Job Loss and Health Insurance in the Great Recession

Evidence on the ARRA COBRA Subsidy
from the Survey of Income and Program Participation

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Abstract

Data from past recessions suggest that for each one percentage point rise in the U.S. unemployment rate, the uninsured population expands by over one million. To strengthen the safety net amidst the Great Recession, the American Recovery and Reinvestment Act provided a 65% subsidy to aid involuntary job losers in paying for continued health insurance coverage through their former employers (COBRA). Between March 2009 and May 2010, most workers with employer-sponsored health insurance who lost jobs involuntarily were offered COBRA at a significantly reduced price for up to 15 months. Using nationally representative panel data from the Survey and Income and Program Participation, I evaluate the ARRA COBRA subsidy's effectiveness in preventing health insurance loss for involuntary job losers in the recession. I find that workers laid off while the subsidy was available were 20% less likely to lose health insurance compared to others laid off since mid-2008.

INTRODUCTION

Because the provision of health insurance in the United States is largely relegated to employers, the dramatic rise of unemployment during recessions threatens the well-being of the population above and beyond employment and earnings losses. Job losses frequently trigger loss of insurance coverage for laid-off workers and their families (Gruber and Madrian 1997; Kapur and Marquis 2003). Being uninsured poses significant risks, both health and financial. Uninsured individuals face cost-related barriers to medical care, and are vulnerable to accruing burdensome debt in the event of an unforeseen illness or injury. Furthermore, because spells of unemployment frequently coincide with tightened family budgets and aggravated health problems, the uninsured unemployed may be a particularly vulnerable group (Burgard, Brand and House 2007; Dorn 2009).

Three possible strategies may mitigate or eliminate the problem of health insurance loss following job loss in an employer-based insurance regime: to decouple health insurance coverage from employment (for example, by adopting universal government-provided or subsidized insurance); to provide temporary health insurance coverage as an additional component of unemployment compensation; or to permit job losers to temporarily purchase employer-based health insurance at group insurance rates.

Since 1987, the United States has adopted the third approach through a federal law known as COBRA. The Consolidated Budget Omnibus Reconciliation Act of 1985 (COBRA) grants most workers who lose or leave their jobs the option to purchase a temporary extension of their employer-based group health insurance for up to eighteen months. While COBRA and similar state laws have alleviated the problem somewhat (Berger et al. 1999; Gruber and

Madrian 1997; Klerman and Rahman 1992), this coverage remains financially out-of-reach for many of the unemployed.

To strengthen the safety net for working families amidst the Great Recession, Congress established as part of the American Recovery and Reinvestment Act (ARRA) a subsidy to aid involuntary job losers in paying for continued health insurance coverage through their former employers. ARRA offered workers who involuntarily lost jobs between February 17, 2009 and May 31, 2010 a 65% subsidy for COBRA premiums, significantly reducing the price of continuation coverage for up to 15 months. (Workers who had lost jobs between September 1, 2008 and February 16, 2009 also became subsidy-eligible after ARRA's passage.) To receive the subsidy, workers had to be insured through their employers at the time of job loss, have neither access to alternative employer-based group insurance (e.g., through an employed spouse) nor Medicare, and fall below income eligibility thresholds (below $125,000 AGI for full premium, or below $250,000 if filing jointly).

Using nationally representative panel data from the Survey and Income and Program Participation, I evaluate the ARRA COBRA subsidy's effectiveness in preventing health insurance loss for involuntary job losers in the recession. Using a difference-in-differences approach, I show that exiting a job during the main eligibility window for the COBRA subsidy (March 2009 – May 2010) is associated with a decreased likelihood of health insurance loss and an increased likelihood of COBRA take-up for involuntary job losers (who were eligible for the subsidy) but not voluntary job separators (who were not eligible for the subsidy). Involuntary job losers most likely to benefit from the subsidy included workers with at least some college education, those with before-job-loss incomes of more than twice the poverty line (not low-income), and married individuals or childless singles (not singles with children). A survival

analysis demonstrates workers laid off while the subsidy was available were 20% less likely to lose health insurance compared to others laid off since mid-2008; little of the difference is accounted for by observable characteristics.

BACKGROUND

Job Loss and Health Insurance

Employers in the U.S. serve as the primary providers of health insurance, covering between 55% and 60% of the population in the past five years (DeNavas-Walt, Proctor and Smith 2007, 2008, 2009, 2010, 2011). As a result, job loss frequently triggers health insurance loss, although there is some disagreement regarding the size of this effect. Past studies have yielded estimates of the proportion of workers who become uninsured due to job loss ranging from 8% to as high as 40%, variation likely deriving from the economic climates, time periods and regions captured by the various studies (Berki et al. 1985; Gold, McEachern and Santoni 1984; Gruber and Madrian 1997; Klerman and Rahman 1992; Monheit et al. 1984). Despite the precise size of this effect, job separation is the primary reason for loss of insurance coverage in the U.S. (Glied 2001; Kapur and Marquis 2003).

As such, when the Great Recession which officially started in December 2007 began gaining strength, helping laid off workers maintain health insurance coverage became a pressing concern. As the unemployment rate doubled from 5.0% in December of 2007 to a high of 10.1% in October 2009, the falling economy exposed hundreds of thousands of workers to the risk of health insurance loss (BLS 2012).

COBRA

The Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA) requires that most employers offer eligible employees and their dependents the option to temporarily continue

employer-provided health insurance coverage (including medical, dental, vision, and prescription drug plans) for a period of time after an event which would otherwise terminate coverage (Bacon and Tucker 2010).[1] Most workers covered by an employer's group health insurance plan the day before job separation (voluntary or involuntary) can purchase COBRA for up to 18 months. COBRA is generally retroactive to the end of the month in which the job loss occurred (or to the date the worker's insurance would otherwise cease).[2]

Despite the growth in health care costs in recent decades and the cost-shifting of insurance premiums from firms to workers, employer-based health insurance continues to be heavily subsidized by employers. In 2010, workers paid 19% of total premiums for single coverage—on average, $80 per month—and 30% of total premiums for family coverage (see Table 1). In contrast, COBRA premiums are not subsidized by employers; laid off workers (or voluntary job separators) pay the total premium plus a two percent fee to offset administrative costs. Table 1 compares average 2010 COBRA premiums, separately for single and family coverage, with premium costs paid by workers who receive equivalent employer-provided coverage. In 2010, (unsubsidized) COBRA premiums were three to five times the premiums paid by current employees.

Table 1. Comparison of Health Insurance Costs 2010

	Employer-Provided	COBRA	Subsidized COBRA
Single Coverage	19%	102%	36%

[1] COBRA qualifying events include involuntary job loss (for reasons other than gross misconduct), voluntary job separation, and reduction in work hours. Dependents also become eligible for COBRA upon death or divorce of the employee or loss of eligibility of a dependent child. The federal COBRA law applies to private-sector employers with 20 or more employees, employee organizations/unions, and state and local governments, but exempts the federal government, small employers, and church-related organizations. However, workers of the federal government and in forty states, small employers, are covered by similar laws. Because the ARRA COBRA subsidy was made available to job losers covered under federal COBRA or similar laws, COBRA coverage in this abstract refers to continuation coverage under any of these laws (Bacon and Tucker 2010).

[2] The two exceptions to retroactive coverage occur when a former employee declines coverage and then changes his mind within the 60-day election period; and when individuals retroactively elect subsidized COBRA under second chance elections permitted by ARRA; see next section.

	$80	$429	$150
Family Coverage	30% $344	102% $1170	36% $410

Note: Table displays average percentage of total health insurance premium, and average monthly premium amount, paid by employees (employer-provided coverage) and former employees (COBRA and subsidized COBRA). Subsidized COBRA price: 36% = 35% (price mandated under ARRA) × 102% (standard unsubsidized COBRA premium = full premium + 2% administration fee). Source: Author's calculations from the 2010 Kaiser/HRET Employer Health Benefits Survey.

While COBRA offers one option for laid off workers to maintain insurance coverage, this option is prohibitively expensive for many. The average unemployed worker would need to spend roughly one-third of his monthly unemployment check to purchase COBRA for himself and more than four-fifths of his check to cover himself and his family (Families USA 2009; DOL 2012). Although typical COBRA take-up rates are relatively low (frequently cited at around 20%), the availability of COBRA has a significant protective effect on health insurance coverage for job losers and the unemployed (Berger et al. 1999; Flynn 1992, 1994; Kapur and Marquis 2003; Madrian 1998; Spencer's Benefit Reports 2006). Nevertheless, many laid off workers remain vulnerable to insurance loss.

