	\$1,013	\$836	\$958	\$888	\$901
Standard deviation	(412.5)	(389)	(527.2)	(601.9)	(586.4)
Mean weekly hours	43.5	43.4	41.6	42.8	42.7
Standard deviation	(6.8)	(6.9)	(5.8)	(6.7)	(6.6)
Union membership	65	28	36	9	15
Number of observations	47,779	8,752	228,895	1,200,395	1,485,821

Notes:

⁽¹⁾ In percent, unless otherwise indicated.

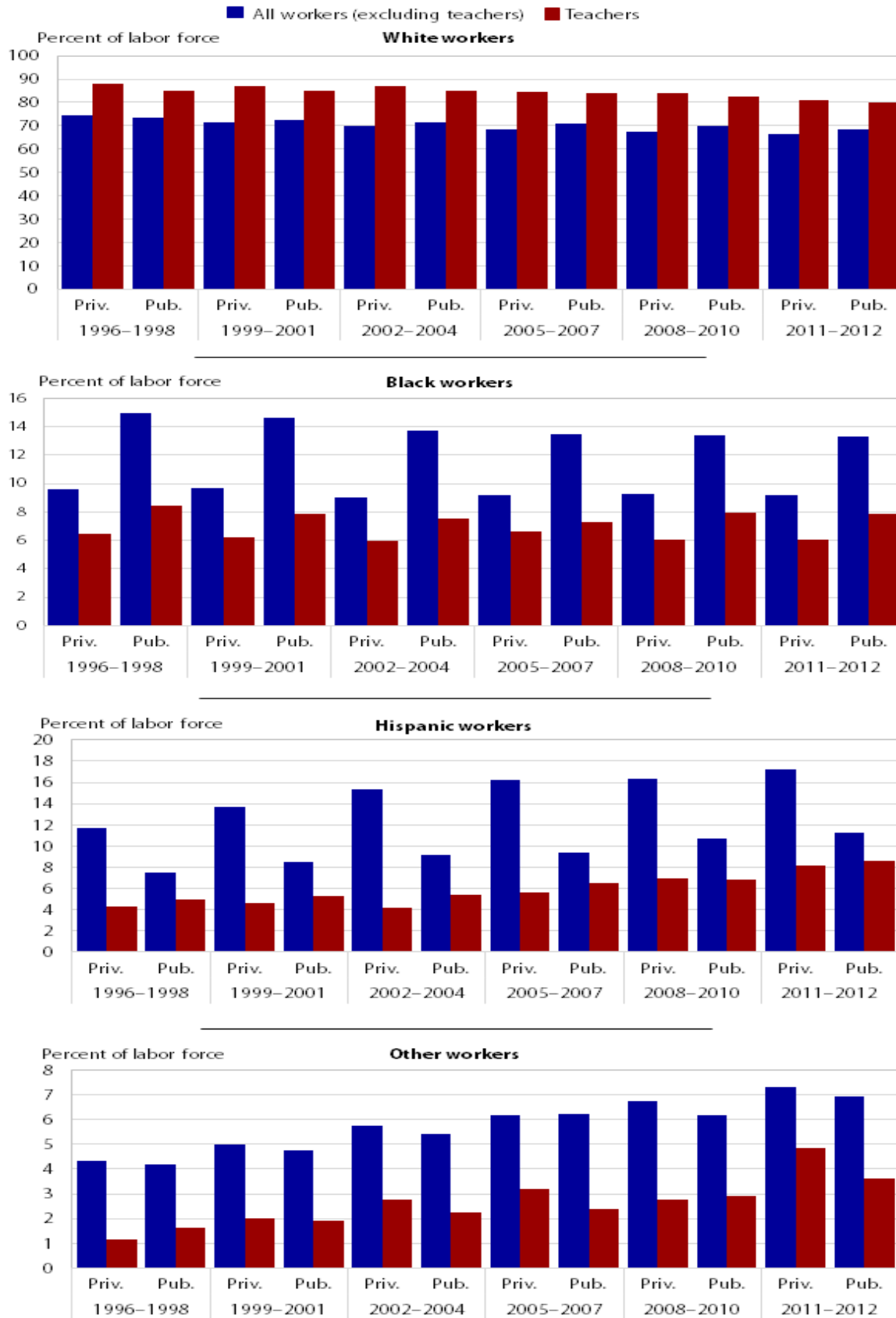
⁽²⁾ Percentages do not sum to 100 because shares of those without a high school diploma and high school graduates are not reported in the table.

Note: Weighted sample of workers who worked at least 35 hours per week and were at least 21 years old. Imputed data are excluded. Detailed entries may not sum to totals because of rounding.

Source: Authors' analysis of CPS data, 1996–2012.

Gender. Teaching remains a feminized occupation, with stark differences in the gender makeup of teachers compared with that of the overall workforce. Although women accounted for approximately 44 percent of the overall sample, they are disproportionately represented as teachers. Moreover, their share has not changed much over time. Women account for a slightly higher share of teachers in the private (73 percent) versus the public (72 percent) sector. Table 1 also shows differences between teachers in the private and the public sectors with regard to race, percentage of union membership, education level, and weekly pay. We next examine these differences in detail.

Figure 1. Workforce and teacher representation, by race or ethnicity and sector, 1996–1998 through 2011–2012



Source: Authors' analysis of CPS data, 1996–2012.

Race or ethnicity. The racial and ethnic makeup of teachers has changed over time, reflecting, in part, the racial shift in the overall population and workforce. Figure 1 shows the racial or ethnic share of workers and teachers in both sectors over time.¹² The figure offers a comparison of nonteacher workforce shares with teacher shares and indicates whether a racial or ethnic cohort is under- or overrepresented as teachers across the two ownership structures. Note that the share of non-Hispanic Whites in the overall workforce, in both sectors, has declined over time, as has the share of White teachers, although Whites are consistently overrepresented in the teaching profession.

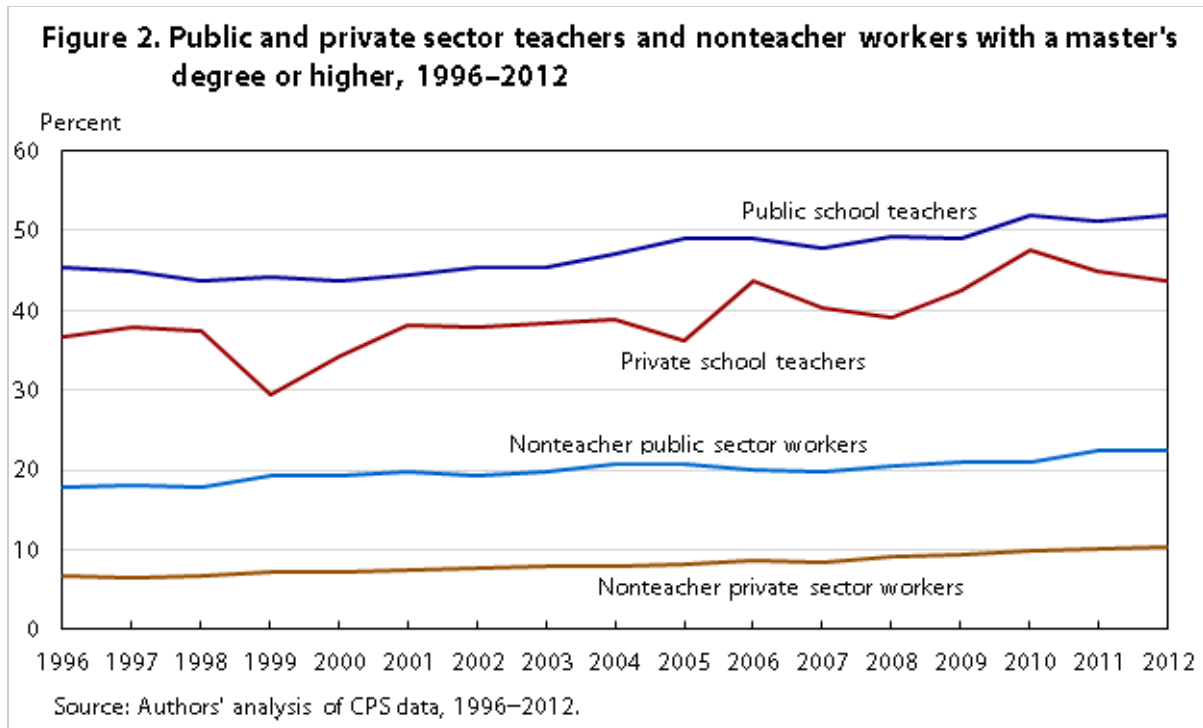
The share of Black workers who are not teachers has remained fairly steady in the private sector, at 9 percent to 10 percent, over time. Because Blacks represent a relatively higher, albeit slightly decreasing, share of workers in the public sector,¹³ they are a disproportionate share of public workers in the nonteacher workforce. However, Blacks are underrepresented as teachers in both ownership arrangements.

