

Health-Insurance Coverage Rates for US Workers, 1979-2008

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Executive Summary

We analyze annual data from the Current Population Survey (CPS) on health-insurance coverage rates for workers age 18 to 64 over the period 1979 to 2008. We first review key changes to CPS methodology over the period and then propose and implement adjustments that put historical coverage estimates on a basis that is broadly consistent with current estimates.

Our main findings:

- In 2008, 16.7 percent of all workers – about 20.6 million workers – had no health insurance from any source.
- In 2008, 75.0 percent of workers had coverage through an employer. Of these, a large majority had coverage through their own employer, and a smaller share had coverage through their spouse's (or another family member's) employer.
- In 2008, 7.0 percent of all workers had some form of public health insurance. Medicaid was the most important type of public health insurance for workers (about 3.9 percent of all workers). Medicare (which covers some non-elderly workers with disabilities) covered a small share of workers (0.4 percent). Other forms of publicly provided health insurance, including military and veterans' health care, covered about 2.9 percent of workers.
- In 2008, only 5.5 percent of workers had health insurance purchased directly from insurers.
- The share of workers with health insurance fell from 93.5 percent in 1979 to 83.3 percent in 2008. If health-insurance rates in 2008 had remained at their 1979 levels, an additional 12.6 million workers would have had health insurance in 2008.
- The main reason for the decline in overall coverage rates was the steep drop in employer-provided health insurance. Between 1979 and 2008, employment-based coverage (through a worker's own employer or through their spouse or other relative's employer) decreased 12.4 percentage points.
- In 2008, coverage rates varied widely by wage level. For high-wage workers (the top fifth of all wage earners), only about 4 percent had no health insurance. For low-wage workers (the bottom fifth of all wage earners), about 37 percent had no coverage. For middle-wage workers (the middle fifth of wage earners) about 12 percent lacked coverage.
- In 2008, employment-based health insurance was the most important source of health insurance at all wage levels.
- In 2008, about 12 percent of low-wage workers (the bottom fifth of wage earners) had some form of publicly provided health insurance.
- Between 1979 and 2008, coverage rates fell for workers at all wage levels, but were heavily concentrated among middle- and low-wage workers. In 1979, high-wage workers (the top

fifth) had essentially complete coverage, with the uninsured rate rounding to zero; by 2008, the share with no health insurance had increased to about 4 percent. For low-wage workers (the bottom fifth), however, the uninsured rate started higher – about 16 percent in 1979 – and rose more steeply – to 37 percent by 2008. For workers in the middle (the middle fifth), about 5 percent had no coverage in 1979, rising to 12 percent in 2008.

- For low-wage workers, the 4 percentage-point increase in public coverage rates between 1979 and 2008 was not enough to make up for a 25 percentage-point decline in private (mostly employer-provided) coverage.

Introduction

Health-insurance coverage rates are among the most carefully constructed and closely followed national social indicators. Each year, the Census Bureau releases estimates of health-insurance coverage from all sources, including breakdowns by employer-provided plans, directly purchased plans, Medicaid, Medicare, the State Children's Health Insurance Program (SCHIP), and other government programs.¹ While the Census Bureau began gathering annual data on coverage rates in the Current Population Survey (CPS) in 1979, the Census Bureau typically only presents coverage data from either 1987 or 1999 forward, reflecting significant changes in methodology implemented in the surveys for those two years.² The published Census Bureau data track overall coverage rates, with breakdowns by sex, race and ethnicity, poverty status, nativity, and age (with special emphasis on distinguishing between the population that is under 18, 18 to 64, and 65 and older).

The Census Bureau, however, does not publish annual estimates of health-insurance coverage for adult workers. Studies by other researchers that have focused on workers' coverage rates have generally limited their analysis to workers' own employer-provided plans, leaving open the possibility that uncovered workers may have health insurance through a spouse (or another relative), through directly purchased insurance, or through a government-provided plan such as Medicare or Medicaid (Cooper and Steinberg Schone, 1997; Kronick and Gilmer, 1999; Cunningham, Artiga, and Schwartz, 2008; Mishel, Bernstein, and Shierholz, 2009; Gould, 2009; and Schmitt, 2008).³ Research by Fronstin (2000, 2009) is an exception in that it examines coverage rates for workers and includes all forms of health insurance.⁴

This paper reports estimates from the CPS on all forms of health-insurance coverage for non-elderly⁵ workers. We extend earlier work in several ways. First, we propose and implement a simple procedure to produce broadly consistent estimates from the CPS data for 1979 through 2008. Our adjustment improves the quality of estimates across key breaks in the CPS methodology and allows us to include data for the 1980s, which saw the steepest declines in health-insurance coverage rates for workers. Second, for each year, we also provide estimates of health-insurance coverage from all sources separately for workers in each of the five wage quintiles, which have experienced starkly

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- 1 See the Census Bureau's annual P-60 series of reports, based on the March supplement to the Current Population Survey and available at <http://www.census.gov/hhes/www/hlthins/hlthins.html>. In 2009, the Census Bureau also produced health-insurance coverage estimates drawn from a new health-insurance question added to the American Community Survey in 2008; see, for example, Turner, Boudreaux, and Lynch (2009).
 - 2 We document these and other changes in, and issues with, the CPS data below. For Census Bureau's original historical series from 1987 through 2005, see "Historical Health Insurance Tables," http://www.census.gov/hhes/www/hlthins/historic/index_old.html; for the most recently revised series from 1999 forward, see "Historical Health Insurance Tables," <http://www.census.gov/hhes/www/hlthins/historic/index.html>. CPS microdata used in this paper follows the latter table, as it accommodates the most recent changes. The CPS began collecting information on health-insurance coverage in March 1980, which collected data on coverage rates for calendar year 1979.
 - 3 Cunningham, Artiga, and Schwartz (2008) include employer-sponsored insurance obtained through a spouse, but not directly purchased private insurance or publicly provided health insurance. Hoffman and Schwartz (2008) use data from the National Health Interview Survey for the period 1997 to 2006 to look at health-insurance coverage rates for working-age adults, but don't report separate results for workers only. Glied, Jack, and Rachlin (2008) present estimated coverage rates for women with some data for workers, from 1980 through 2005.
 - 4 Gould (2009, Table 4) looks at the characteristics of workers without health insurance of any form in 2008.
 - 5 We exclude workers age 65 and older from our analysis under the assumption that Medicare provides essentially universal health-insurance coverage for workers in that age group.

different trends over the past three decades.⁶ Finally, we review and adjust for a number of minor problems with the CPS that have been identified by the Census Bureau and other researchers.

Changes to the CPS Data

The CPS provides the official annual estimates for health-insurance coverage in the United States. Each year in March, the CPS collects data on a wide range of topics from a nationally representative sample of 50,000 to 60,000 households. Since March 1980, the CPS has asked respondents about the type of health-insurance coverage, if any, they had during the preceding calendar year. Over the past 30 years, however, the March CPS has undergone several important changes that have had an impact on the survey's estimates of health-insurance coverage.

Table 1 summarizes the main changes to the CPS survey and public-use microdata samples that affect health-insurance coverage estimates.⁷ The table divides the changes into five categories: coding errors; survey weights; sample size; and two types of changes to the survey methodology: those that potentially affected the measurement of coverage for non-elderly workers and those that affected other, non-working, populations.