The COBRA Subsidy

In order to expand the protective capacity of COBRA, the American Recovery and Reinvestment Act established a temporary COBRA premium subsidy for workers who lost jobs involuntarily. The federal government committed to cover 65% of COBRA premiums for "assistance-eligible individuals" for months of coverage starting on or after February 17, 2009, for up to 15 months. Employers were legally obligated to notify assistance-eligible individuals of their right to elect subsidized COBRA coverage (or to pay reduced premiums for ongoing COBRA coverage) and were permitted to reclaim lost premium revenues through a refundable payroll tax credit. Subsidies reduced the cost of COBRA premiums substantially; in 2010,

subsidized COBRA premiums cost approximately $150 and $410 monthly for individual and family coverage, respectively, a savings of hundreds of dollars compared to unsubsidized COBRA (see Table 1, above).

COBRA subsidies were made available to two primary types of assistance-eligible individuals: (1) *standard eligibles* are workers (and dependents) who became both COBRA-eligible and COBRA-subsidy-eligible when they experienced an involuntary job loss between the date of ARRA's passage, February 17, 2009, and May 31, 2010; and (2) *delayed eligibles* are workers (and dependents) who became COBRA-eligible when they experienced an involuntary job loss between September 1, 2008 and February 16, 2009 and became COBRA-subsidy-eligible after ARRA was passed. In addition to qualifying for one of these two categories, assistance-eligible individuals had to be ineligible for other forms of group health insurance coverage (e.g., through an employed spouse) and Medicare, and fall below income-eligibility thresholds (see Table 2).

Table 2. Key Eligibility Requirements for the COBRA Subsidy

Requirement	Details
Involuntary job loss in eligible period	Experience job loss in delayed eligibility window (Sept. 1, 2008 – Feb. 16, 2009) or standard eligibility window (Feb. 17, 2009 – May 31, 2010)
Employer-sponsored health insurance before job loss	Insured under his or her own employer's group health insurance plan on the date of job loss
No alternatives for group coverage	Not eligible to enroll in another group health insurance plan such as through the employer of a spouse or other family member
Not eligible for Medicare	Not eligible for Medicare (not older than 65 or permanently disabled)
Income-eligible	*For full subsidy:* < $125,000 AGI (< $250,000 AGI if filing jointly) *For reduced subsidy:* $125,000 - $145,000 AGI ($250,000 - $290,000 if filing jointly)

[TABLE 3 ABOUT HERE]

Table 3 portrays the timing and duration of COBRA and COBRA subsidy eligibility, by date of job loss. Standard eligibles were given the option to purchase subsidized COBRA for up to 15 months (including months past the sunset date of May 31, 2010); they were charged the full premium for months of COBRA exceeding 15 months (up to three). Retroactive eligibles could receive subsidized COBRA coverage up to 15 months or until the expiration of their original 18-month COBRA eligibility period starting from date of job loss. Premiums for past months of COBRA coverage were not reimbursed with retroactive subsidies. Delayed eligibles who either had not elected COBRA at time of job loss, or who had elected COBRA but subsequently dropped coverage or failed to pay premiums, were given another chance to elect it after ARRA passed.[3]

Data from several human resources and business services firms which administer COBRA benefits report widely varying estimates of the increase in COBRA take-up rates after ARRA was passed, likely due to differences in wages and other worker characteristics represented served by each firm (Bovbjerg et al. 2009). Hewitt reported a near doubling in COBRA take-up (among all COBRA eligibles, not specifically those qualifying as "assistance-eligible" for the COBRA subsidy) from 19% to 39%, Ceridian reported a smaller increase from 12% to 18%; and Aon reported only a slight increase from 14% to 16% (Bovbjerg et al. 2009). A small-scale survey study of New Jerseyans receiving unemployment insurance in 2009 conducted by the Department of the Treasury found that only between one-quarter and one-third of unemployed workers eligible for the COBRA subsidy had enrolled in COBRA after job loss (U.S. Treasury Department 2010). Tabulations from the Congressional Budget Office (2010) also found that federal budget losses in 2009 due to the COBRA subsidy were smaller than anticipated.

[3] In this case, coverage was retroactive to March 1, 2009 not to date of job loss.

Current Investigation

The primary purpose of the current study is to gauge the extent to which subsidies for COBRA can help laid off workers maintain health insurance coverage. This question deserves consideration for at least two reasons.

First, one of the major provisions of the Affordable Care Act (ACA), Obama's health care reform law passed in March 2010, provides subsidies for health insurance. The blueprint for the ACA includes access to Medicaid for families up to 133% of the federal poverty line and subsidies for families up to 400% of the federal poverty line to purchase insurance coverage on the private market through new state-run health insurance exchanges. The size of these subsidies will vary by family income, but the premium expenditures of families up to 400% of the federal poverty line will be no greater than ten percent of family income (lower percentage threshold for lower-income families). Understanding the extent to which and for whom the ARRA COBRA subsidy was effective may help predict the successes and failures of the subsidies to be provided under the ACA.

Second, health insurance instability following job loss and other life transitions will continue to pose an issue even after the major provisions of the ACA go into effect in 2014. Although the ACA subsidies may facilitate access to affordable health insurance through Medicaid or health insurance exchanges, it remains to be seen how seamless the transitions will be between group coverage and these alternatives. Families below 400% of the federal poverty

line will have access to subsidies (or Medicaid below 133% of F.P.L.), but the detailed rules about how and when income level is measured are yet to be written. Many rules that one might imagine have at least a short lag between loss of an income source and eligibility for insurance subsidies through health exchanges. (For example, in many states eligibility for unemployment insurance compensation is determined by "base periods" that omit earnings history from the most recent quarter due to administrative difficulty of verifying recent earnings information.) For this reason, policymakers still need to consider the effectiveness of policies that help workers maintain health insurance over job (and other) transitions, including that of COBRA subsidies.

In this paper, I use longitudinal data from the Survey of Income and Program Participation to examine the frequency with which laid off workers lose health insurance coverage in the months after layoff, and the extent to which the ARRA COBRA subsidy helped to reduce the loss of insurance coverage after layoff. To gauge the COBRA subsidy's effectiveness at helping workers maintain health insurance after job loss, I utilize a difference-in-difference strategy: I compare the gaps in health insurance coverage and the prevalence of coverage through a former employer (a proxy for COBRA coverage) within and outside of the standard eligibility window for the subsidy, separately for involuntary job losers (eligible for the COBRA subsidy) and voluntary job separators (ineligible for the COBRA subsidy). I also utilize discrete-time hazard models that compare the cumulative probability of experiencing gaps in coverage after job loss, for workers laid off within and outside of the standard eligibility window for the COBRA subsidy (with multivariate controls for any changes to the composition of the population of job losers across time).

The total effect of the COBRA subsidy on the population is effectively a weighted average of the effect of the subsidy in different population subgroups. Therefore, the estimated

total effect may be diluted by inclusion of the population subgroups in which the effect was small or nonsignificant. There is reason to expect significant heterogeneity in the ability and desire to elect subsidized COBRA. Key factors in the decision may include price of COBRA (both absolute and relative to price paid as an employee or to expectations); alternative sources of household income (including unemployment insurance, spouse/partner's income, severance package from employer, if any); assets/wealth; availability of alternative sources of coverage; job prospects/expected duration of unemployment; age and health status; and availability of local options for low-cost out-of-pocket health care (e.g. safety net providers; Bovbjerg et al. 2010). I expect that individuals most impacted by the COBRA subsidy—that is, who experience the greatest increase in their probability of electing COBRA and maintaining health insurance coverage after job loss, compared to what their probabilities would have been in the absence of the COBRA subsidy—would include moderate-income workers with a second earner in the household (without own employer-based health insurance) or with sufficient savings or other assets. High-income workers are likely to maintain health insurance coverage even in the absence of the COBRA subsidy, and low-income workers may either apply for Medicaid or do without coverage, as even subsidized COBRA may prove too expensive. Moderate-income workers with other income or savings resources may find that the decline in the price of COBRA brings this temporary health insurance protection into reach.

DATA AND METHODS

Data

I use data from the Survey of Income and Program Participation (SIPP), a series of large nationally representative panel surveys administered by the U.S. Census Bureau that follow sampled households over a three- to four-year period. Every four months for the duration of the

panel, respondents report on demographic characteristics, labor force participation, health insurance coverage, and income and benefit levels for each month since the prior interview. Most analyses presented in this paper limit the sample to workers who experience involuntary job loss during the waves of the 2008 SIPP panel available as of April 2012 (Waves 1 – 8, covering the period of May 2008 through March 2011).

The SIPP is the strongest nationally representative dataset in which to evaluate the impact of the COBRA subsidy. The longitudinal nature of the SIPP allows me to observe the timing of employment transitions and to examine how health insurance responds to job loss inside and outside of the eligibility window for the COBRA subsidy. The large sample size of the SIPP allows me to observe a relatively large number of involuntary job losses across survey months. In the 2008 SIPP panel, I observe 644 involuntary job losses to workers with employer-based health insurance before the COBRA subsidy was available (06/08-01/09), 921 during the standard eligibility window for the COBRA subsidy (02/09-05/10), and 287 after the COBRA subsidy eligibility window closed (06/10-03/11; will grow larger as more waves of data are released). Additionally, the SIPP records important data on federal benefit receipt, including unemployment insurance and SNAP (formerly food stamps) on a monthly basis, which is essential to isolate the impact of the COBRA subsidy on health insurance coverage, net of other policy changes under ARRA.