Figure 1 also depicts the growing share of Hispanic workers in the United States.¹⁴ Hispanic shares of the workforce and of teachers have increased over time. During the 1996–2012 period, Hispanic shares of the private sector nonteacher workforce increased from 12 percent to 17 percent and Hispanic shares of the public sector nonteacher workforce grew from 8 percent to 11 percent. Hispanic shares of teachers also increased over the same timeframe, from 4 percent to 8 percent in the private sector and from 5 percent to 9 percent in the public sector. Despite this relatively equal growth, Hispanics remain far more underrepresented as teachers in the private sector than in the public sector. For instance, in 2011–2012, Hispanics were 17 percent of the private sector workforce but just 8 percent of teachers in the private sector. The disparity was smaller in the public sector, where Hispanics were 11 percent of the workforce and 9 percent of teachers.

Workforce shares for the catchall “other” group were similar between the two sectors over the 1996–2012 timeframe, as was the growth of the group in each sector. Shares of this cohort have been growing, but diverging, over time. At the beginning of the period, the group’s share of private school teachers was 1 percent and its share of public school teachers was 2 percent. By 2011–2012, the group made up 5 percent of private school teachers and 4 percent of public school teachers—still small, but growing, shares compared with the representation of the “other” group in the overall workforce.

In general, Whites are overrepresented in the teaching profession, regardless of sector, while Blacks, Hispanics, and those in the “other” category are underrepresented. In the 2011–2012 period, the distribution of the nonteacher workforce in the private sector was 66 percent White, 9 percent Black, 17 percent Hispanic, and 7 percent “other,” while teacher representation was 81 percent White, 6 percent Black, 8 percent Hispanic, and 5 percent “other.” For public sector nonteacher workers, the percentages were 69 percent for Whites, 13 percent for Blacks, 11 percent for Hispanics, and 7 percent for “others,” while the teacher distribution was 80 percent (Whites), 8 percent (Blacks), 9 percent (Hispanics), and 4 percent (“others”).

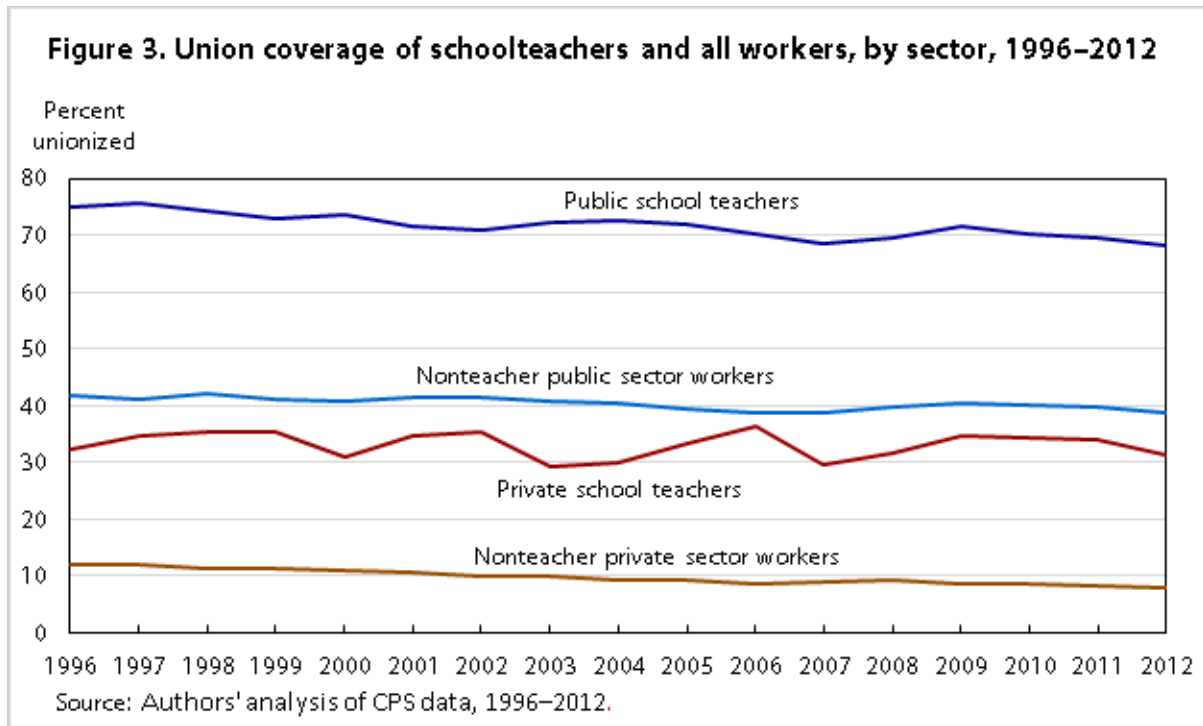
Generally, Hispanics are more likely to be employed in the private sector while Blacks are more likely to work in the public sector. Thus, teacher underrepresentation for Hispanics is far greater in the private sector, whereas, for Blacks, it is far greater in the public sector.



Education. There are also large differences in the educational attainment of teachers across the two types of ownership. Today, for all intents and purposes, teachers teaching in a formal setting are required to have at least a bachelor's degree. Figure 2 shows the percentage of teachers who have at least a master's degree.

The share of teachers with a master's degree increased in both sectors over the 1996–2012 timeframe, but, regardless of the year, the share has always been higher in the public sector. In 2012, the share of teachers with at least a master's degree was 52 percent in the public sector and 44 percent in the private sector.

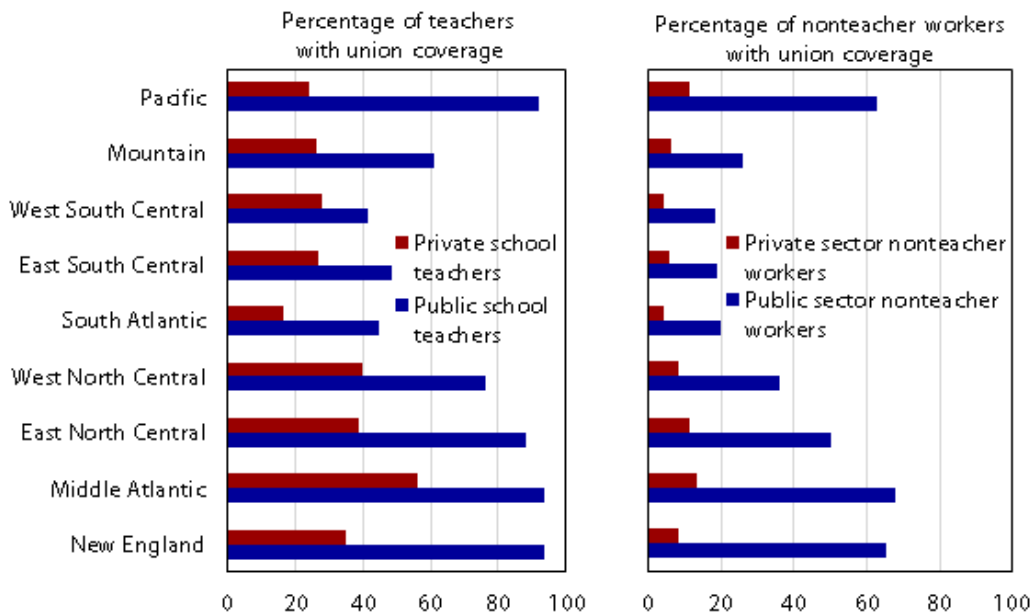
Figure 2 also shows the trends for nonteacher workers. In both the public and the private sector, the share is much lower than that for teachers in either sector. About 22 percent of workers in the public sector have at least a master's degree, while just 1 in 10 do in the private sector.