Most of the changes to the CPS have had little or no impact on current attempts to estimate coverage rates for non-elderly workers. In March 2007, for example, the Census Bureau discovered a coding error that had led to a small underestimate of private health-insurance coverage for the years 1996 through 2005. The Census corrected the coding error for the March 2005 and 2006 surveys, and subsequently released an approximate correction for public-use microdata for the years 1996 to 2003, which we use in our analysis here. The Census Bureau did not, however, correct identical problems with the 1995 and 1996 surveys (covering the 1994 and 1995 calendar years). As a result, data for calendar years 1994 and 1995 understate coverage for dependents (but not policyholders) through private plans (employer-provided and directly purchased), relative to subsequent years that used the same survey methodology, but without the coding error that remains in the 1995 and 1996 March surveys. Lee and Stern (2007) look at trends in coverage from private plans for the years 1996 to 2003 using the original series containing the coding error and the Census Bureau's approximate correction and finds that "the impact is minimal and the approximate series is always slightly higher in the coverage rates compared with the original series."

The Census Bureau has also periodically changed the population base for the CPS weights. The Census Bureau uses population estimates from the decennial census (together with Census Bureau models of projected population growth between decennial censuses) to weight the individual observations in CPS. As a result, every decade or so, as information from the new census becomes available (with a lag), the Census Bureau changes the base weights for the CPS. These periodic changes to the base-year weights affect the absolute *number* of people with and without health insurance, but generally have only a small impact on the *share* of the population with and without

6 Mishel, Bernstein, and Shierholz (2009) reports employer-sponsored insurance rates for private-sector employees by wage quintile for the full 1979-2008 period. Gould (2009) reports employer-sponsored coverage rates for all employees by wage quintile between 2000 and 2008.

7 For helpful reviews to changes in the March CPS affecting health-insurance coverage, see Fronstin (2009) and SHADAC (2009).

health insurance.⁸ Table 1 shows the base-year used for the CPS weights in each year of the most recently available versions of the microdata.⁹ Since our analysis focuses exclusively on the *share* of workers with and without various forms of coverage, we use the most recent weights available for each survey and do not make any adjustments for changes over time in these base weights.

TABLE 1
Main Changes to the CPS Survey and Public Microdata Affecting Coverage Rates, 1980-2008

Year of Survey	Coding Errors	Weights	Sample Size	Survey Methodology									
				Changes Not Affecting Adults	Major Changes Affecting Adults								
1980		1980 Census	50,000-60,000 Households (1980-2000)	Questions specifically on children's coverage did not exist. (1980-1987)	Initial question on employment-based plan directed towards workers of age>15. Subset question on other private plan coverage of household members. (1980-1987)								
1981													
1982													
1983													
1984													
1985													
1986													
1987													
1988				1990 Census	50,000-60,000 Households (1980-2000)	Questions specifically on children's coverage through Medicare, Medicaid, and private plans. (1988-1993)	Initial question on private plan (either employment-based or directly purchased) to all adults of age>15. Subset question identifying employment-based plan alone. (1988-1993)						
1989													
1990													
1991		1990 Census	50,000-60,000 Households (1980-2000)			Computer-assisted interviewing system introduced.	Two unique questions about employment-based and directly purchased plans. Minor question reordering (e.g., military-based and state-specific plans). (1995-1999)						
1992													
1993						1990 Census	50,000-60,000 Households (1980-2000)	Indian Health Services no longer considered as part of Medicaid. (1998-)	Two unique questions about employment-based and directly purchased plans. Minor question reordering (e.g., military-based and state-specific plans). (1995-1999)				
1994													
1995								1990 Census	50,000-60,000 Households (1980-2000)	Indian Health Services no longer considered as part of Medicaid. (1998-)	Two unique questions about employment-based and directly purchased plans. Minor question reordering (e.g., military-based and state-specific plans). (1995-1999)		
1996													
1997										1990 Census	50,000-60,000 Households (1980-2000)	Indian Health Services no longer considered as part of Medicaid. (1998-)	Two unique questions about employment-based and directly purchased plans. Minor question reordering (e.g., military-based and state-specific plans). (1995-1999)
1998													
1999	Private plan data revised as per Census's discovery of a coding error in 2007. (1997-2006)			2000 Census	SCHIP Sample Expansion of 28,000 Households (approx. 78,000 Households in Total)							SCHIP question added to children without Medicaid. (2001-)	Introduction of "verification questions" verifying the coverage status of respondents without health insurance based on the standard questionnaire. (2000-)
2000													
2001													
2002													
2003													
2004													
2005													
2006													
2007			2000 Census			SCHIP Sample Expansion of 28,000 Households (approx. 78,000 Households in Total)	SCHIP question added to children without Medicaid. (2001-)	Introduction of "verification questions" verifying the coverage status of respondents without health insurance based on the standard questionnaire. (2000-)					
2008													
2009													

8 For example, according to Fronstin (2009, p. 30): "When using the Census 1990-based weights for the March 2001 CPS [covering calendar year 2000], 15.8 percent of the non-elderly population, or 38.4 million people, were uninsured... However, when using the Census 2000-based weights, 16.1 percent of the non-elderly population is estimated to be uninsured, representing 39.4 million people."

9 After each change in the base period, the Census Bureau has subsequently released bridge data for one or two surveys prior to the change using the new weights. This paper utilizes the bridge data when available. Specifically, we use 1980-based weights for the March 1980 survey; the 1990-based weights for the March 1990 and March 1993 surveys; and the 2000-based weights for the 2000, 2001, and 2002 surveys.

Beginning in 2001, the Census Bureau also expanded the CPS sample used for assessing the health-insurance coverage for children. Since the expanded sample did not include any change in the underlying survey methodology and we are only interested in workers between the ages 18 and 64, the sample expansion should not have any meaningful impact on our analysis.¹⁰

The Census Bureau has also made several changes to the CPS methodology that directly affect health-insurance coverage rates. Some of these changes had little or no impact on the coverage rates for non-elderly workers (see column four of Table 1). Before 1988, the CPS only asked currently employed respondents directly about their own or dependents' coverage through current employers. Respondents were then asked separately about coverage through other private plans.¹¹ Beginning in 1988, however, the CPS began to ask all respondents 15 and older (or their proxy respondents) about coverage through either employer-provided or a privately purchased plan, regardless of their employment status. Each respondent was subsequently asked if the identified plan was in his or her own name. This survey change increased the employer-provided coverage rates for nonworking spouses and other family members covered by employer-provided plans. The change also increased measured coverage rates for nonworking adults covered by former employers through retirement plans or through COBRA.¹² At the same time, the restructuring of the private-plan coverage questions also restricted policyholders from indicating that they held two or more plans.¹³ In the same year, the CPS also began to ask respondents directly about children's health-insurance coverage through Medicaid, Medicare (for disabled children), or a privately purchased plan. The new questions appear to have raised children's coverage rates relative to the old methodology.¹⁴ In principle, neither of these 1988 survey changes should have had a major impact on coverage rates for working adults (though our methodology below does allow for the possibility of an effect). Since 1998, respondents who reported coverage only through the Indian Health Service were coded as not having coverage; in earlier years, these respondents were coded as having coverage through Medicaid. The impact of this change, however, was "negligible" (SHADAC, 2009, p. 3).¹⁵ Finally, in 2001, the CPS added a direct question about children's participation in the State Children's Health Insurance Program (SCHIP), with no obvious implications for the coverage rates of adult workers.