Along with SIPP's strengths, there are two limitations of the SIPP dataset to consider: measurement of health insurance coverage, and seam bias. First, the core wave interviews do not identify COBRA health insurance directly. I follow Fronstin (2010) in counting private health insurance received through a former employer by workers below age 55 as a proxy for COBRA coverage. The vast majority of health insurance received through a former employer includes

retiree coverage and COBRA coverage. By limiting the sample to workers under the standard early retirement age, we can be confident that nearly all former employer coverage is COBRA. Some respondents may alternatively report COBRA in the "other" category rather than as coverage through a former employer. Additionally, the former employer coverage measure is only available at the time of each survey interview, rather than monthly. Because of this, I can only identify months of COBRA that occur in the wave(s) following job separation, not in a wave in which job separation occurs. ("Former employer" coverage reported in the same wave of job separation may reflect retrospective reporting of having received employer-based coverage while employed earlier in the wave.) For these reasons, the measure I use undercounts COBRA coverage.

Second, the SIPP's data collection structure produces a measurement error problem known as seam bias. Disproportionate numbers of employment, health insurance, and other transitions occur at seam months—the first and last month reported on in each survey wave—due to respondents' 'lumping together' of retrospectively reported data. In the context of this topic, seam bias may make it difficult to assess quantities like the precise duration of COBRA benefits. However, the seam bias does not pose an obvious difficulty to evaluating the effectiveness of the COBRA subsidy, since there is no reason to believe it operates differently for laid-off workers eligible for the subsidy compared to those not eligible for the subsidy. Additionally, my measures of gaps of health insurance and COBRA take-up collapse responses across a 4-month period, which will more likely capture true changes in underlying variables in the presence of seam bias relative to measures referring to a shorter period.

Measures

The definitions of variables for this study are presented in Table 4. Job separation is defined as a transition between consecutive months from holding a job (either full- or part-time) to not holding a job. Analyses limit the sample to job separators who had received health insurance from their own employers within a four-month period prior to job separation. The presence of any insurance coverage is tracked in each month following job loss. One set of measures examines the occurrence of any gaps in coverage within a four-month period after job loss. A job separator has experienced a gap in coverage within this period if he or she reports ever being uninsured in the month of job loss, or in the first through fourth months following job loss. As mentioned previously, in the wave of job loss, COBRA receipt cannot be distinguished from receipt through the employer held while on the job. Therefore, I examine whether a worker reports ever reports coverage through a former employer within 5 to 8 months following job separation. This will undercount COBRA, as evidence from past studies indicates that many workers who elect COBRA keep it for a short period. However, this measure will not be diluted with current employer coverage. The utilization of a measure which undercounts COBRA to gauge the relative magnitude of COBRA take-up rates for workers eligible and not eligible for the COBRA subsidy should bias estimates of the subsidy's effectiveness downward.

[TABLE 4 ABOUT HERE]

Table 5 presents descriptive characteristics of laid-off workers with employer-based health insurance before job loss (specifically, in any of the four months before job loss), by eligibility window for the COBRA subsidy. Results demonstrate some compositional differences between the workers laid off in different eligibility windows. In particular, there are many compositional differences between the laid off workers we observe in earlier SIPP panels (1996, 2001, and 2004 panels) compared to those in the 2008 SIPP panel. Workers laid off in the earlier

panels were laid off in stronger economic environments (lower national unemployment rate); they were disproportionately female, and more likely to have children; they were more likely to be white; they had lower hourly wages, were less likely to receive unemployment insurance, and received less unemployment insurance when they did. For this reason, workers laid off in other panels may not serve as a suitable comparison to workers laid off in the Great Recession and the remainder of the 2008 panel. As such, the further analyses rely only on observations from the 2008 SIPP panel.

[TABLE 5 ABOUT HERE]

We also see minor compositional differences between workers laid off in the standard eligibility window (March 2009 – May 2010) and the remainder of the 2008 panel. In particular, my analyses of the 2008 SIPP panel indicate that workers laid off in the standard eligibility window are more likely to be college-educated than workers laid off in the delayed eligibility window and have higher hourly wages. Both of these factors might cause the workers laid off in the standard eligibility window to have more favorable health insurance experiences following job loss even in the absence of the COBRA subsidy. The multivariate survival analysis in the results section controls for these observed differences between the two groups.

Analytic Approach

To determine whether the implementation of the COBRA subsidy is associated with increased COBRA take-up and declines in health insurance loss for laid-off workers, I examine the SIPP data in two primary ways: by timing of job loss (continuous calendar months), and by subsidy eligibility (job loss occurs within vs. outside of subsidy window).

First, I examine the experiences of individual job separators, comparing how health insurance changes following job separation differ depending on the timing of job loss (job loss occurs within vs. outside of subsidy window).

Second, I dichotomize the timing of job loss by the availability of COBRA subsidies treatment into two categories—standard eligibles (job separation occurred between March 2009 and May 2010) and outside of the standard eligibility window (job separation occurred before March 2009 or after May 2010). (Exploratory modeling of the data indicated that the health insurance experiences of workers who separated from jobs between September 2008 and February 2009—the delayed eligibles—more closely mirrored those of the non-eligibles than of the standard eligibles.) If the COBRA subsidy indeed increased COBRA take-up and decreased loss of coverage, then we should observe that the health insurance response following job loss differs for workers who separate from jobs while subsidies were available compared to those who separate from jobs at other times (as well as compared to those who separate while subsidies were available but were not eligible for the COBRA subsidy). The longitudinal SIPP data allow me to do just that.

RESULTS

By Month of Job Loss

The following two graphs compare COBRA receipt and gaps in health insurance coverage after involuntary job loss (to workers 26-54 with employer-based health insurance before job loss), by the month in which job loss occurred. The vertical lines in each graph display the months bounding the standard eligibility window for the COBRA subsidy; most workers laid off inside this region were given the option to purchase COBRA at a significantly reduced price.

[FIG. 1 ABOUT HERE]

Figure 1 shows 3-month moving averages of receipt of COBRA several months following job loss. A trend is difficult to detect, but there appears to be a slight increase in the proportion of laid off workers receiving COBRA several months after job loss. Because past studies show that people who elect COBRA tend to keep it for only a short period, it is likely that if the SIPP contained appropriate measures of COBRA take-up immediately following job loss, we might see a clearer jump in COBRA receipt for workers laid off while subsidies were available.

[FIG. 2 ABOUT HERE]

To get at this question indirectly, we can examine the proportion of laid off workers who experience gaps in insurance coverage within a short period following job loss (see Fig. 2). Here we see a clear dip in the probability of losing health insurance coverage after job loss that corresponds well to the onset of the COBRA subsidy. The probability appears to return to its baseline level after the sunset date for the subsidy (May 2010; although it is unclear why the probability gradually climbs back to this point rather than stair-stepping up to it right at the time when the subsidy expires).

The sample sizes to construct estimates in each month are fairly low, in most months below 50 with very few months at the very beginning and end of the time series. For this reason, I present three-month moving averages. Even so, there is substantial noise in the data which prevents me from doing more of a formal regression discontinuity analysis of the effect of the COBRA subsidy. In the remaining sections, I dichotomize the treatment into within the main COBRA subsidy eligibility window and outside of the window.

By Subsidy Eligibility

The major changes in the economic context over the period preceding, during, and following the COBRA subsidy's implementation confound a direct comparison of the health post-job-loss health insurance experiences for workers laid off within and outside of the COBRA subsidy eligibility window. One way to address this problem is to compare the observed differences between these two eligibility windows (based on timing of job separation), for two groups of job separators—involuntary job separators and voluntary job separators. Involuntary job separators and voluntary job separators experienced the same changing economic context (and other secular time trends including expanding public knowledge of COBRA, rising health care costs, etc.), but involuntary job separators became eligible for the COBRA subsidy during the eligibility window whereas voluntary job separators did not.

I conduct a difference-in-difference analysis comparing the difference in incidence of gaps in insurance coverage following job separation and receipt of COBRA several months after job separation by subsidy eligibility window for voluntary and involuntary job separators. As predicted, exiting a job during the main eligibility window for the COBRA subsidy (March 2009 – May 2010) is associated with decreased likelihood of health insurance loss and increased likelihood of COBRA take-up, for involuntary job losers but not voluntary job separators. (See Fig. 3.). This difference-in-difference analysis suggests that the COBRA subsidy may have increased COBRA take-up and decrease the probability that laid-off workers experienced gaps in health insurance coverage following job loss. (Survival analyses controlling for changing composition of involuntary workers across time follow.)