Unionization. The percentage of workers represented by a union (union members or workers covered by a union contract) is one of the main institutional differences between the two sectors. Figure 3 shows the trends in union representation for teachers and for all nonteacher workers, for both sectors.

The well-known longer term decline in unionization in the United States is evident in the trend line for the nonteacher private sector workforce. Union representation among this workforce fell from 12 percent to 8 percent over the 1996–2012 period. Public sector unionization was consistently higher, for both teachers and nonteachers, but all the rates are declining except those for private school teachers, which are erratic, perhaps because of the smaller sample size. Still, the general trend for this group has been flat. The union–nonunion gap for teachers across the two sectors is very large: in 2012, union density was 68 percent in the public sector and 31 percent in the private sector.

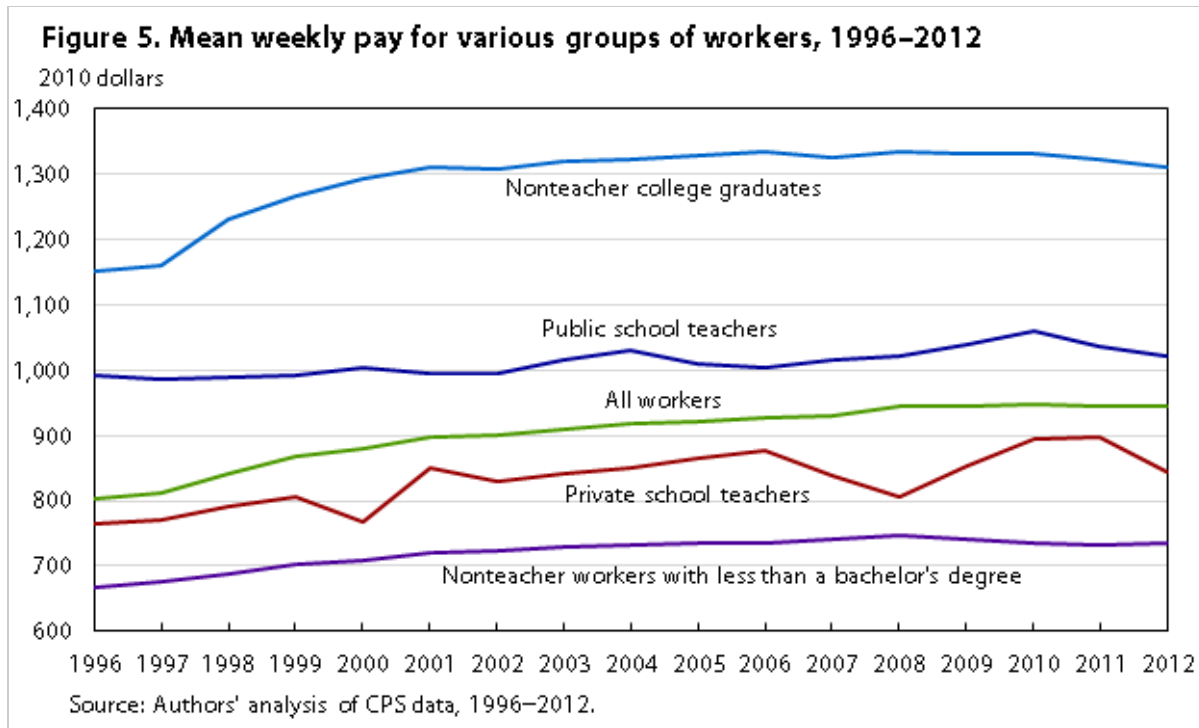
Figure 4. Union coverage rate, by Census division, teachers and nonteacher workers, 2010–2012



Note: 2010, 2011, and 2012 data from CPS were pooled in order to obtain suitable sample sizes, particularly for male private school teachers.

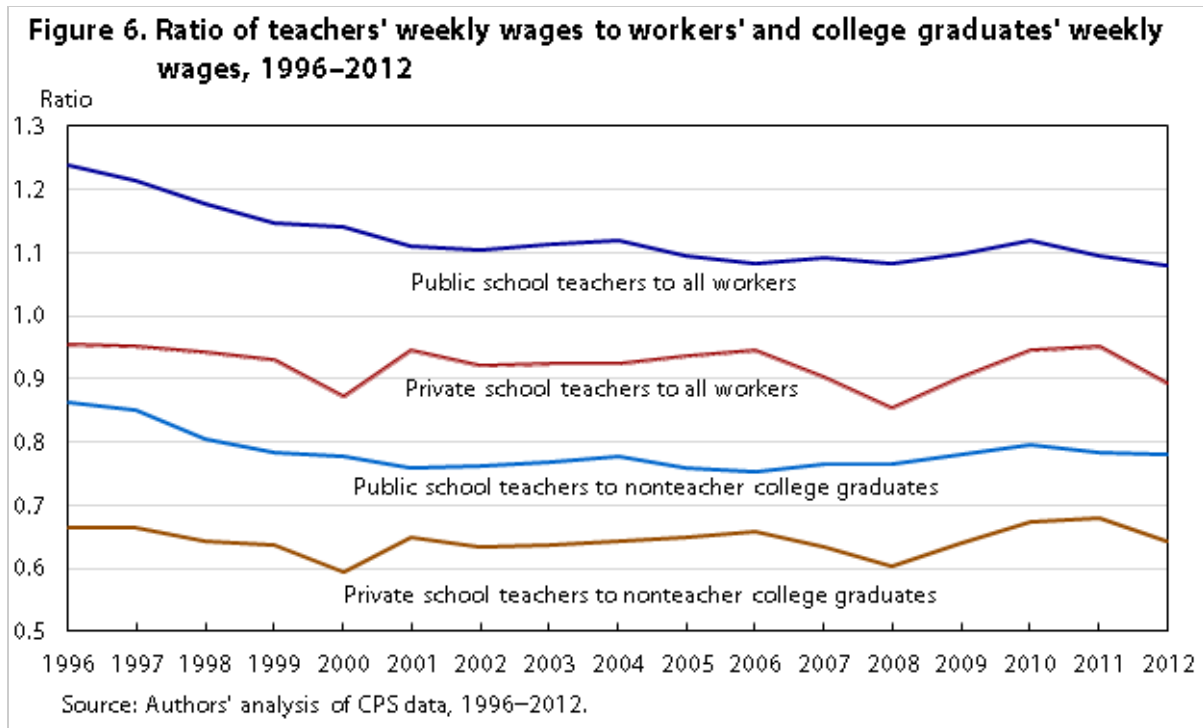
Source: Authors' analysis of CPS data, 2010–2012.