Two of the changes to the CPS survey, however, did significantly alter estimated trends in coverage rates for non-elderly workers, in both cases raising estimated coverage rates relative to the earlier methodologies (see the last column of Table 1). First, in 1994, in connection with the introduction of computer-assisted interviewing, the Census Bureau made several changes to the CPS, including the restructuring of private health insurance questions to ask respondents directly about coverage through employers and privately purchased insurance, in an effort to capture more comprehensive information about different types of coverage for both policyholders and dependents. According to

10 The Census Bureau (2003) notes an improved reliability of the estimates for both state and national data as the result of sample expansion. See Census Bureau (2002, 2003) and SHADAC (2009) for methodological details. See Mills (2002) for a description of the effects of the sample expansion.

11 In 1981 and 1982, the March CPS did not ask about other private health insurance. We therefore do not have data on overall health insurance and private health insurance coverage data for years 1980 and 1981.

12 The Consolidated Omnibus Budget Reconciliation Act (COBRA) of 1985 allowed employees who left their job to pay for and maintain their employer-provided health-insurance coverage for up to 18 months.

13 See Levitt, Olin, and Letsch (1992).

14 For more information on the 1988 CPS health-insurance coverage questions, see Levitt, Olin, and Letsch (1992), Moyer (1989), Swartz and Purcell (1989), and Unicon (2009).

15 Fronstin (2009), for example, estimates that the change led to a 0.2 percentage-point drop (about 300,000 individuals) in the Medicaid population, relative to what would have been measured using the earlier methodology.

the Census Bureau, “the new questions did not appear to have a noticeable effect on overall health insurance estimates” but “did appear to have an effect on individual types of coverage,” in particular, raising slightly the share of people with military coverage and employer-provided coverage.¹⁶ Second, in March 2000 (and officially adopted in 2001), the CPS added a separate “verification question” as an addendum to the existing health-insurance questions. The verification question asked those who did not initially report any type of health-insurance coverage whether they indeed had no coverage. If, after prompting, respondents indicated that they did have some form of coverage, they were asked to identify the type of coverage. In the 2000 version of the survey, which allowed for a direct comparison between the old and the new methodologies, about 8 percent of those who originally appeared to be without coverage subsequently identified some form of coverage after prompting from the “verification question” (privately purchased health insurance was the most common type of coverage identified).¹⁷

The two major breaks identified in Table 1 had a visible impact on long-term trends in coverage rates for working adults. **Figure 1** shows the rate of health-insurance coverage from all sources for workers 18 to 64 years old, using data taken directly from the annual March CPS data, without any adjustments to the data (see also **Table 2**).¹⁸ The figure marks three key breaks in the CPS methodology: between 1986 and 1987 (that is, between the March 1987 and the March 1988 surveys, since the CPS health-insurance questions refer to the preceding calendar year); between 1993 and 1994; and between 1998 and 1999. The breaks divide the full series into four consistent sub-periods: 1979-1987, 1988-1993, 1994-1998, and 1999-2008. Within each of these four segments, the CPS followed an almost identical methodology.

Discontinuities across the segments are evident in 1993-94 and 1998-99.¹⁹ As suggested earlier, both sets of survey changes across these years appear to have had the effect of increasing the measured health-insurance coverage rates relative to the methodologies in place before these changes were put into place. No discontinuity, though, is obvious at 1986-87. The substantial methodological changes implemented with the March 1988 CPS targeted health-insurance coverage for children and non-working adults and appears to have had no obvious impact on adult workers. We have included the 1986-87 break here and below because researchers working with the CPS to examine broader populations have identified this break as important. Including this break in our analysis also has the advantage of allowing us to apply our methodology for splicing coverage estimates from the distinct consistent segments of the CPS across two periods that we suspect are, for our purposes, already consistent.²⁰

16 Census Bureau (1995), User Note 3; Nelson and Mills (2001); and Swartz (1997).

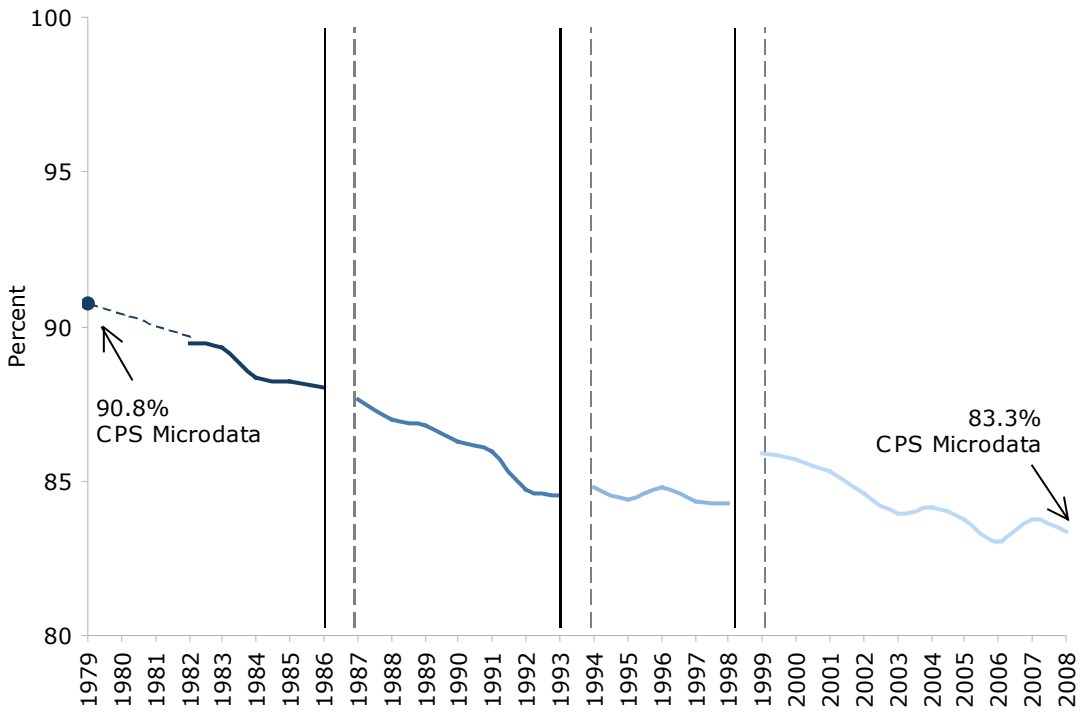
17 See Nelson and Mills (2001).

18 We use the corrected 1997-2004 versions of the survey, with the sample weights corresponding to the base years listed in Table 1, and exclude the expanded SCHIP sample; we also use the version of the March 2000 CPS that includes the “verification question.”

19 The y-axis in Figure 1 starts at 80 percent in order to focus on year-to-year changes in the estimates.

20 One methodological issue that we do not address here is the concern that imputation procedures employed by the Census Bureau raise the estimated uninsurance rate above the true level. See Davern, Rodin, Blewett, and Thiede Call (2007).

FIGURE 1
Unadjusted Health-Insurance Coverage Rates from All Sources, Workers Age 18-64



Source: Authors' analysis of CEPR extract of March CPS.