[FIG. 3 ABOUT HERE]

Which workers were most likely to benefit from the subsidy? The decision whether or not to take-up COBRA and utilize the subsidy will be dependent on a range of factors. Some laid-off workers may have had better alternative options, such as switching to a spouse's health insurance policy. Some workers with extremely limited resources (especially those with children) become eligible for Medicaid following job loss; others may become uninsured as subsidized COBRA remains unaffordable. To examine this heterogeneity, I compared the proportion of laid off workers who experience gaps in health insurance coverage within a four-month window after job loss, by eligibility for the COBRA subsidy, and by a number of demographic characteristics (see Fig. 4). The results show that those who benefitted from the COBRA subsidy were more advantaged laid off workers, including those with at least some college education (no effect for those with high school or less education) and those with pre-job-loss incomes of more than 200% of the federal poverty line (no effect for low-income workers). Both these groups have greater levels of resources, higher levels of savings and higher levels of unemployment insurance, which may make subsidized COBRA an attractive option. More than two-thirds of low-income workers and those with high school or less education insured through an employer experienced at least one gap in health insurance in the four months following layoff, and the COBRA subsidy did not ameliorate this problem. Married workers and those with at least one adult earner in the household did benefit from the subsidy. These groups may also have had sufficient resources to purchase subsidized COBRA. Childless singles were another group to benefit, in contrast to singles with children.

[FIG. 4 ABOUT HERE]

I also find that the workers most likely to experience a decline in their probability of health insurance loss during the COBRA subsidy eligibility period are workers with incomes greater than 300% of the federal poverty line. Figure 5 displays estimates of health insurance loss following layoff health insurance loss by pre-layoff family income. The graph displays a running average of the probability of health insurance loss within 4 months of layoff for all laid off workers within a bandwidth of 50% income:poverty ratio. Although there appears to be some small effect on lower-income workers as well, the effect in this region is not statistically significant.

[FIG. 5 ABOUT HERE]

The last set of analyses moves away from dichotomizing the outcome—any gap in health insurance coverage within 0-4 months following job loss—and utilizes discrete-time hazard models to examine the cumulative risk of experiencing at least one gap in health insurance coverage in the months following job loss. The results show that many workers—more than half—lose health insurance following job loss (at least temporarily) both in the presence and the absence of the COBRA subsidy (see Fig. 6). Most of the risk of health insurance loss is in the first couple of months after job loss. Workers laid off during the main eligibility window for the COBRA subsidy (March 2009 – May 2010) were 20% less likely to lose coverage ($e^{-0.2299} = 0.795 = 1-0.205$). This effect remains marginally significant and roughly the same magnitude after controlling for observable compositional differences in the characteristics of laid off workers in the two eligibility windows, including time-varying receipt and amount of unemployment insurance.

[FIG. 6 ABOUT HERE]

[TABLE 6 ABOUT HERE]

[TABLE 7 ABOUT HERE]

DISCUSSION

My results provide evidence that the temporary COBRA subsidy program implemented under ARRA increased the COBRA take-up rate, and decreased the risk of health insurance loss for targeted job losers in the great recession. Specifically, I find that involuntary job losers who received health insurance through their employers before job loss were more likely to take-up COBRA and less likely to lose insurance coverage after job loss if their date of job loss fell within the standard eligibility window for the COBRA subsidy. No similar impact was detected for a comparison group of involuntary job separators, who were eligible for COBRA but not the COBRA subsidy following job loss.

Discrete-time hazard models find that in total, the risk of insurance loss after layoff is approximately 20% lower for workers laid off during the main eligibility window for the COBRA subsidy (March 2009 – May 2010) compared to those laid off in other months of the 2008 SIPP panel. Multivariate models which control for observable differences between the two groups, including amount of unemployment insurance received, demonstrate little decline in the estimate of this effect.

Any optimism regarding the effectiveness of the COBRA subsidy should tempered by the fact that even when present, more than half of laid off workers experience at least one gap in insurance coverage in the months following layoff. After an income shock such as job loss, committing $150 per month (the average premium for individual coverage of *subsidized* COBRA) for health insurance premiums remains unaffordable for many.

This sheds positive light on the structure of subsidies under the Affordable Care Act; starting in 2014, the size of subsidies to help families purchase coverage will be *contingent on*

family income. People with family income below 133% of the poverty line will be able to enroll in Medicaid (and required to contribute no more than 2% of family income to premium costs). The federal subsidies will decline as income rises, but no family up to 400% of the poverty will be expected to contribute more than 9.5% of family income on health insurance premiums (the remainder will be subsidized if necessary). This price contingency makes a lot of sense, and may prove to be an effective way to distribute the benefits of health insurance subsidies across the income ladder.

One caveat in the finding that more than half of workers lose health insurance within four months of layoff, even when COBRA subsidies are available, is the structure of electing COBRA. After COBRA election forms are sent to eligible workers, workers have a 60-day period during which to elect COBRA. Because coverage is retroactive to the time of job loss, workers are in some sense "covered" during this 60 day window even if they have not elected COBRA. Pas research has found that the retroactive coverage feature encourages delayed enrollment, particularly by those who incur medical costs during the election period (Zimmer 2011). Further tests need to be run in order to gauge the robustness of preliminary results to alternative measures which count the first two months after job loss as *insured* regardless of whether or not one is formally covered by health insurance coverage.

After the major provisions of the ACA go into effect in 2014, it remains to be seen how quickly workers and families will be able to transition from employer-based health insurance to subsidized insurance under the exchanges or Medicaid following job loss. Rules are still being written, but there it is likely that will be at least a short lag between job loss and eligibility for subsidies that corresponds to the post-job-loss level of family income. In this case, policymakers might consider more permanent stopgap policies to help individuals maintain health insurance

coverage while transitioning between systems. The COBRA subsidy, for example, could be implemented on a more permanent basis, with a sliding scale for subsidies to enable them to benefit a wider group of workers. Or laid off workers could be offered transitional Medicaid coverage for period of three months following job loss during which time they can navigate into other jobs, into new coverage through health insurance exchanges, or into ongoing Medicaid coverage. Further research should further probe how the effects of these types of transitional health insurance policies might interface with the health insurance system anticipated under the Affordable Care Act.

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Table 3. Eligibility for COBRA (shaded box) and COBRA Subsidy (X) by Date of Job Loss

Date of Job Loss	Within Eligibility Window?	Jun 2008	Jul 2008	Aug 2008	Sep 2008	Oct 2008	Nov 2008	Dec 2008	Jan 2009	Feb 2009	Mar 2009	Apr 2009	May 2009	Jun 2009	Jul 2009	Aug 2009	Sep 2009	Oct 2009	Nov 2009	Dec 2009	Jan 2010	Feb 2010	Mar 2010	Apr 2010	May 2010	Jun 2010	Jul 2010	Aug 2010	Sep 2010	Oct 2010	Nov 2010	Dec 2010	Jan 2011	Feb 2011	Mar 2011	Apr 2011	May 2011	Jun 2011	Jul 2011	Aug 2011	Sep 2011	Oct 2011	Nov 2011	Dec 2011	Jan 2012
Jun 2008	No																																											
Jul 2008																																												
Aug 2008																																											
Sep 2008	Delayed Eligibility										X	X	X	X	X	X	X	X	X	X	X	X	X																					
Oct 2008											X	X	X	X	X	X	X	X	X	X	X	X	X	X																				
Nov 2008											X	X	X	X	X	X	X	X	X	X	X	X	X	X	X																			
Dec 2008											X	X	X	X	X	X	X	X	X	X	X	X	X	X	X																			
Jan 2009											X	X	X	X	X	X	X	X	X	X	X	X	X	X	X																			
Feb 1, 2009 – Feb 16, 2009											X	X	X	X	X	X	X	X	X	X	X	X	X	X	X																			
Feb 17, 2009 - Feb. 28, 2009	Standard Eligibility (Eligible at Job Loss)										X	X	X	X	X	X	X	X	X	X	X	X	X	X	X																			
Mar 2009												X	X	X	X	X	X	X	X	X	X	X	X	X	X	X																		
Apr 2009													X	X	X	X	X	X	X	X	X	X	X	X	X	X	X																	
May 2009														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X																
…																									…																			
Apr 2010																									X	X	X	X	X	X	X	X	X	X	X	X	X	X						
May 2010																										X	X	X	X	X	X	X	X	X	X	X	X	X	X					
Jun 2010	No																																											
Jul 2010																																												
…																									…																			

ARRA Passes (Feb. 17, 2009)

Notes: Grey boxes identify the 18 months after job loss in which job losers are eligible for COBRA (conditional on having had employer-based health insurance at time of job loss). X's identify up to 15 months in which job losers are eligble for the COBRA subsidy. Job losers in the standard eligbility window receive the COBRA subsidy in the first month of COBRA, and lose the COBRA subsidy if they drop COBRA coverage or exhaust 15 months of the subsidy. Job losers in the delayed eligibility window may (a) elect COBRA in the month after job loss, continue COBRA coverage, and begin receiving subsidies in March 2009; (b) elect COBRA coverage in the month after job loss, discontinue coverage, and then re-elect subsidized COBRA coverage in March 2009; or (c) decline COBRA coverage in the month after job loss, and then elect COBRA coverage in March 2009. Their months eligible for the COBRA subsidy are limited by the 18 month maximum duration of COBRA eligibility.