Figure 4 shows union densities for teachers and nonteachers across the two sectors and by Census division.¹⁵ A comparison of the two panels in the chart shows that teachers, in either sector, are represented by unions at higher rates than their respective nonteacher counterparts. Large disparities exist in particular in the low-union-density West South Central division (Arkansas, Louisiana, Oklahoma, and Texas), in which teacher unionization rates are 42 percent in the public sector and 28 percent in the private sector while rates for the nonteaching workforce are a much smaller 18 percent in the public sector and 4 percent in the private sector.



Weekly wages. Figure 5 shows the mean weekly wages of various groups of workers. Over the 1996–2012 period, trends in real wages (in 2010 dollars) were up for all groups by various degrees. Five groups are represented in the figure, in order from highest to lowest wages throughout the period examined: nonteacher college graduates (those with at least a bachelor's degree), public school teachers, all workers, private school teachers, and nonteacher workers without a bachelor's degree.

Wage growth from 1996 through 2012 was highest for the all-worker group (17.9 percent) and lowest for public school teachers (2.9 percent), compared with wage growth of 10.4 percent for teachers in the private sector. Average wages for college graduates increased by 12.4 percent during tight labor markets from 1996 to 2000, the peak year of the economic cycle, but wages were essentially unchanged from 2001 to 2012. Over the same timeframe, weekly pay increased by 2.9 percent (\$28.70) for teachers in the public sector and by 10.4 percent (\$79.70) for teachers in the private sector. The trends suggest that pay in the private sector is more responsive to economic cycles; union contracts may insulate pay fluctuations for teachers in the public sector to some degree. In 2012, the average weekly wage of teachers in the public sector was \$1,021.60, compared with \$845.00 for teachers in the private sector, a difference of \$176.60. Thus, teachers in the public arena make, on average, 21 percent more than their private sector counterparts.



Another, slightly different, look at wage trends is given in figure 6, which depicts four ratios during the period from 1996 to 2012: public school teachers to all workers, private school teachers to all workers, public school teachers to nonteacher college graduates, and private school teachers to nonteacher college graduates. A few points to highlight are that, over the given timeframe, (1) all of these ratios trended lower, (2) there was never any change in the order of the ratios, and (3) all of the ratios were always less than 1, except for the wages of teachers in the public sector compared with those of all workers. The wage ratio of less than 1 for both private and public school teachers in relation to nonteacher college graduates reiterates what was seen in figure 5: that teachers earned less than other college graduates, on average, and that the gaps grew from 1996 to 2012. These results for the United States are in line with those found in other member countries of the Organisation for Economic Co-operation and Development: teacher salaries in most of those countries are lower than the salaries of nonteacher college graduates. In the U.S. case, however, the difference is larger.¹⁶

The descriptive analysis presented here shows that teacher staffing differences with regard to demographics, weekly wages, and unionization density vary considerably with the type of school ownership, public or private. Of course, differences may be driven by an array of factors, so the next section utilizes regression-based analyses to control for the many factors that may influence teacher pay differentials.

Econometric analysis

We begin the analysis with a typical statistical earnings function that estimates pay differentials for teachers compared with those for other workers, as well as pay differentials between public and private school teachers:

$$\ln y_i = \beta_0 + \beta_1 (\text{TEACHER}) + \beta_2 (\text{PUBLIC}) + \beta_3 (\text{UNION}) + X_i\Gamma + \phi_s + \tau_t + \varepsilon_i. \quad (1)$$

Here, $\ln y_i$ is the natural logarithm of the weekly wage,¹⁷ X is a vector of individual characteristics,¹⁸ ϕ_s refers to 51 jurisdictional controls (the 50 U.S. states plus Washington, DC), τ_t represents year dummies, and ε_i is the usual error term. Also, TEACHER is a dummy occupation variable indicating that a worker is a teacher (at the

elementary, middle, or secondary school level), as opposed to a nonteacher, PUBLIC is a variable which designates that a worker is employed in the public sector (versus the private sector), and UNION indicates that a worker is either a member of a union or covered by a union contract, as opposed to not being affiliated with a union.

We build a set of regressions that successively adds controls to a model that initially includes an intercept and the sole binary variable TEACHER. The final and fully specified model includes TEACHER, PUBLIC, UNION, and all interactions among them, along with demographic, education, state, and year controls. Two sets of outcomes are presented. The first estimates the pay gap by pooling cross-sectional data from 1996–2012 together into a repeated cross-sectional dataset and reports results for the total sample and by gender. The second set produces estimates on 3-year rolling samples to document pay premiums over time.

We use weekly wages, including overtime, tips, and commissions, for our earnings measure and restrict the sample to full-time workers (those working at least 35 hours per week) ages 21 to 64.¹⁹ Allegretto, Corcoran, and Mishel discuss in detail the issue of using hourly, weekly, or annual earnings to estimate teacher pay differentials. As they state, annual earnings of teachers cannot be directly compared with those of nonteachers, given that teachers are typically contracted to work only a 9-month year.²⁰ In addition, differences arise over how much time teachers devote to professional development outside of their official 9-month contract. The time that other workers (especially professionals) take for vacation, as well as time that they otherwise spend off the job, also muddles an annual analysis, because time spent off the job frequently is included in measures of weeks worked by nonteachers, but not teachers.

Finally, considerable debate arises in regard to analyses of hourly pay of teachers and other professionals because the number of hours teachers work at home is uncertain but mostly likely is more than that of other professionals. Still, Allegretto, Corcoran, and Mishel compared results on hourly and weekly earnings measures and found no substantial differences.²¹ In sum, in documenting trends in pay over time, the pay interval under study (weekly, annual, or hourly) is immaterial as regards *changes* in relative pay.

Teacher pay gaps: private vs. public. We begin the analysis by pooling repeated cross-sectional annual datasets into one dataset in order to estimate teacher relative pay. Tables 2, 3, and 4 respectively present the results of regression analyses on the wages of all teachers, female teachers, and male teachers. It is prudent to provide separate analyses by gender because most teachers are women. The distinct regressions for women and for men allow for the returns to all coefficients to vary, whereas the regressions with the genders together (which include a dummy variable on gender) do not.

Five regressions are carried out on each of three datasets: all teachers, female teachers, and male teachers.²² For each dataset, model 1 (a regression on the sample of all teachers) includes an intercept and a simple dichotomous variable that equals 1 if the observation is a teacher and 0 otherwise, along with state and year controls. As table 2 shows, in model 1 the coefficient of TEACHER (without regard to sector) is 0.192 and is significant at the 1-percent level. Note that the coefficients of dichotomous variables in this model may be calculated in percentage terms as $(e^b - 1) \times 100$; therefore, without any controls beyond YEAR and STATE, we find that teachers, on average, earn 21.2 percent more than nonteacher workers.

Table 2. Regression-adjusted relative wages, public and private school teachers, 1996–2012

Variable	Model number				
	1	2	3	4	5
Teacher	0.192** (.003)	0.019** (.006)	0.019** (.006)	-0.314** (.005)	-0.387** (.006)
Public sector	...	.125** (.001)	.088** (.001)	-.021** (.001)	-.049** (.001)
Teacher × Public sector	...	.103** (.007)	.129** (.006)	.199** (.006)	.190** (.008)
Union covered	...	...	...	...	.161** (.001)
Teacher × Union covered	...	...	...	...	.082** (.011)
Public sector × Union covered	...	...	...	...	-.054** (.003)
Teacher × Public sector × Union covered	...	...	...	...	-.026* (.012)
Overall marginal effect:					
Overall public sector teacher premium: ⁽¹⁾					
Union and nonunion	...	.122** (.003)	.149** (.003)	-.115** (.002)	...
Union	...	...	...	...	-.141** (.003)
Nonunion	...	...	...	...	-.197** (.004)
Overall private sector teacher premium: ⁽¹⁾					
Union and nonunion	...	.019** (.006)	.019** (.006)	-.314** (.005)	...
Union	...	...	...	...	-.305** (.009)
Nonunion	...	...	...	...	-.387** (.006)
Demographic	No	No	Yes	Yes	Yes
Education	No	No	No	Yes	Yes
Union	No	No	No	No	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes	Yes
R-squared	.043	.049	.228	.398	.404
Number of observations	1,485,821	1,485,821	1,485,821	1,485,821	1,485,821

Notes:

⁽¹⁾ Not controlling for union in models 1–4.* Statistically significant at $p < .05$.** Statistically significant at $p < .01$.