TABLE 2
Survey-based Health-Insurance Coverage of Workers, Ages 18 to 64, 1979-2008

Year	Health Insurance (Total)	Private Health Insurance				Public Health Insurance			
		Total	Employment-based		Direct purchase	Total	Medicaid	Medicare	Other Public
			Total	Policyholder					
1979	90.8	89.1	84.0	74.2	n.a.	4.7	2.0	0.3	2.5
1980	n.a.	n.a.	84.8	74.7	n.a.	4.6	1.9	0.2	2.7
1981	n.a.	n.a.	84.8	74.9	n.a.	5.3	1.7	0.2	3.4
1982	89.4	87.8	84.2	74.1	n.a.	4.6	1.4	0.2	3.1
1983	89.3	87.8	83.4	73.3	n.a.	4.2	1.2	0.2	2.8
1984	88.3	86.6	82.0	71.9	n.a.	4.6	1.4	0.2	3.1
1985	88.2	86.5	82.0	71.8	n.a.	4.6	1.5	0.2	3.0
1986	88.0	86.2	81.9	71.4	n.a.	4.6	1.5	0.2	3.0
1987	87.6	85.6	80.0	67.1	n.a.	4.7	1.5	0.2	3.1
1988	87.0	85.0	79.0	66.8	n.a.	4.5	1.4	0.2	3.0
1989	86.8	83.8	77.8	65.4	n.a.	5.6	1.6	0.3	3.8
1990	86.3	83.2	77.1	64.6	n.a.	5.7	1.8	0.3	3.8
1991	86.0	82.7	76.9	64.2	n.a.	6.0	2.0	0.4	3.8
1992	84.7	81.2	75.1	62.5	n.a.	5.9	2.3	0.4	3.5
1993	84.5	81.5	74.6	63.9	n.a.	6.0	2.4	0.3	3.4
1994	84.8	81.7	77.2	64.3	7.4	6.7	2.8	0.2	3.9
1995	84.4	81.4	76.9	63.5	7.1	6.1	2.8	0.3	3.3
1996	84.8	81.7	77.2	63.4	6.3	6.3	3.0	0.4	3.1
1997	84.3	81.6	77.5	63.5	5.9	5.6	2.5	0.3	2.9
1998	84.2	81.6	77.6	63.6	5.5	5.4	2.4	0.3	2.8
1999	85.9	83.0	79.0	64.3	5.8	5.7	2.6	0.3	2.9
2000	85.7	83.0	79.1	64.7	5.3	5.4	2.5	0.4	2.7
2001	85.3	82.4	78.4	64.1	5.5	5.4	2.7	0.4	2.5
2002	84.6	81.6	77.4	63.0	5.6	5.8	2.8	0.4	2.8
2003	83.9	80.8	76.6	62.4	5.6	5.9	2.9	0.4	2.8
2004	84.1	80.6	76.1	61.9	5.7	6.8	3.7	0.4	3.0
2005	83.8	80.1	75.6	61.3	5.8	6.8	3.6	0.4	2.9
2006	83.0	79.5	75.1	61.0	5.7	6.5	3.7	0.4	2.7
2007	83.7	79.9	75.4	61.5	5.7	6.9	3.7	0.4	2.9
2008	83.3	79.4	75.0	61.1	5.5	7.0	3.9	0.4	2.9
1979-2008	-7.5	-9.7	-9.0	-13.1	n.a.	2.3	1.9	0.1	0.4
1979-1986	-2.8	-2.9	-2.1	-2.8	n.a.	-0.1	-0.5	-0.1	0.5
1987-1993	-3.1	-4.1	-5.4	-3.2	n.a.	1.3	0.9	0.1	0.3
1994-1998	-0.6	-0.1	0.4	-0.7	-1.9	-1.3	-0.4	0.1	-1.1
1999-2008	-2.6	-3.6	-4	-3.2	-0.3	1.3	1.3	0.1	0
<i>Cumulative</i>	-9.1	-10.7	-11.1	-9.9	-2.2	1.2	1.3	0.2	-0.3

Notes: In 1980 and 1981, March CPS did not provide data on coverage under directly purchased health insurance. 1979 data uses 1980 Census-controlled weight; 1989 and 1992 data uses 1990 Census-controlled weight; 1999 and 2000 data uses 2000 Census-controlled weight. Data since 2000 incorporates SCHIP expanded sample of 28,000 households (approximately 78,000 in total). Workers are defined as private and public sector workers who worked at least 20 hours per week for at least 26 weeks in the prior year.

Source: Author' analysis of CEPR extract of March CPS.

Creating Consistent Coverage Estimates for Workers

In this section, we propose and implement a simple procedure for creating a broadly consistent series of coverage rates for non-elderly workers.²¹ Our methodology takes advantage of the availability of four consistent segments of the CPS that together span the 1979-2008 period.

The bottom panel of Table 2 shows the change in workers' health-insurance coverage for the full 1979-2008 period and for the four consistent sub-periods, using data taken directly from the March CPS microdata without any adjustments. Over the sub-periods with consistent CPS methodologies, workers' overall coverage fell: 2.8 percentage points between 1979 and 1986; 3.1 percentage points between 1987 and 1993; 0.6 percentage points between 1993 and 1998; and 2.6 percentage points between 1999 and 2008. Adding these separate – consistent – declines in coverage together suggests that overall coverage fell 9.1 percentage points between 1979 and 2008 – excluding the three year-to-year changes that cross the three breaks in the CPS series (1986-87, 1993-94, and 1998-99). By contrast, over the full period 1979 to 2008 – including the three years that cross the three methodological breaks – the decline in workers' overall coverage rate was only 7.5 percentage points, about 1.6 percentage points smaller than the sum of the declines from the four consistent sub-periods. As suggested by the review of key survey changes, the three major improvements in the CPS methodology – particularly those crossing 1993-94 and 1998-99 – appear to have substantially raised workers' coverage rates relative to what would have been observed using the older methodologies.

Overall coverage rates are strongly trended across the four consistent sub-periods. Of the 26 annual changes in overall coverage rates defined in Table 2,²² only four were positive (1993-94, 1995-96, 1998-99, and 2006-07). Of these positive values, two (1993-94 and 1998-99) coincided with CPS methodological breaks. The change in coverage rates associated with the methodological break in 1998-99 – a 1.7 percentage-point increase in the coverage rate – was by far the largest annual change in the series (more than four standard deviations above the mean, calculated excluding the three changes across breaks).

The challenge for researchers seeking to produce a consistent estimate of the change in coverage over the full period is how to best estimate the “consistent” change across the three years where methodological breaks took place. We estimate the changes in coverage rates in these three break years using information on the rates of change over the consistent CPS sub-periods adjacent to each break. Since the current series presumably uses the best methodology, we work backward from the current consistent sub-period (1999-2008) and splice the changes in each preceding series to the coverage rates generated by the current series.

Working backward from 1999-2008, in the absence of information on the true impact of the survey-methodology changes, one reasonable estimate for the unobserved “consistent” change between 1998 and 1999 would be the average change over the period 1999-2008 (-0.29 percentage points).

21 For simplicity, from this point on, when we refer to workers, we mean 18 to 64 year old who work in the private or public sector and who worked at least twenty hours per week for at least twenty six weeks in the calendar year before the March survey; we include the incorporated self-employed, but exclude the unincorporated self-employed and unpaid family workers.