Table 4. Variable Definitions

JOBSEP	Transition from holding a job in one month (either full or part-time) to no job the consecutive month
JOBSEPMO	For job separations in which workers transition in consecutive months from job all month to no job all month, month of job loss recorded as second month. For job separations in which workers transition job some but not all weeks to no job all month, month of job loss recorded as first month. JOBSEPMO divides job losers into subsidy eligibility categories: Before Eligibility Window (job loss occurred before 09/2008); Delayed Eligibility Window (09/2008-01/2009); Standard Eligibility Window (02/2009-05/2010); and After Eligibility Window (06/2010 and later).
JOBLOSS	Separation from an employer followed within six months by receipt of unemployment insurance or for which respondents report an involuntary cause (on layoff; discharged/fired; employer bankrupt; employer sold business; job was temporary and ended; slack work or business conditions).
EMPHI	Health insurance through one's own employer or union
FORMERHI	Health insurance through one's own former employer (subset of EMPHI; proxies for COBRA
SPOUSEHI	Health insurance through a spouse's employer or union
OTHHI	Health insurance from one of several sources: privately purchased; military/veteran's coverage; employer-based dependent coverage through family member other than spouse; unknown source
MEDICAID	Health insurance through Medicaid
MEDICARE	Health insurance through Medicare
UNINSURED	No health insurance coverage
UNINS4AFT	Ever uninsured within 4 months following job separation/loss
UNINS8AFT	Ever uninsured within 8 months following job separation/loss
UNINS58AFT	Ever uninsured between 5 and 8 months following job separation/loss
FORMER58AFT	Ever reported health insurance through one's own former employer between 5 and 8 months following job separation/loss (proxies for COBRA take-up)
UI4AFT	Any unemployment insurance received within 4 months after job separation/loss
UI4AFT_AMT	Average monthly unemployment insurance (in months with positive receipt received within 4 months after job separation/loss)
AGE	Age in years
DISABLED	Has work-limiting physical or mental health condition
FEMALE	Female
MARRIED	Married, spouse present
SPOUSEEMPHI	Has spouse with own employer-sponsored coverage
OTHEARNERS	At least one other adult earner in household
ANYKIDS	Any own children under 18 in family
ED	1=Less than high school; 2=High school; 3=Some college; 4=College graduate (BA or greater)
RACE	1=Non-Hispanic white; 2=Non-Hispanic black; 3=Hispanic; 4=Other
FOREIGN	Not born in the United States
WAGE	Highest hourly wage reported for wage workers, highest imputed wage (monthly earnings divided by four times usual hours worked) for salaried or self-employed workers (adjusted to
POOR	Total family income this month less 0-100% of poverty threshold
LOWINC	Total family income this month 100 200% of poverty threshold
MODINC	Total family income this month between 200% and 400% of poverty threshold
HIGHINC	Total family income this month 400% of poverty threshold or greater

Table 5. Characteristics of Laid-off Workers with Employer-Sponsored Health Insurance Before Job Loss, by Eligibility Window for COBRA Subsidy

Month of Job Loss	(a) Before Eligibility Window: *1996, 2001, 2004 Panels* (12/95-12/07)	(b) Before Eligibility Window: *2008 Panel* (06/08-8/08)	(c) Delayed Eligibility Window (09/08-01/09)	(d) Standard Eligibility Window (02/09-05/10)	(e) After Eligibility Window (06/10-03/11)	Diff from Standard Elig. (d)
Baseline Characteristics						
Female	41.3%	29.3%	36.7%	36.7%	33.7%	a
Age at Job Loss	39.4	40.0	40.1	40.4	40.4	a
Married	50.2%	36.8%	51.1%	47.1%	49.2%	
Any Own Children<18	43.9%	20.9%	38.8%	38.6%	40.3%	a, b
Education						
Less Than High School	8.5%	9.5%	8.0%	6.9%	7.3%	
High School	31.0%	20.4%	29.8%	24.0%	22.9%	a, c
Some College	35.8%	47.7%	40.9%	38.5%	42.8%	
BA or Greater	24.7%	22.3%	21.3%	30.6%	27.0%	a, c
Race/Ethnicity						
NH White	73.2%	68.4%	68.6%	69.3%	64.8%	a
NH Black	13.8%	12.3%	12.1%	12.7%	12.9%	a
Hispanic	8.1%	9.4%	12.6%	10.9%	17.9%	a, e
Other	4.9%	9.8%	6.8%	7.0%	4.4%	a
Poverty Status (before job loss)						
Poor (<100% FPL)	5.2%	10.6%	5.2%	6.0%	3.2%	e
Low-Income (100-199% FPL)	18.2%	8.8%	18.4%	15.3%	13.9%	
Middle-Income (200-399% FPL)	39.9%	35.6%	39.6%	36.4%	40.8%	
High Income (>400% FPL)	36.7%	45.0%	36.8%	42.3%	42.1%	
Median Hourly Wage[2] (before job loss)	$17.1	$18.7	$17.5	$19.1	$18.6	a, c
Disabled	7.7%	7.5%	7.4%	7.1%	7.4%	
Also Covered by Medicare	0.1%	0.0%	0.2%	0.4%	0.0%	
Has Spouse with Own Employer-Sponsored Coverage	39.0%	36.5%	40.0%	34.8%	33.1%	
Economic & Policy Context						
Any Unemployment Insurance within 4 Months of Job Loss	64.8%	75.0%	74.8%	75.1%	72.8%	a
Avg. Unemployment Insurance (in Months with Positive Receipt within 4 Months of Job Loss)	$798.1	$951.8	$931.7	$976.6	$942.6	a
National Unemployment Rate	5.09%	5.87%	7.30%	9.53%	9.46%	a,b,c,e
N	4,674	70	574	921	287	

Notes: Estimates are weighted using wave of job separation/loss sampling weights. Sample sizes vary based due to item missingness.

[1]Letters indicate statistically significant (p<.05) t-tests for equality of proportions between each group and the standard eligibility group. Tests are clustered by person to account for multiple job losses by the same individual.

[2]Test for equality of medians are unweighted nonparametric two-sample tests.

Table 6. Loss of Insurance following Layoffs to Workers with Employer-Based Coverage

Discrete-Time Hazard Models (logit coefficients, S.E. in parentheses)

Variable	Model 1			Model 2		
Time Since Last Month on Job (t=0)						
1 Month	3.0188	(0.4092)	***	2.5920	(0.4117)	***
2 Months	1.6673	(0.4206)	***	1.2977	(0.4247)	**
3-6 Months	0.6827	(0.4186)		0.3999	(0.4217)	
7-10 Months	0.0807	(0.4389)		-0.0804	(0.4416)	
11-14 Months	-0.6847	(0.4982)		-0.7737	(0.4984)	
15 or More Months	-1.4008	(0.5344)	**	-1.3758	(0.5353)	*
Job Loss Occurred While COBRA Subsidy Available	-0.2299	(0.0952)	*	-0.1921	(0.1192)	~
Female				-0.2679	(0.1124)	*
Age at Job Loss						
26-35 (omitted)						
36-45				-0.2423	(0.1218)	*
46-54				-0.3388	(0.1340)	*
Married				-0.8993	(0.1156)	***
Any Children < 18				-0.0595	(0.1192)	
Education						
Less than High School (omitted)						
High School				-0.5239	(0.2006)	**
Some College				-0.7196	(0.1872)	***
BA or Greater				-1.2937	(0.2017)	***
Race/Ethnicity						
NH White (omitted)						
NH Black				0.5057	(0.1831)	**
Hispanic				0.3953	(0.1853)	*
Other				0.4045	(0.1724)	*
Unemployment Insurance Received within 4 Months of Job Loss (avg. per mo.)						
$0 (omitted)						
$1-$999				0.4584	(0.1443)	**
$1000 - $1999				0.2839	(0.1260)	*
>$2000				-0.5248	(0.2445)	*
Constant	-3.5551	(0.4068)	***	-1.9525	(0.4531)	***
Goodness-of-Fit						
F-adjusted mean residual test[1]		0.523			0.669	
Prob > F		N.S.			N.S.	
N person months		8,610			8,610	
N persons		1,095			1,095	

Source: Author's analysis of the 2008 SIPP Panel.

Notes: Persons contribute one or more job losses; standard errors clustered by person. [1]No lack of goodness-of-fit detected in either model using Stata's svylogitgof.

~p <.10; *p <.05; **p <.01; ***p <.001.