Note: Weighted sample of workers who worked at least 35 hours per week and were at least 21 years old. Imputed data are excluded. The dependent variable is the logarithm of weekly earnings. The demographic vector includes controls for age (as a quadratic), marital status, gender, race, and ethnicity. The education vector includes five education-level dummy variables (master's degree or higher, bachelor's degree, some college, high school, and less than high school). Standard errors are in parentheses.

Source: Authors' analysis of CPS data, 1996–2012.

Model 2 adds controls for PUBLIC and an interaction for TEACHER $\times$ PUBLIC. The interaction coefficient allows us to differentiate between the public sector premium of teachers and the premium associated with other public sector workers. In other words, it will allow us to see if there is a specific public sector premium for teachers (different from the one in the whole economy). The marginal effects are found in the middle of the table. With this model, we can now estimate separate effects for public school and private school teachers. Again, YEAR and STATE are the other controls in the model. According to model (2), when the coefficients are transformed into percentages, we see that, on average, private school teachers earn 1.9 percent, and public school teachers earn 13.0 percent, more than other workers.²³ Thus, in this model, the private-vs.-public gap between teachers is about 11 percentage points, meaning that private sector teachers earn, on average, about 12 percent less than teachers in the public sector.

Model 3 includes a set of demographic controls: gender, race or ethnicity, an age quadratic, marital status, and regional dummies. The effect on the wages of private sector teachers is unchanged from that of model 2 and remains a positive 1.9 percent. The coefficient for public sector teachers is larger, however, and translates into a 16.1-percent gap with other workers. It is in model 4, with the inclusion of educational controls, that the marginal effects of being a teacher become negative: the relative teacher pay gaps are -10.9 percent with public sector workers and -26.9 percent with private sector workers and the gap between teachers in the private versus the public sector is 16 percentage points.

As indicated during our descriptive statistical analyses, private sector unionization density for all workers and for teachers is considerably lower than the corresponding densities for the public sector. For this reason, model 5 adds a UNION dummy variable along with corresponding TEACHER interactions. The resultant estimated pay gaps with nonteacher workers are now calculated for union and nonunion teachers in both sectors, yielding valuable information given that union density is high for public teachers and low for teachers in the private sector.

Results indicate that the pay gap between nonteacher workers and similar unionized public school teachers is -13.2 percent while it is -17.9 percent for nonunionized public school teachers. The gap for unionized private school teachers is -26.2 percent, compared with -32.1 percent for the more likely situation of nonunion private school teachers. Thus, unionization helps to mitigate the teacher pay gap with nonteacher workers for both sectors, but regardless of union status, the gap is much larger in the private sector.

Given that most teachers are female, we use the same model, specifications, and interpretation as before to perform separate analyses by gender; results are reported in tables 3 and 4 for the women's and men's samples, respectively. The qualitative results are seen to be similar as we progress from model 1 through model 5. The most notable difference is that the teacher coefficient for the sample of men turns negative in model 3, when the set of demographic controls is added—in contrast to model 4, when the education controls are added for the sample of all teachers and for female teachers. We leave it to the reader to interpret the regression results for models 1 through 4; we turn instead to the interpretation of the output from model 5, focusing on teachers from both sectors and on union versus nonunion effects.

Table 3. Regression-adjusted relative wages, public and private school female teachers, 1996–2012

Variable	Model number				
	1	2	3	4	5
Teacher	0.311 (.003)	0.130 (.007)	0.077 (.007)	-0.273 (.006)	-0.349 (.007)
Public sector	...	.154 (.002)	.117 (.002)	-.009 (.002)	-.032 (.002)
Teacher × Public sector	...	.095 (.008)	.125 (.007)	.204 (.006)	.196 (.008)
Union covered	...	...	...	...	.102 (.003)
Teacher × Union covered	...	...	...	...	.153 (.012)
Public sector × Union covered	...	...	...	...	-.022 (.004)
Teacher × Public sector × Union covered	...	...	...	...	-.075 (.014)
Overall marginal effect:					
Overall public sector teacher premium: ⁽¹⁾					
Union and nonunion	...	.225 (.003)	.201 (.003)	-.069 (.003)	...
Union	...	...	...	...	-.074 (.004)
Nonunion	...	...	...	...	-.152 (.005)
Overall private sector teacher premium: ⁽¹⁾					
Union and nonunion	...	.130 (.007)	.077 (.007)	-.273 (.006)	...
Union	...	...	...	...	-.196 (.010)
Nonunion	...	...	...	...	-.349 (.007)
Demographic	No	No	Yes	Yes	Yes
Education	No	No	No	Yes	Yes
Union	No	No	No	No	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes	Yes
R-squared	.071	.083	.169	.368	.372
Number of observations	673,439	673,439	673,439	673,439	673,439

Notes:

⁽¹⁾ Not controlling for union in models 1–4.

Note: Weighted sample of workers who worked at least 35 hours per week and were at least 21 years old. Imputed data are excluded. The dependent variable is the logarithm of weekly earnings. The demographic vector includes controls for age (as a quadratic), marital status, gender, race, and ethnicity. The education vector includes five education-level dummy variables (master's degree or higher, bachelor's degree, some college, high school, and less than high school). Standard errors are in parentheses.

All regression results are significant at $p < .01$.

Source: Authors' analysis of CPS data, 1996–2012.

Table 4. Regression-adjusted relative wages, public and private school male teachers, 1996–2012

Variable	Model number				
	1	2	3	4	5
Teacher	0.145** (.005)	0.019 (.013)	-0.068** (.011)	-0.403** (.010)	-0.465** (.012)
Public sector	...	.145** (.002)	.064** (.002)	-.030** (.002)	-.064** (.002)
Teacher × Public sector	...	.026† (.014)	.090** (.012)	.162** (.011)	.153** (.015)
Union covered	...	...	...	...	.176** (.002)
Teacher × Union covered	...	...	...	...	.034 (.021)
Public sector × Union covered	...	...	...	...	-.046** (.003)
Teacher × Public sector × Union covered	...	...	...	...	-.005 (.023)
Overall marginal effect:					
Overall public sector teacher premium: ⁽¹⁾					
Union and nonunion	...	.045** (.006)	.023** (.005)	-.240** (.005)	...
Union	...	...	...	...	-.283** (.006)
Nonunion	...	...	...	...	-.312** (.008)
Overall private sector teacher premium: ⁽¹⁾					
Union and nonunion	...	.019** (.013)	-.068** (.011)	-.403** (.010)	...
Union	...	...	...	...	-.431** (.017)
Nonunion	...	...	...	...	-.465** (.012)
Demographic	No	No	Yes	Yes	Yes
Education	No	No	No	Yes	Yes
Union	No	No	No	No	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes	Yes
R-squared	.034	.041	.237	.391	.399
Observations	813,396	813,396	813,396	813,396	813,396