22 The unavailability of overall coverage numbers in the 1980 and 1981 CPS make it impossible to calculate annual changes for 1980, 1981, and 1982.

Another reasonable estimate would be the average of the consistent series for 1994-1998, which immediately precedes the 1998-99 break (-0.15 percentage points). A third potential estimate would be the average of the two series (-0.22 percentage points), on the basis that more information is likely to produce a better estimate. All three of these initial estimates are negative and substantially smaller than the 1.7 percentage-point *increase* in coverage rates for 1998-99 in the raw CPS data.

Taking the average of the two average annual changes for the consistent series on either side of each break uses more information, but raises the question of how to weight the information near each break. The consistent series preceding the 1998-99 break, for example, includes only four changes (1994-1998), while the consistent series after the same break includes nine changes (1999-2008). The longer series contains more information, but all of the extra information is at least five years away from the year when the break took place. In the case of the 1998-99 break, taking the average across the two full sub-periods before and after the methodological change gives more weight to the four changes from 2004-2008 than it does (separately) to the four changes 1994-1998 or 1999-2003.²³ There are several possible ways to address this issue. One would be to proceed using the full sub-periods before and after each break. This approach weights the long-term trends more heavily than short-term, business-cycle-related changes around the breaks. At the other extreme, a second approach would be to use only the average of the two consistent changes immediately preceding and following each break. This second approach emphasizes the short-term, business-cycle-related changes and essentially ignores the longer-term trends (except in so far as the two separate one-year changes include these trend components). These two approaches suggest an additional trade-off. The longer-term estimates use data farther and farther from the actual break, but will be less subject to year-to-year sampling error. The shorter-term estimates use the data closest to the break, but will be more likely to reflect sampling error.²⁴ A third approach would be to use estimates based on more than the two closest changes, but less than the full set of available changes.

Table 3 reports a series of possible estimates for the consistent annual change across each of the three structural breaks, using the methodology just described. The first column presents the change across each break using the unadjusted CPS data. The second column shows the estimated change using the average change across the full consistent sub-periods before and after the break. The third column shows the estimate based only on the average of the four changes immediately preceding and immediately following the break. (Four is the maximum number of changes available for the 1994-98 sub-period.) The last three columns show the corresponding estimates based on three-, two-, and one-year before-and-after changes.

The top panel of the table refers to overall coverage rates. For 1998-99, the five estimators produce estimates in a tight range from -0.2 to -0.3 percentage points, all well below the 1.7 percentage-point change observed in the unadjusted data. For 1993-94, the estimates are again in a tight range, from -0.3 to -0.4, compared to an observed unadjusted change of 0.3. As mentioned earlier, the survey changes for 1986-87 were substantial, but not for the non-elderly workers we examine here. The unadjusted CPS change for 1986-87 of -0.4 percentage points falls right in the middle of our five possible estimates in Table 3, which run from -0.3 to -0.5 percentage points.

23 Weighting the sub-periods by their length (four changes for 1994-1998, nine changes for 1999-2008), rather than using the unweighted average, would exacerbate this problem.

24 This is a particular concern when we look at data for the five wage quintiles, which have samples that are only one-fifth the size of the overall numbers.

TABLE 3
Possible Estimates for the Consistent Annual Changes across Structural Breaks
 (percentage points)

	Unadjusted	Full	4-Year	3-Year	2-Year	1-Year
<i>(a) Health-Insurance Coverage</i>						
1986-1987	-0.4	-0.46	-0.38	-0.43	-0.27	-0.40
1993-1994	0.3	-0.33	-0.36	-0.38	-0.38	-0.30
1998-1999	1.7	-0.22	-0.33	-0.25	-0.30	-0.15
<i>(b) Health-Insurance Coverage by Wage Quintile</i>						
<i>Low</i>						
1986-1987	0.3	-1.04	-0.90	-0.95	-0.60	-1.05
1993-1994	0.2	-0.44	-0.46	-0.40	-0.03	0.55
1998-1999	2.0	-0.35	-0.51	-0.43	-0.40	-0.10
<i>Second</i>						
1986-1987	0.4	-0.67	-0.69	-0.92	-0.80	-0.75
1993-1994	-0.2	-0.47	-0.41	-0.55	-0.50	-0.15
1998-1999	1.7	-0.23	-0.43	-0.22	-0.30	0.55
<i>Middle</i>						
1986-1987	-1.3	-0.28	-0.16	-0.13	-0.03	-0.05
1993-1994	-0.2	-0.27	-0.35	-0.37	-0.50	-0.65
1998-1999	1.9	-0.19	-0.25	-0.17	-0.05	-0.35
<i>Fourth</i>						
1986-1987	-1.0	-0.12	-0.08	-0.12	0.10	-0.25
1993-1994	-0.3	-0.25	-0.31	-0.25	-0.27	-0.65
1998-1999	2.0	-0.20	-0.28	-0.23	-0.43	-0.60
<i>High</i>						
1986-1987	0.9	-0.17	-0.14	-0.13	0.00	-0.15
1993-1994	0.9	-0.22	-0.29	-0.27	-0.42	-0.60
1998-1999	1.0	-0.11	-0.16	-0.27	-0.33	-0.40

Source: Authors' analysis of CEPR extract of March CPS.

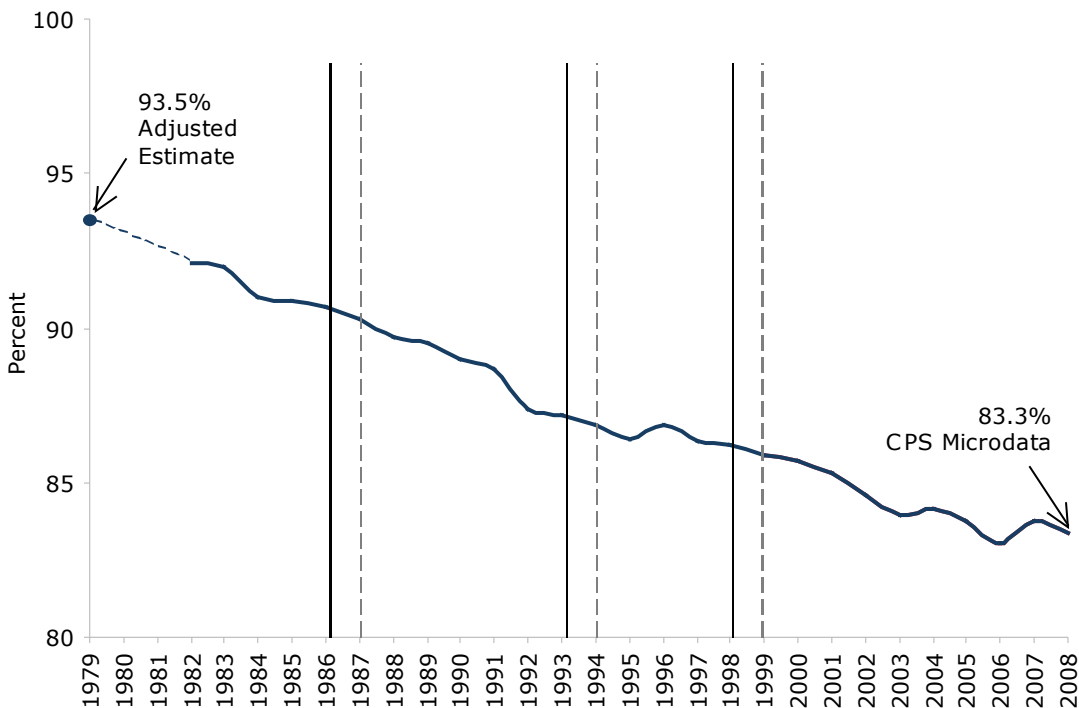
The bottom panel of the table reports similar estimates for each of the five wage quintiles, which we examine separately below. Since the underlying sample for each quintile is only one fifth of the size of the overall sample, the estimated year-to-year changes in the break years vary more across the five estimators for each of the quintiles than they do for the overall sample. For 1998-99, for example, the estimates range from -0.1 to -0.4 for the top quintile (compared to an unadjusted change of 1.0) and -0.1 to -0.5 for the bottom quintile (compared to an unadjusted change of 2.0); for the second quintile, the range is even larger, from -0.4 to +0.6 (compared to an unadjusted change of 1.7).