Table 7. Loss of Insurance following Layoffs to Workers with Employer-Based Coverage

Discrete-Time Hazard Models (LPM coefficients, S.E. in parentheses)

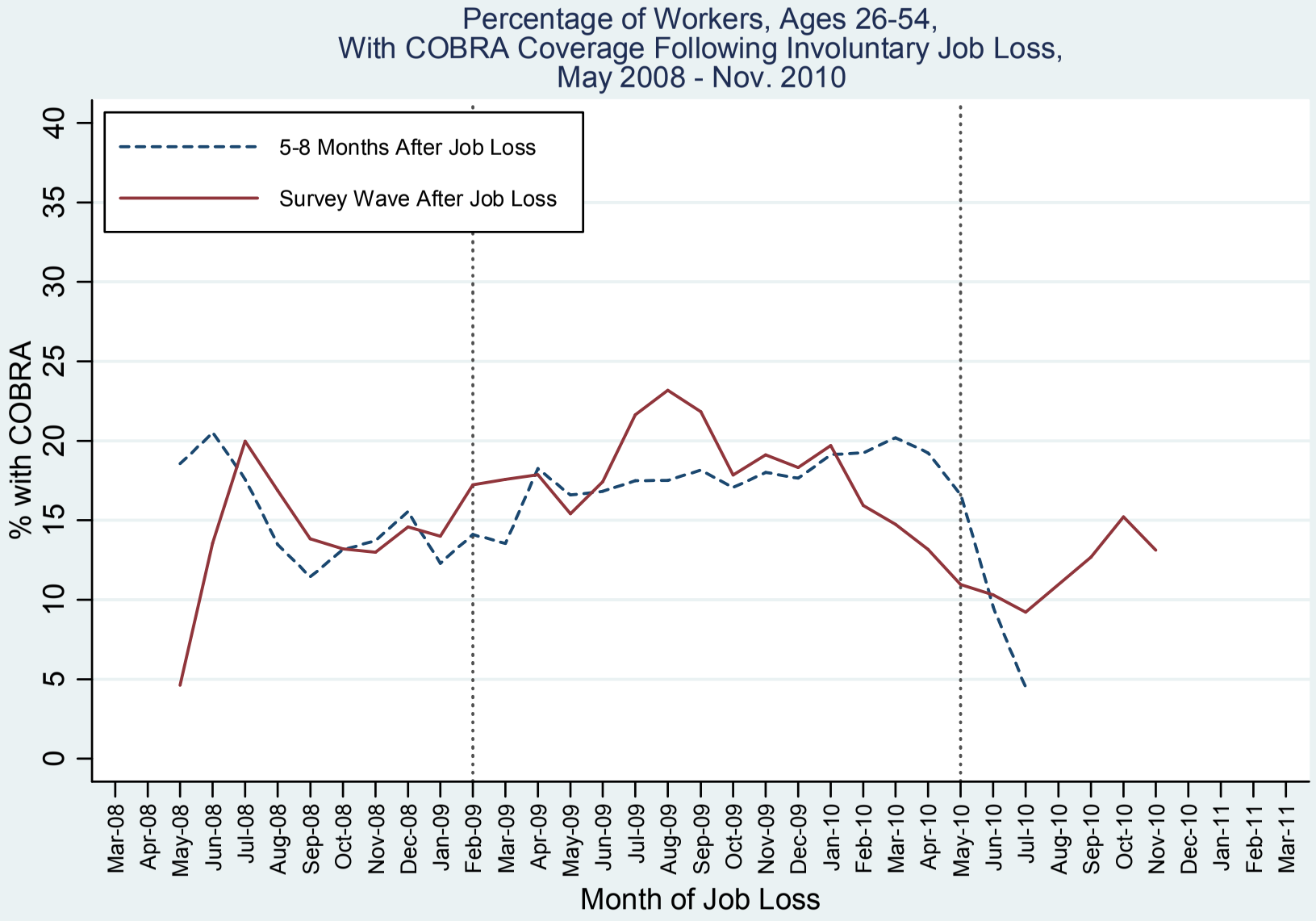
Variable	Model 1			Model 2		
Time Since Last Month on Job (t=0)						
0 Months	-0.0254	(0.0098)	*	-0.0515	(0.0103)	***
1 Month	0.3183	(0.0180)	***	0.2875	(0.0176)	***
2 Months	0.0939	(0.0158)	***	0.0726	(0.0156)	***
3-6 Months	0.0231	(0.0110)	*	0.0086	(0.0109)	
7-10 Months	0.0025	(0.0107)		-0.0053	(0.0107)	
11-14 Months	-0.0117	(0.0104)		-0.0155	(0.0103)	
15 or More Months	-0.0209	(0.0101)	*	-0.0184	(0.0098)	~
Job Loss Occurred While COBRA Subsidy Available	-0.0125	(0.0052)	*			~
Female				-0.015221	0.005984	*
Age at Job Loss						
26-35 (omitted)						
36-45				-0.0169	(0.0074)	*
46-54				-0.0192	(0.0074)	*
Married				-0.0487	(0.0073)	***
Any Children < 18				-0.0023	(0.0060)	
Education						
Less than High School (omitted)						
High School				-0.0502	(0.0219)	*
Some College				-0.0634	(0.0211)	**
BA or Greater				-0.0867	(0.0210)	***
Race/Ethnicity						
NH White (omitted)						
NH Black				0.0323	(0.0151)	*
Hispanic				0.0288	(0.0173)	~
Other				0.0201	(0.0100)	*
Unemployment Insurance Received within 4 Months of Job Loss (avg. per mo.)						
$0 (omitted)						
$1-$999				0.0304	(0.0102)	**
$1000 - $1999				0.0155	(0.0080)	~
>$2000				-0.0305	(0.0097)	**
Constant	0.0315	(0.0102)	**	0.1497	(0.0242)	***
Goodness-of-Fit						
R-squared		0.178			0.201	
N person months		9,785			9,785	
N persons		1,095			1,095	

Source: Author's analysis of the 2008 SIPP Panel.

Notes: Persons contribute one or more job losses; standard errors clustered by person. [1]No lack of goodness-of-fit detected in either model using Stata's svylogitgof.

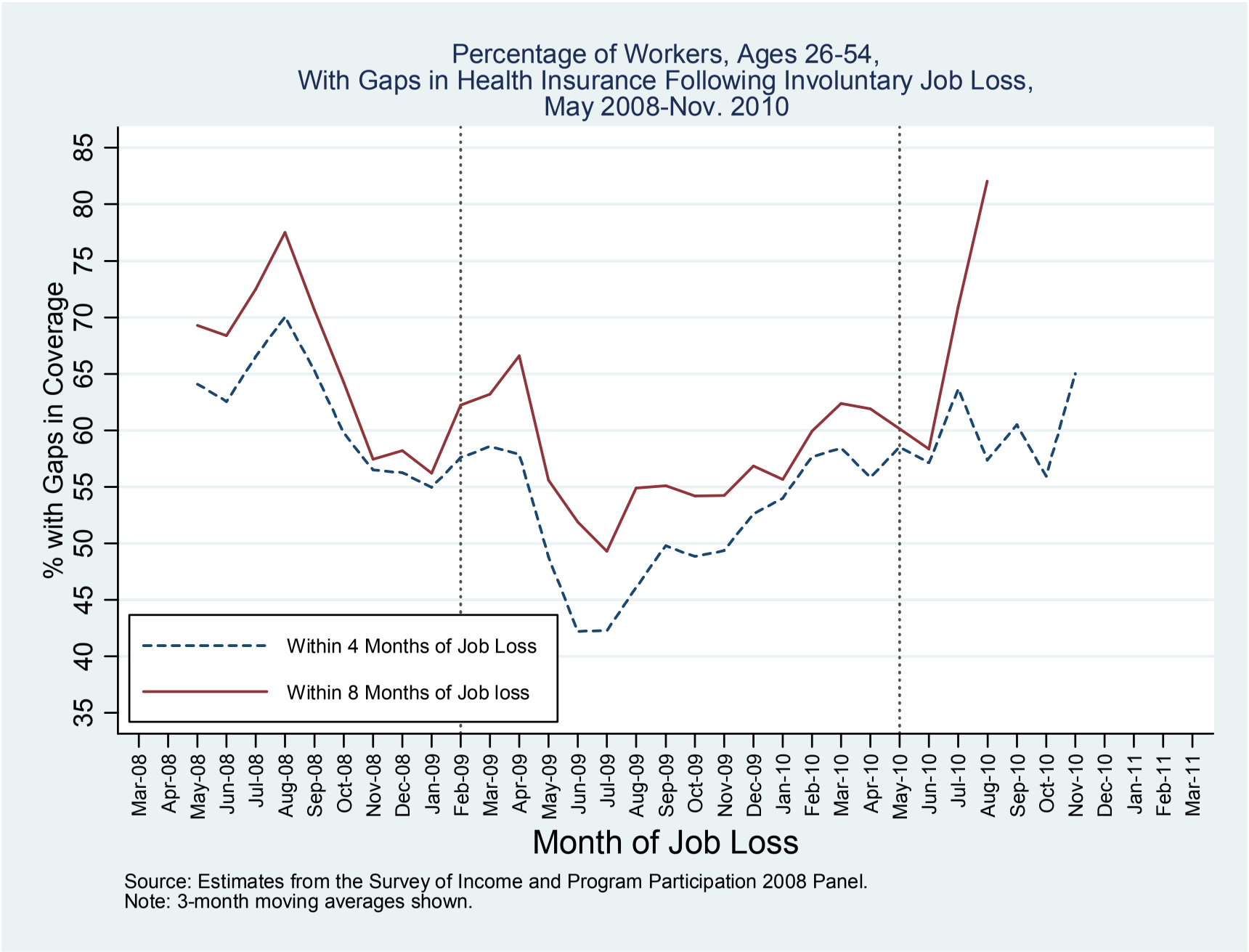
~p <.10; *p <.05; **p <.01; ***p <.001.