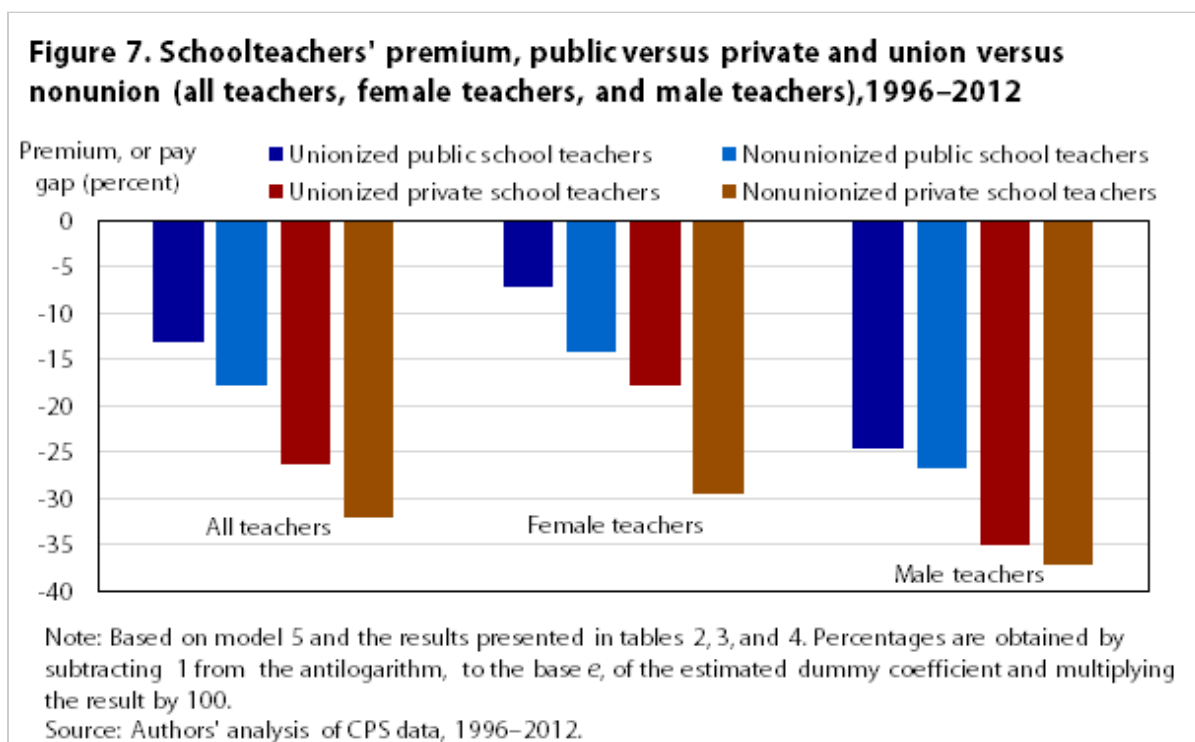
Notes:

⁽¹⁾ Not controlling for union in models 1–4.† Significant at $p < .10$.** Significant at $p < .01$.

Note: Weighted sample of workers who worked at least 35 hours per week and were at least 21 years old. Imputed data are excluded. The dependent variable is the logarithm of weekly earnings. The demographic vector includes controls for age (as a quadratic), marital status, gender, race, and ethnicity. The education vector includes five education-level dummy variables (master's degree or higher, bachelor's degree, some college, high school, and less than high school). Standard errors are in parentheses.

Source: Authors' analysis of CPS data, 1996–2012.

Because, as mentioned, women are the lion's share of teachers in both sectors, one might think that the separate results for the sample of female teachers would mirror the pooled results. However, in all four cases—public school teachers, private school teachers, union-affiliated teachers, and nonunion teachers—the pay gaps for women are less than that for the pooled sample—meaning that the pay gaps for men are much greater than that for the overall sample. Figure 7 summarizes the results of the set of regressions based on model 5 for the total sample and by gender. The relative pay gaps reported in table 4 for male teachers are all much larger than those for female teachers, and the differences, by sector, between union and nonunion teachers are not nearly as stark. For female public sector teachers, the pay gaps with female nonteacher workers are –7.2 percent for union workers and –14.2 percent for nonunion workers; for the male sample of public sector teachers, the corresponding pay gaps with male nonteacher workers are –24.6 percent and –26.8 percent.



For female private sector teachers, the pay gaps are –17.8 percent for union workers and –29.5 percent for nonunion workers; the analogous figures for male private sector teachers are –35.0 percent for union workers and –37.2 percent for nonunion workers. The large pay gaps faced by male teachers are, at least in part, why the share of teachers by gender has not changed much in decades.

Trends in relative teacher pay

The preceding section on pooled data from 1996 through 2012 and by gender provided single point estimates for analyzing relative teacher pay over that period. In this section, we turn to documenting the teacher pay gaps over time to determine how they have been trending. To do so, we utilize the results obtained from model 5, as shown in in tables 2, 3, and 4, and we run the analysis on 3 successive years of pooled data so that we have large enough sample sizes, particularly for male teachers in the private sector. Otherwise, we used data years 1996,

1997, and 1998 to estimate the pay differential for 1996; data years 1997, 1998, and 1999 to estimate the pay differential for 1997; and so forth.