Given the greater sensitivity of the estimates for the wage quintiles to differences in the number of year-to-year changes included, and our belief that most of that volatility is related to the smaller underlying sample size, our adjusted estimates below use the four year-to-year changes in column three. For simplicity, we use the same four-year changes for the overall sample as well. None of our qualitative results are sensitive to the particular estimator chosen; in all cases the estimated year-to-year changes for 1993-94 and 1997-98 are substantially smaller than the corresponding changes in the unadjusted series.

Health-Insurance Coverage for Workers, 18-64

Figure 2 shows the change in health-insurance coverage from all sources for workers ages 18 to 64. Our definition of workers includes those in the private and public sector as well as the incorporated self-employed, but excludes the unincorporated self-employed and family workers; we also exclude less-attached workers who usually worked fewer than 20 hours per week or worked fewer than 26 weeks in the preceding calendar year.²⁵

FIGURE 2
Adjusted Health-Insurance Coverage Rates from All Sources, Workers Age 18-64



Source: Authors' analysis of CEPR extract of March CPS.

In 2008, 83.3 percent of all workers had health-insurance coverage from a public or private source.²⁶ About 79.4 percent of workers had private coverage, either through an employer (75.0 percent of all workers) or through directly purchased individual insurance (5.5 percent of all workers).²⁷ Of those with employer-based coverage, a large majority (61.1 percent of all workers) had coverage through their own employer, and a smaller share (about 13.9 percent of all workers) had coverage through their spouse's employer (or another family member's employer).²⁸ About 7.0 percent of all workers

25 These are the usual hours per week and weeks per year cutoffs used by Mishel, Bernstein, and Shierholz (2009) in their analysis of private-sector workers. Gould (2009) calls these "attached workers."

26 For 1999-2008, our adjusted series is identical to the results obtained directly from the unadjusted CPS data.

27 Some respondents report health insurance through multiple sources, therefore totals in column 1 may be smaller than the sum implied by the remaining columns.

28 The difference between total employment-based coverage and employment-based coverage as policyholder gives the portion of all workers with employer-based coverage through a spouse's or another family member's employer.

had some form of public health insurance. Medicaid was the most important type of public health insurance for workers (about 3.9 percent of all workers). Medicare (which covers some non-elderly workers with disabilities) covered a small share of workers (0.4 percent). Other forms of publicly provided health insurance, including military and veterans' health care, covered about 2.9 percent of workers. The 83.3 percent coverage rate in 2008 left 16.7 percent of all workers, or about 20.6 million workers, without any form of health insurance.

Using our adjusted data series, the decline in overall health-insurance coverage rates is striking. In 1979, 93.5 percent of all workers had some form of health insurance. By 2008, the share of workers with some form of health insurance had fallen 10.2 percentage points, to 83.3 percent of all workers.²⁹ If the overall coverage rate in 2008 had remained at its 1979 level, about 12.6 million more workers would have had some form of health insurance in 2008.

As **Table 4** demonstrates, the main reason for the decline in overall coverage rates was the steep drop in employer-provided health insurance. Between 1979 and 2008, employment-based coverage decreased 12.4 percentage points, including an 11.2 percentage-point decline in own-employer coverage, and smaller declines in coverage through a spouse or other family member's employer. Data on directly purchased health-insurance coverage is only available from 1994, but this form of coverage has also declined. Meanwhile, coverage through public health insurance has increased slightly relative to 1979, after rising in the 1980s, falling in the 1990s, and rising again in the 2000s.

²⁹ Even without adjusting for changes in the survey methodology, coverage rates declined 7.5 percentage points, from 90.8 percent in 1979 to 83.3 percent in 2008.

TABLE 4
Adjusted Health-Insurance Coverage of Workers, Ages 18 to 64, 1979-2008

Year	Health Insurance (Total)	Private Health Insurance				Public Health Insurance			
		Total	Employment-based		Direct purchase	Total	Medicaid	Medicare	Other Public
			Total	Policyholder					
1979	93.5	91.3	87.4	72.3	n.a.	5.9	2.5	0.14	3.5
1980	n.a.	n.a.	88.2	72.8	n.a.	5.8	2.4	0.04	3.7
1981	n.a.	n.a.	88.2	73.0	n.a.	6.5	2.2	0.04	4.4
1982	92.1	90.0	87.6	72.2	n.a.	5.8	1.9	0.04	4.1
1983	92.0	90.0	86.8	71.4	n.a.	5.4	1.7	0.04	3.8
1984	91.0	88.8	85.4	70.0	n.a.	5.8	1.9	0.04	4.1
1985	90.9	88.7	85.4	69.9	n.a.	5.8	2.0	0.04	4.0
1986	90.7	88.4	85.3	69.5	n.a.	5.8	2.0	0.04	4.0
1987	90.3	87.8	84.6	68.8	n.a.	6.0	2.1	0.06	4.0
1988	89.7	87.2	83.6	68.5	n.a.	5.8	2.0	0.06	3.9
1989	89.5	86.0	82.4	67.1	n.a.	6.9	2.2	0.16	4.7
1990	89.0	85.4	81.7	66.3	n.a.	7.0	2.4	0.16	4.7
1991	88.7	84.9	81.5	65.9	n.a.	7.3	2.6	0.26	4.7
1992	87.4	83.4	79.7	64.2	n.a.	7.2	2.9	0.26	4.4
1993	87.2	83.7	79.2	65.6	n.a.	7.3	3.0	0.16	4.3
1994	86.8	83.4	78.9	65.3	8.0	7.1	3.0	0.18	4.2
1995	86.4	83.1	78.6	64.5	7.7	6.5	3.0	0.28	3.6
1996	86.8	83.4	78.9	64.4	6.9	6.7	3.2	0.38	3.4
1997	86.3	83.3	79.2	64.5	6.5	6.0	2.7	0.28	3.2
1998	86.2	83.3	79.3	64.6	6.1	5.8	2.6	0.28	3.1
1999	85.9	83.0	79.0	64.3	5.8	5.7	2.6	0.3	2.9
2000	85.7	83.0	79.1	64.7	5.3	5.4	2.5	0.4	2.7
2001	85.3	82.4	78.4	64.1	5.5	5.4	2.7	0.4	2.5
2002	84.6	81.6	77.4	63.0	5.6	5.8	2.8	0.4	2.8
2003	83.9	80.8	76.6	62.4	5.6	5.9	2.9	0.4	2.8
2004	84.1	80.6	76.1	61.9	5.7	6.8	3.7	0.4	3.0
2005	83.8	80.1	75.6	61.3	5.8	6.8	3.6	0.4	2.9
2006	83.0	79.5	75.1	61.0	5.7	6.5	3.7	0.4	2.7
2007	83.7	79.9	75.4	61.5	5.7	6.9	3.7	0.4	2.9
2008	83.3	79.4	75.0	61.1	5.5	7.0	3.9	0.4	2.9
1979-2008	-10.2	-11.9	-12.4	-11.2	n.a.	1.1	1.4	0.3	-0.6

Notes: See Table 2.