Figure 1



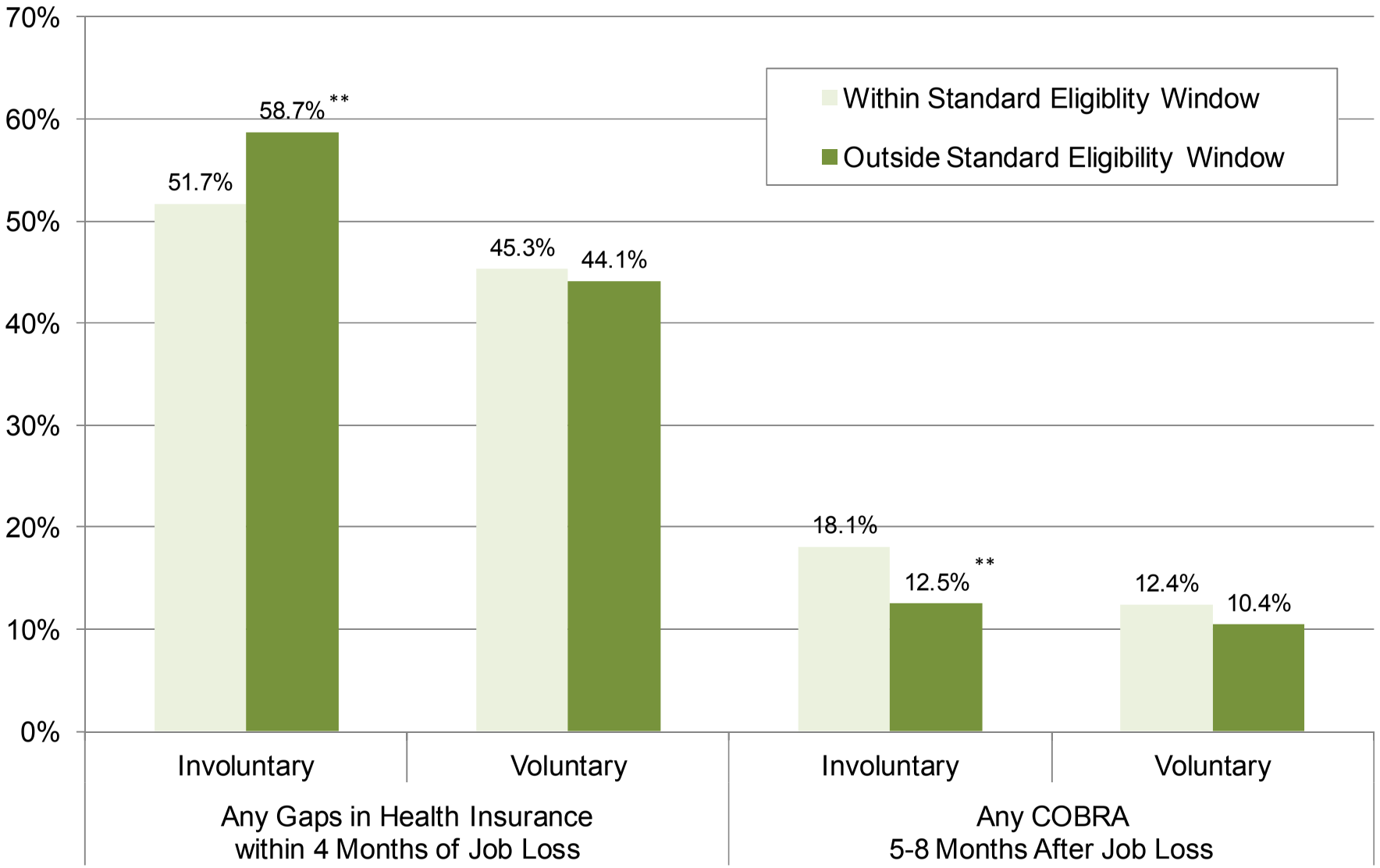
Source: Estimates from the Survey of Income and Program Participation 2008 Panel.
Note: 3-month moving averages shown.

Figure 2



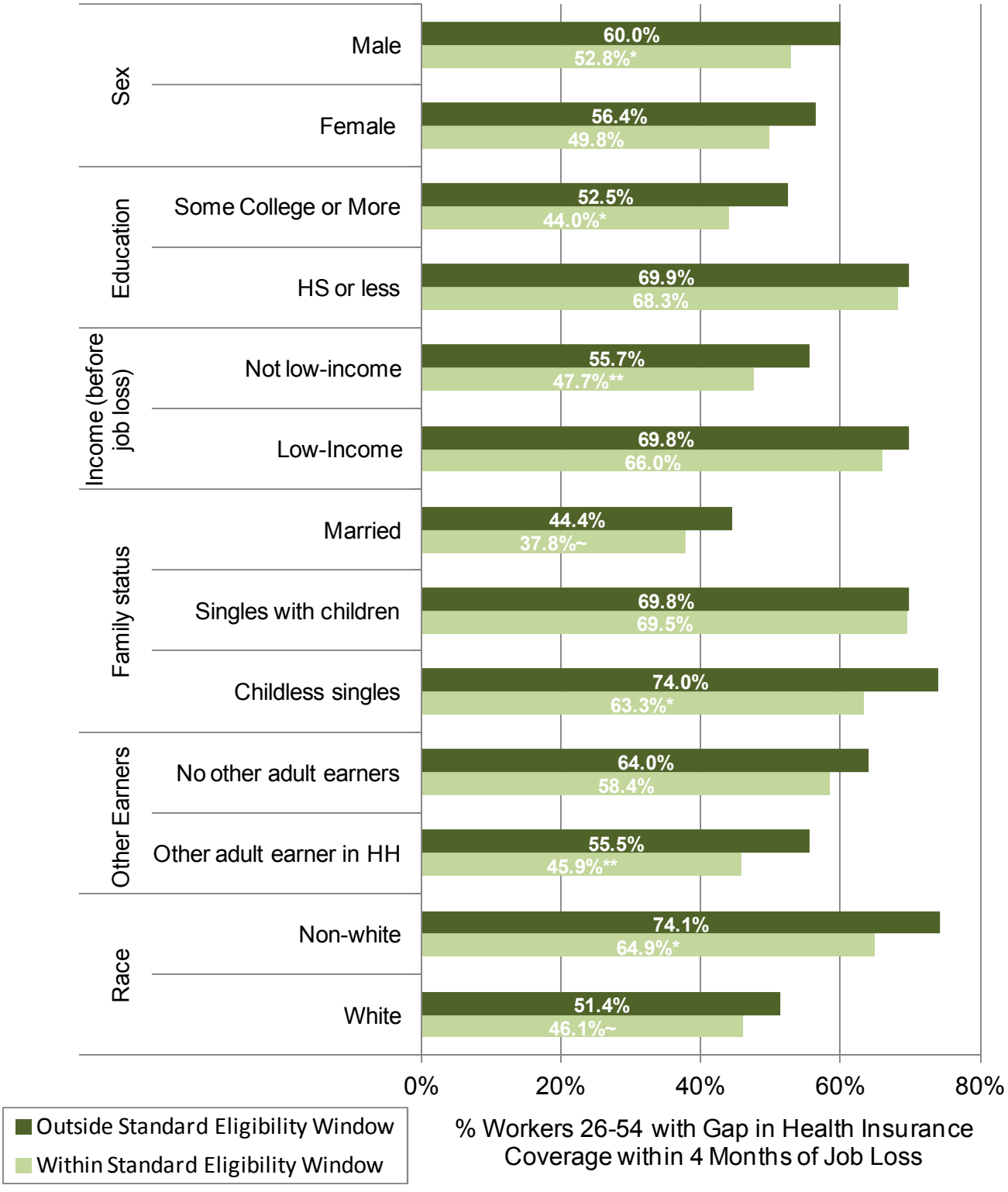
Source: Estimates from the Survey of Income and Program Participation 2008 Panel.
Note: 3-month moving averages shown.