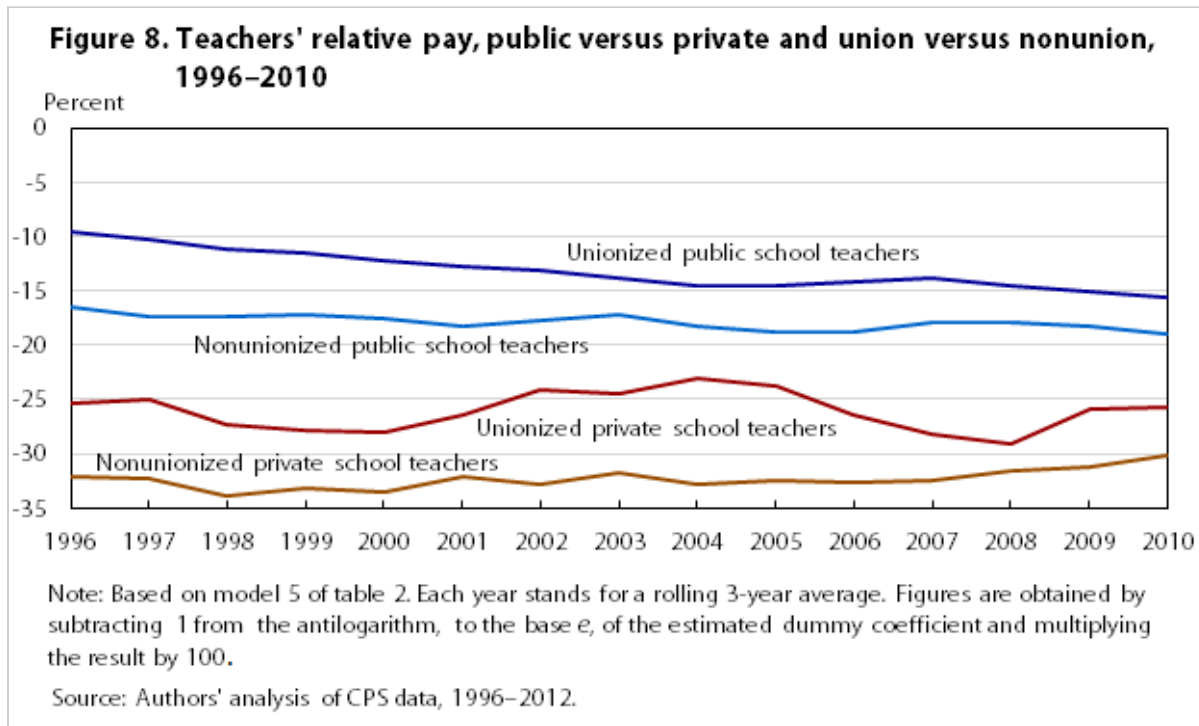
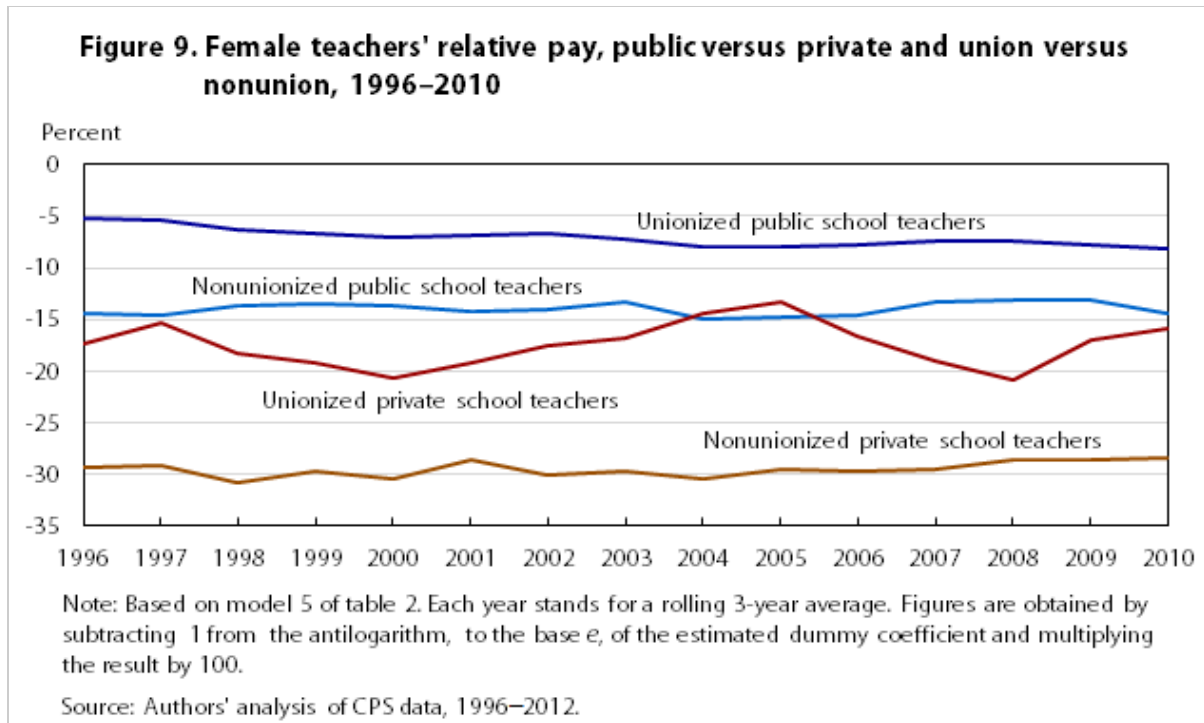
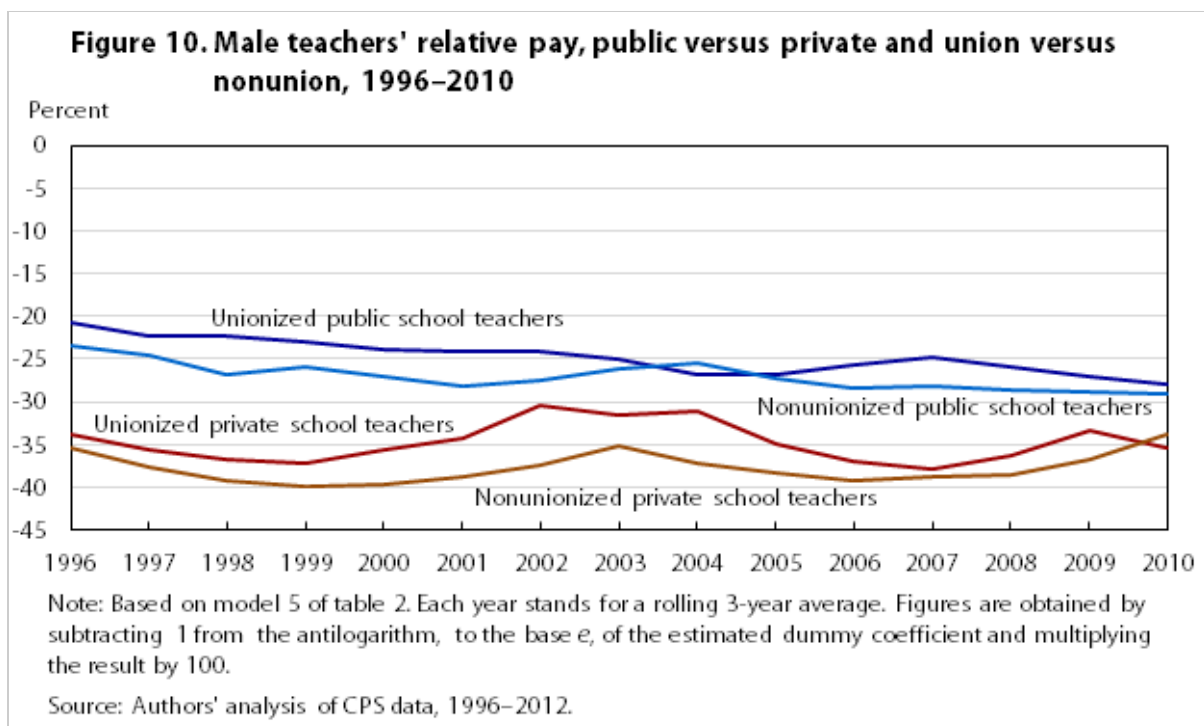


Figure 8 presents trends for the four teacher groups, and the pay gaps are reported in percentage terms from model 5. Generally, teachers in the public sector fared better than those in the private sector. Conditional on the sector, unionized teachers' pay was higher than that of teachers not covered by a union contract. Keep in mind that, for our repeated cross-sectional sample (pooling all years), 84.5 percent of teachers are employed in the public sector and have a unionization rate of 65.1 percent; conversely, 15.5 percent of teachers are in the private sector, and relatively few of those (27.9 percent) are unionized. Although this rate of unionization among private sector teachers is far below that of public sector teachers, it is far above that of private sector nonteacher workers, who have a 9.0-percent unionization rate.

Figure 8 shows that the overall pay differential for unionized public sector teachers went from –9.5 percent to –15.6 percent; however, compared with the wage differentials for the other three groups, this one was still the smallest gap across the timeframe. The largest pay gap in 2010 was for nonunionized teachers in the private sector: –30.2 percent, about the same as the –32.0 percent in 1996. Over time, the differential between the four groups has narrowed.



The trends for female teachers are illustrated in figure 9 for the four teacher groups. The relative pay gap for unionized public sector female teachers is less than the gap for the other three cohorts, although it worsened from –5.2 percent to –8.1 percent over the period of study. The largest relative pay gap was for nonunionized private sector female teachers, –28.4 percent, a percentage that was relatively flat over the timeframe examined. (The gap was –29.5 percent in 1996.) The two middle groups—nonunionized public sector female teachers and unionized private sector female teachers—had similar outcomes over the 1996–2010 period.



The pay gaps are much larger for all four cohorts of male teachers for all years studied, as shown in figure 10. The negative pay gap for unionized public sector male teachers grew from –20.8 percent in 1996–1998 to –27.8 percent in 2010–2012. Here again, analogously to female workers, nonunionized private sector male teachers fared much worse than their nonunionized nonteaching counterparts. However, again analogously to female workers, male teachers in the public sector have higher pay than their private sector counterparts, regardless of union status. But, unlike the within-sector pay gaps between unionized and nonunionized female teachers, the gaps for male teachers are not mitigated as much by union affiliation.

MUCH DEBATE HAS SURROUNDED SCHOOL CHOICE and the privatization of schools. Given that teachers are an integral part of student learning and achievement, an examination of teacher pay by type of ownership is important. This article has examined how teacher pay compares with that of other professionals and how pay differs for teachers working in the public versus the private sector. In general, teachers earn less than other comparable college graduates, but the difference is mitigated if they are employed in the public sector—and more so if they have union representation as well. The mitigating effects are stronger for female than male teachers, so the within-gender pay gaps are much larger for male teachers. Public sector teachers generally receive better pay than private sector teachers, even when the former are not unionized. The reason may be a spillover effect: nonunionized teachers in the public sector gain some of the benefits afforded unionized public sector teachers by contracts negotiated under collective bargaining. This effect may also be at work, though to a lesser degree, for teachers in the private sector (a topic for future discussion).