Source: Authors' analysis of CEPR extract of March CPS.

Health-Insurance Coverage by Wage Quintile

We also ordered workers within each year by their hourly wage,³⁰ divided them into five equally sized groups, and applied the same methodology to create broadly consistent coverage series for each of the five wage quintiles.

Table 5 presents the main findings for the two lowest-paid quintiles (1 and 2) and the highest-paid quintile (5). In 2008, total coverage rates varied widely by wage level. In the top quintile, almost 96 percent of workers had health insurance. In the bottom quintile, only about 63 percent of workers had coverage; in the second quintile, about 78 percent had coverage.³¹ The sources of coverage also differ substantially across quintiles. Over 90 percent of workers in the top quintile had coverage through employers (their own employer or a spouse or other family member's employer), compared to about 46 percent of workers in the bottom quintile and about 69 percent of workers in the second quintile.³² Public health insurance was much more important for workers in the bottom quintile (about 12 percent) and the second quintile (about 8 percent) than it was for workers in the top quintile (about 4 percent).³³ The rate for directly purchased private policies, however, was fairly uniform (and low) across all quintiles – between five and six percent in all three quintiles shown in Table 5.³⁴

Using the same adjustment procedure that we applied to the series for all workers, we see declines in coverage rates across all five quintiles, with the biggest losses in the bottom quintiles. **Figure 3** displays the “uninsured rates” (workers with no coverage from any source, obtained by subtracting the coverage rates in Table 5 from 100.0) for each of the five quintiles. In 1979, the top quintile had essentially complete coverage, with the uninsured rate rounding to zero;³⁵ by 2008, the share of workers in the top quintile with no health insurance of any form had increased to 4.4 percent. For the bottom quintile, however, the uninsured rate started higher – about 16 percent in 1979 – and rose more steeply – to 37 percent by 2008. The second quintile also saw large increases in uninsured rates, from about 8 percent in 1979 to about 22 percent in 2008. For workers in the middle quintile, about 5 percent had no private or public coverage in 1979, rising to 12 percent in 2008.

As with the rates for all workers, for each of the quintiles, the most important contributor to the fall in coverage was the steep decline in employer-provided coverage, especially for lower-quintile workers. Between 1979 and 2008, the share of workers in the lowest quintile who had employer-provided health insurance fell about 25 percentage points. In the second quintile, the decline was almost 16 percentage points. Even in the top quintile, employer-provided coverage fell about six percentage points. For workers in the bottom quintile, the decline in employer-provided coverage was about equally divided between workers who lost coverage provided through their own employer (about 13 percentage points) and those who lost coverage through their spouse or other relative's employer (about 12 percentage points). For workers in the second wage quintile, losses in own-

30 We calculated the hourly rate by dividing total earnings from work by the product of total weeks worked last year and the usual hours worked per week.

31 In the middle and fourth quintiles (not shown in table) coverage rates were 88 and 93 percent in 2008, respectively.

32 In the middle quintile, about 81 percent of workers had employer-based coverage; in the fourth quintile, 88 percent.

33 In the middle quintile, about 6 percent of workers had public coverage; in the fourth quintile, 5 percent.

34 In the middle and fourth quintiles, about 5 percent of workers had coverage through directly purchased private plans.

35 Our estimator implies a coverage rate of just over 100 percent for the top quintile in 1982.

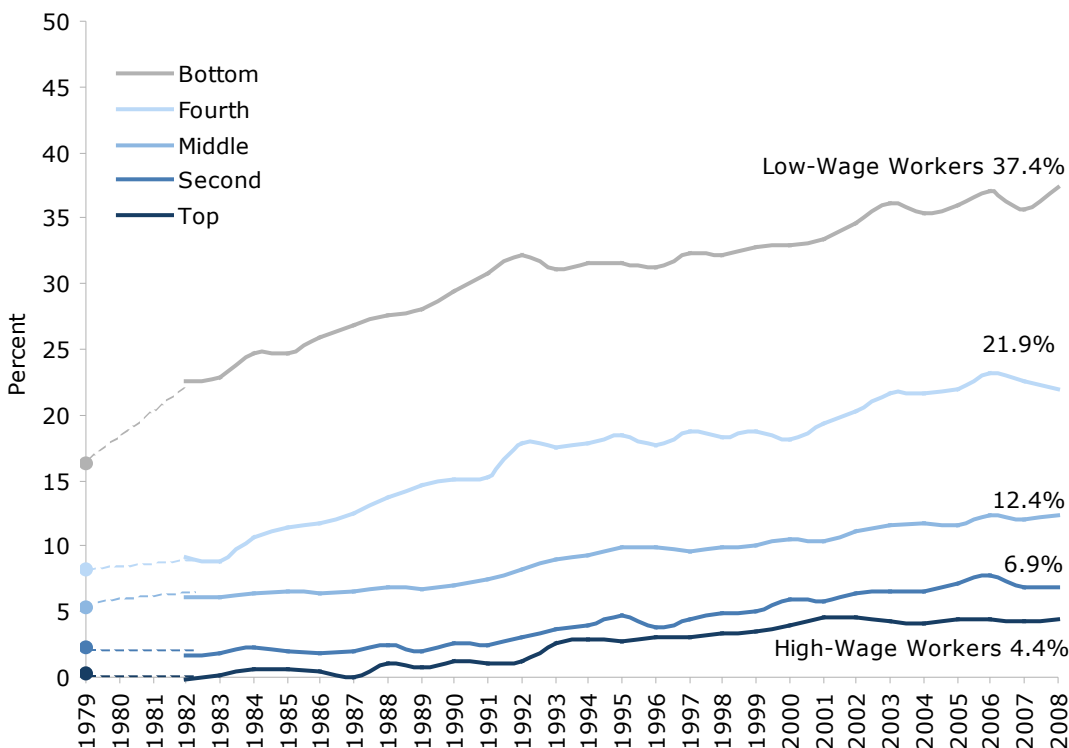
employer coverage (down about 11 percentage points) were more important than those through a spouse or relative’s employer (about 4 percentage points). In the top quintile, however, coverage through a spouse or relative’s employer actually increased almost 7 percentage points, even as own-employer coverage fell about 13 percentage points. Over the period for which data are available, coverage through directly purchased private plans also declined somewhat, and by roughly similar amounts across all quintiles; for the bottom, second, and top quintile, the decline was between 2 and 3 percentage points. By contrast, public coverage increased for all quintiles. The increases in publicly provided insurance were largest for the bottom quintile (up 3.5 percentage points between 1979 and 2008) and smaller for higher quintiles (up just over one percentage point for the second and top quintiles).