Fig. 3 Gaps in Health Insurance and COBRA Take-Up by Eligibility for COBRA Subsidy and Type of Job Separation



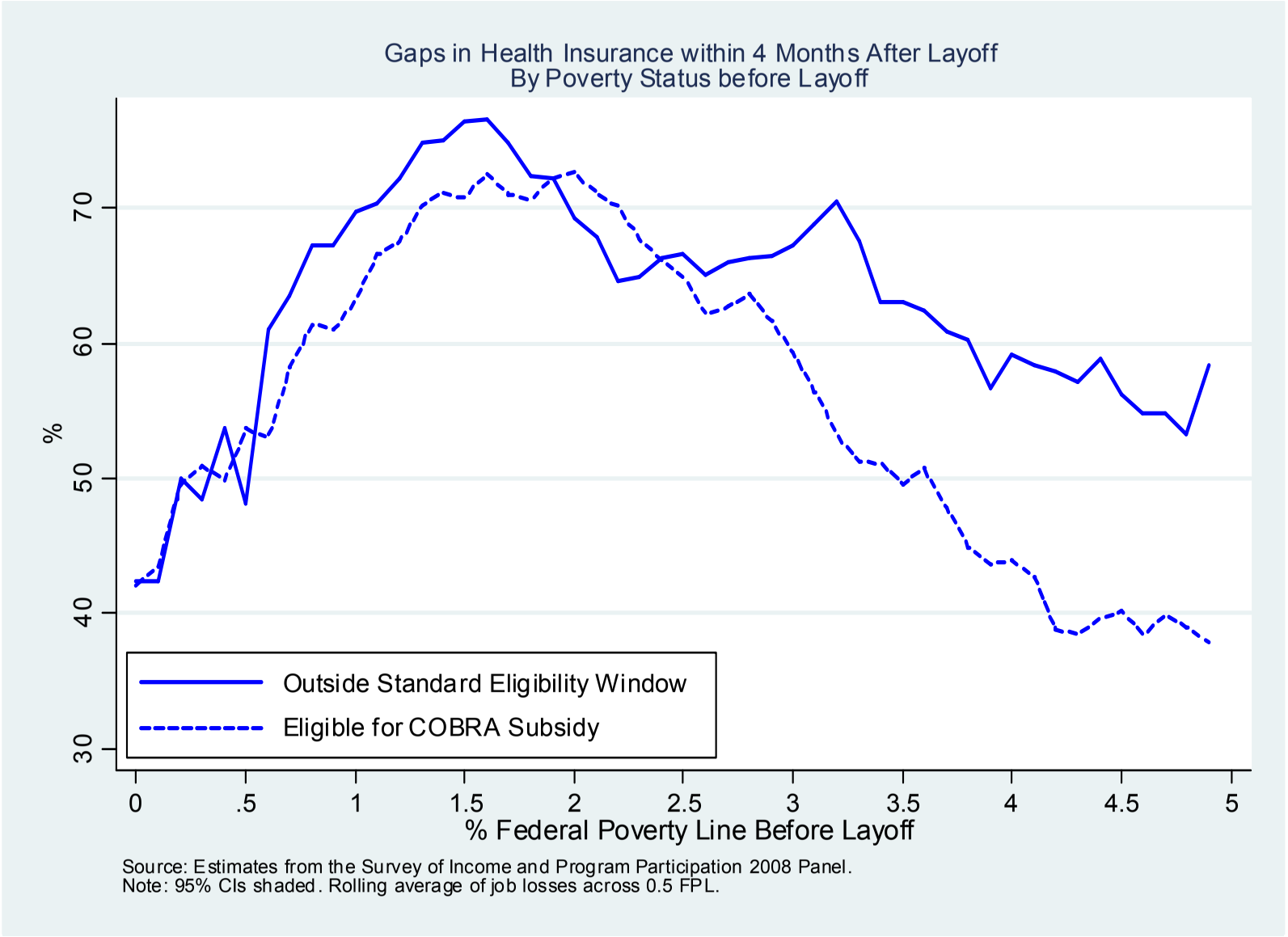
~p<.10; *p<.05; **p<.01; ***p<.001

Fig. 4 Gaps in Health Insurance by Eligibility for COBRA Subsidy and Individual Characteristics



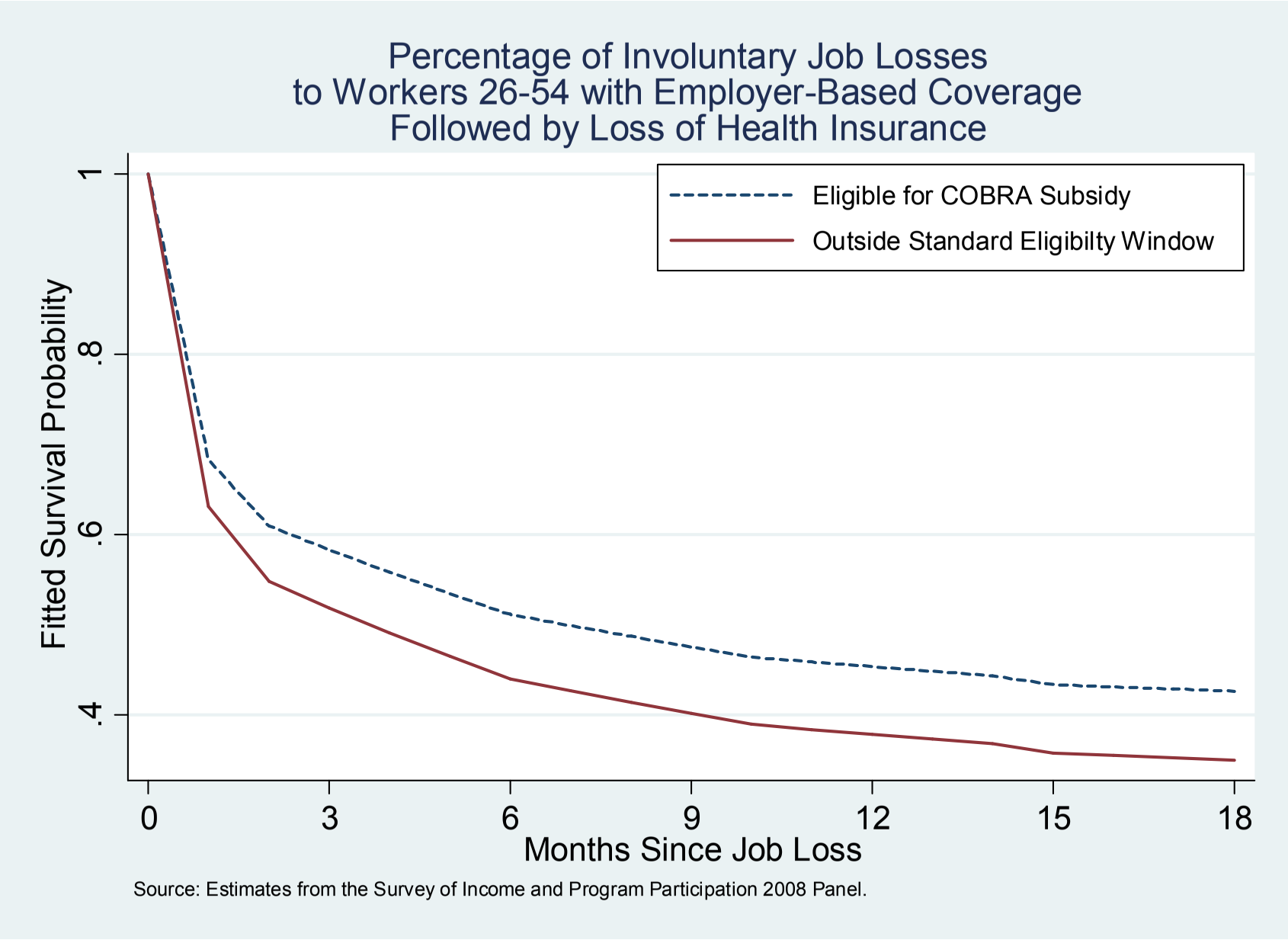
~p<.10; *p<.05; **p<.01; ***p<.001.

Figure 5



Source: Estimates from the Survey of Income and Program Participation 2008 Panel.
Note: 95% CIs shaded. Rolling average of job losses across 0.5 FPL.

Figure 6


Percentage of Involuntary Job Losses
to Workers 26-54 with Employer-Based Coverage
Followed by Loss of Health Insurance
Eligible for COBRA Subsidy
Outside Standard Eligibilty Window
Fitted Survival Probability
1
.8
.6
.4
0
3
6
9
12
15
18
Months Since Job Loss
Source: Estimates from the Survey of Income and Program Participation 2008 Panel.