The opportunity cost of becoming a teacher and remaining in the profession becomes more and more important as relative teacher pay falls further behind that of other professions. The large negative pay gap for male teachers most likely is a factor in why the gender mix of teachers has not changed much over time. That women, once a somewhat captive labor pool for the teaching profession, have many more opportunities outside the profession today than in the past means that growing pay differentials will make it all the more difficult to recruit and retain teachers. The movement toward private schools and charter schools, which do not have the union density of public schools, is also problematic, given the larger pay differentials across types of ownership.

SUGGESTED CITATION

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NOTES

¹ *Digest of education statistics* (National Center for Education Statistics, 2010), Table 76, http://nces.ed.gov/programs/digest/d12/tables/dt12_076.asp.

² See Andrew G. Biggs and Jason Richwine, *Assessing the compensation of public-school teachers* (Washington, DC: The Heritage Center for Data Analysis, November 1, 2011); and Sylvia A. Allegretto, Sean P. Corcoran, and Lawrence Mishel, *How does teacher pay compare? Methodological challenges and answers* (Washington, DC: Economic Policy Institute, 2004). Chapter 3 of the latter publication uses the National Compensation Survey (NCS) to identify 16 occupations similar to teaching on the basis of occupational leveling factors that measure skills and job tasks. Michael Podgursky and Ruttaya Tongrut, "(Mis-)measuring the relative pay of public school teachers," *Education Finance and Policy*, Fall 2006, pp. 425–440, argue against employing household surveys, such as the Current Population Survey (CPS), in favor of using data from firms, such as data collected by the NCS, or state administrative data. Michael Podgursky, "Fringe benefits," *Education Next*, Summer 2003, pp. 71–76, argues that professions chosen as alternatives to

public sector teaching should be carefully considered. He suggests that journalists, registered nurses, and military officers are appropriate comparisons, along with private school teachers.

³ Biggs and Richwine, *Assessing the compensation*, argue that public sector teachers are overpaid compared with both private sector teachers and the private sector in general. See also Allegretto, Corcoran, and Mishel, *How does teacher pay compare?* in which the analysis included public and private school teachers without distinction; and Podgursky and Tongrut, “(Mis-)measuring the relative pay,” in which table 1 estimates separate public and private school teacher pay gaps that are similar to the teacher pay gaps we report here. However, Podgursky and Tongrut reject these pay gap estimates resulting from the use of CPS data, preferring NCS data (on firms) to CPS data (on households).

⁴ See Sylvia A. Allegretto, Sean P. Corcoran, and Lawrence Mishel, *The teaching penalty: teacher pay losing ground* (Washington, DC: Economic Policy Institute, 2008). Using U.S. Census Bureau data, these authors show that the pay gap between female public school teachers and comparably educated women—for whom the labor market dramatically changed over the 1960–2000 period—grew by nearly 28 percentage points, from a relative wage *advantage* of 14.7 percent in 1960 to a *disadvantage* of 13.2 percent in 2000. Among *all* public school teachers, the relative wage disadvantage grew almost 20 percentage points over the same period.

⁵ As mentioned earlier, Biggs and Richwine, *Assessing the compensation*, argue that public sector teachers are overpaid compared with both private sector teachers and the private sector in general. (See, however, Podgursky and Tongrut, “(Mis-)measuring the relative pay,” for the view that public sector teachers are *not* overpaid.)

⁶ Allegretto, Corcoran, and Mishel, *The teaching penalty*, especially endnote 1; and Allegretto, Corcoran, and Mishel, *How does teacher pay compare?* For a different view, see Podgursky and Tongrut, “(Mis-)measuring the relative pay.”

⁷ Allegretto, Corcoran, and Mishel, *The teaching penalty*.

⁸ Sean P. Corcoran, William N. Evans, and Robert M. Schwab, “Women, the labor market, and the declining relative quality of teachers,” *Journal of Policy Analysis and Management*, Summer 2004, pp. 449–470.

⁹ For a discussion of the union premium, see David Card, Thomas Lemieux, and W. Craig Riddell, “Unions and wage inequality,” *Journal of Labor Research*, vol. 25, no. 4, 2004, pp. 519–562. For the gender pay gap, see Francine D. Blau and Lawrence M. Kahn, “Gender differences in pay,” *Journal of Economic Perspectives*, Fall 2000, pp. 75–99. For an overview of the racial pay gap, see Roland G. Fryer, “Racial inequality in the 21st century: the declining significance of discrimination,” in David Card and Orley Ashenfelter, eds., *Handbook of labor economics*, vol. 4, part B (pp. 855–971) (Amsterdam: Elsevier, 2011).

¹⁰ The research is based on nonimputed earnings data from 1996 on. (Nonimputed data for 1994–1995 are not available.) For more details, see Allegretto, Corcoran, and Mishel, *How does teacher pay compare?* p. 9; and Barry T. Hirsh and Edward J. Schumacher, “Match bias in wage gap estimates due to earnings imputation,” *Journal of Labor Economics*, vol. 22, no. 3, 2004. Separate regressions were run including and excluding imputed data, and the results were found not to change either significantly or qualitatively.

¹¹ For more on imputation see Allegretto, Corcoran, and Mishel, *How does teacher pay compare?* endnote 4.

¹² Three-year averages are used to increase the sample size. The racial and ethnic variables are jointly used to construct non-Hispanic White, Black, and “other” groups, the last of which comprises Asians and all other racial and ethnic groups sans Whites, Blacks, and Hispanics.

¹³ The Black share of public sector workers declined from 15 percent in 1996 to 13 percent in 2012.

¹⁴ Hispanic is classified as an ethnicity; Hispanics may be of any race. People in the race categories in this table (White, Black, and other) all are non-Hispanic.

¹⁵ States within the nine Census divisions are as follows: 1. *New England*: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont. 2. *Middle Atlantic*: New Jersey, New York, Pennsylvania. 3. *East North Central*: Indiana, Illinois, Michigan, Ohio, Wisconsin. 4. *West North Central*: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota. 5. *South Atlantic*: Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia. 6. *East South Central*: Alabama, Kentucky, Mississippi, Tennessee. 7. *West South Central*: Arkansas, Louisiana, Oklahoma, Texas. 8.

Mountain: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming. 9. *Pacific:* Alaska, California, Hawaii, Oregon, Washington.

¹⁶ *Education at a glance 2012: OECD indicators* (Paris: OECD Publishing, 2012).

¹⁷ By using the natural logarithm of the wage, we can directly capture the percent change for each independent variable and a log transformation makes the positively skewed wage distribution more normal.

¹⁸ Individual characteristics include controls for gender, race or ethnicity, age quadratic, educational attainment, and marital status. A specification also was used that interacted state and year effects, but the results are not qualitatively different from those reported. Regressions are not shown but are available upon request.

¹⁹ Weekly earnings are usual weekly earnings for those not paid by the hour and hourly wages times usual hours for those who are paid hourly.

²⁰ Allegretto, Corcoran, and Mishel, *How does teacher pay compare? and The teaching penalty*. (See also Podgursky and Tongrut, “(Mis-)measuring the relative pay.”)

²¹ Allegretto, Corcoran, and Mishel, *The teaching penalty*.

²² As a test of the robustness of our results, we also estimated the same models separately for public and private elementary and middle school teachers, on the one hand, and public and private secondary school teachers, on the other. The main results are qualitatively similar; all results are available from the authors upon request.

²³ The 1.9-percent and 13.0-percent figures are obtained from table 2 by taking the antilogarithm, to the base e , of the estimated dummy coefficient, subtracting 1, and multiplying the result by 100.

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