TABLE 5
Adjusted Health-Insurance Coverage of Workers, Ages 18 to 64, 1979-2008, by Wage Quintile

Year	Health Insurance (Total)			Private Health Insurance												Public Health Insurance (Total)					
				Total			Employment-based												Direct Purchase		
							Total			Policyholder											
				1	2	5	1	2	5	1	2	5	1	2	5				1	2	5
1979	83.7	91.7	99.7	78.7	89.4	98.8	70.9	84.7	97.0	42.9	65.4	92.0	n.a.	n.a.	n.a.	8.9	6.4	2.7			
1980	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	70.4	86.4	97.9	42.4	66.7	92.4	n.a.	n.a.	n.a.	8.8	6.4	2.9			
1981	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	69.5	86.5	98.4	41.9	66.7	93.2	n.a.	n.a.	n.a.	8.8	7.2	4.1			
1982	77.4	90.9	100.2	72.4	88.6	99.3	67.4	85.9	98.6	39.9	65.8	93.0	n.a.	n.a.	n.a.	7.9	6.2	3.4			
1983	77.2	91.1	99.8	72.5	89.0	99.1	65.7	84.8	98.2	38.2	65.5	92.3	n.a.	n.a.	n.a.	7.5	5.7	3.2			
1984	75.3	89.3	99.4	69.8	87.0	98.6	63.1	83.1	97.4	36.0	63.8	91.3	n.a.	n.a.	n.a.	8.4	6.4	3.4			
1985	75.4	88.5	99.4	69.6	86.3	98.6	62.8	82.6	97.4	35.5	63.3	91.3	n.a.	n.a.	n.a.	8.9	5.7	3.5			
1986	74.1	88.2	99.5	68.3	86.0	98.5	61.8	82.0	97.9	35.2	62.0	91.1	n.a.	n.a.	n.a.	8.8	6.0	3.4			
1987	73.2	87.5	99.4	67.0	85.0	98.3	60.5	80.9	97.6	34.3	61.1	90.5	n.a.	n.a.	n.a.	9.1	6.3	3.4			
1988	72.4	86.3	99.0	66.3	84.0	98.0	59.0	79.0	97.3	34.6	60.4	89.8	n.a.	n.a.	n.a.	8.7	6.0	2.9			
1989	72.0	85.4	99.3	64.7	81.6	97.7	58.0	77.2	96.5	33.6	58.7	88.6	n.a.	n.a.	n.a.	10.1	7.5	3.9			
1990	70.6	84.9	98.9	62.9	80.9	97.4	56.2	76.3	96.0	32.7	56.9	87.6	n.a.	n.a.	n.a.	10.5	8.1	4.0			
1991	69.3	84.7	99.0	61.2	80.3	97.5	55.0	76.1	95.9	31.8	57.2	87.3	n.a.	n.a.	n.a.	10.9	8.5	3.7			
1992	67.9	82.2	98.8	59.1	77.8	97.2	52.8	72.9	95.3	30.8	55.2	86.0	n.a.	n.a.	n.a.	11.5	8.0	3.7			
1993	69.0	82.5	97.5	61.0	78.8	96.1	53.3	73.6	93.3	33.7	58.2	85.2	n.a.	n.a.	n.a.	11.6	8.1	4.2			
1994	68.5	82.1	97.2	60.5	78.5	95.9	52.7	73.3	92.9	33.7	58.0	84.5	8.4	8.5	8.3	11.7	8.0	4.1			
1995	68.5	81.5	97.3	60.3	78.2	96.2	53.1	73.0	93.2	34.0	57.0	83.7	7.8	8.3	7.8	11.2	7.3	3.3			
1996	68.7	82.3	97.0	60.1	78.7	95.9	52.5	73.7	92.8	33.9	56.8	83.5	7.0	7.4	6.8	11.9	7.7	3.2			
1997	67.7	81.2	97.0	59.7	78.1	96.1	52.7	73.7	93.1	33.8	57.4	83.2	6.6	6.6	6.8	11.2	7.0	2.8			
1998	67.8	81.7	96.7	60.1	78.7	95.9	53.2	74.3	93.0	33.1	57.6	82.9	6.2	6.4	6.7	10.9	6.4	2.8			
1999	67.3	81.3	96.5	59.6	78.3	95.8	52.8	74.0	92.9	32.8	57.3	82.5	5.9	6.0	6.4	10.8	6.2	2.7			
2000	67.0	81.9	96.0	59.7	79.2	95.4	52.7	74.9	92.9	32.9	58.6	82.4	5.7	5.3	5.2	10.1	5.8	2.7			
2001	66.6	80.7	95.5	59.3	77.5	94.7	52.1	73.1	91.9	33.0	57.4	81.1	5.9	5.5	5.6	10.1	6.2	3.0			
2002	65.4	79.8	95.5	57.9	76.3	94.6	51.0	71.9	91.3	32.4	56.1	80.7	5.7	5.3	6.3	10.6	6.4	3.0			
2003	63.9	78.3	95.7	55.8	74.8	94.9	48.9	70.7	91.8	31.4	55.0	80.7	5.8	5.1	5.7	10.9	6.6	3.1			
2004	64.7	78.4	95.9	56.2	73.9	94.9	48.7	69.3	91.3	30.9	54.0	79.8	5.8	5.5	6.4	11.7	8.0	3.7			
2005	64.0	78.0	95.6	55.0	73.8	94.6	48.1	68.7	91.1	30.8	52.5	79.5	5.7	5.8	6.2	12.3	7.3	3.9			
2006	62.9	76.8	95.6	54.3	72.7	94.6	47.5	68.4	90.8	30.2	53.4	79.2	5.8	5.1	6.4	11.6	7.5	3.6			
2007	64.4	77.5	95.7	55.2	73.0	94.6	48.1	68.2	90.7	31.0	54.1	79.2	5.7	5.3	6.5	12.4	7.6	3.7			
2008	62.6	78.1	95.6	53.3	73.5	94.3	46.1	69.0	90.9	29.8	54.1	79.1	6.0	5.2	5.7	12.4	7.7	4.1			
1979-																					
2008	-21.1	-13.6	-4.1	-25.4	-15.9	-4.5	-24.8	-15.7	-6.1	-13.1	-11.3	-12.9	n.a.	n.a.	n.a.	3.5	1.3	1.4			

Source: Authors' analysis of CEPR extract of March CPS. Notes: See Table 2.

FIGURE 3
Workers Without Any Health Insurance, Ages 18 to 64, 1979-2008



Source: Authors' analysis of CEPR extract of March CPS.

Conclusion

Since March 1980, when the CPS began to ask respondents about their health-insurance coverage, the CPS has undergone a series of methodological changes. The most important of these changes have increased the ability of the survey to identify respondents with health insurance. The improvements in the accuracy of the survey are welcome, but make tracking changes in coverage rates over time more difficult.

We propose and implement a simple adjustment to data from older versions of the CPS, which allows us to put historical data on a basis that is broadly consistent with estimates from the current version of the survey. Our new estimates suggest that between 1979 and 2008, health-insurance coverage rates for workers age 18 to 64 fell substantially, primarily because of a decline in employer-provided coverage. The fall in coverage rates was most dramatic for low- and middle-wage workers.

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