FEDERAL RESERVE BANK *of* ATLANTA WORKING PAPER SERIES

Some Like It Hot: Assessing Longer-Term Labor Market Benefits from a High-Pressure Economy

Julie L. Hotchkiss and Robert E. Moore

Working Paper 2018-1
January 2018

Abstract: This paper explores the evidence for positive hysteresis in the labor market. Using data from the National Longitudinal Surveys of Youth, we find that negative labor market outcomes during high-unemployment periods are mitigated by exposure to a high-pressure economy during the preceding expansion. Breaking total exposure into average intensity and duration suggests that these two dimensions have differing impacts depending on the outcome. Additionally, benefits are typically only statistically significantly different from no exposure for only a relatively few demographic groups.

JEL classification: E60, E24, J64, J31

Key words: hysteresis, unemployment, labor market gaps, labor force participation, wage gaps

---

This research was conducted with restricted access to U.S. Bureau of Labor Statistic (BLS) data. Research assistance from Kalee Burns, Ellie Terry, Taylor Kelley, and Deepmala Pokhriyal is much appreciated, and the authors thank Lisa Cook, Mary Daly, Bruce Fallick, Patrick Higgins, Carl Hudson, Pia Orrenius, Melinda Pitts, William Roberds, John Robertson, William Spriggs, Sam Schulhofer-Wohl, and the participants of the California State University-Long Beach Economics Department Seminar Series for helpful comments and suggestions. The views expressed here are the authors' and not necessarily those of the Federal Reserve Bank of Atlanta, the Federal Reserve System, or the BLS. Any remaining errors are the authors' responsibility.

Please address questions regarding content to Julie L. Hotchkiss (contact author), Research Department, 1000 Peachtree Street NE, Atlanta, GA 30309-4470, 404-498-8198, julie.l.hotchkiss@atl.frb.org, or Robert E. Moore, Office of the Dean, Department of Economics, Andrew Young School of Policy Studies, Georgia State University, P.O. Box 3992, Atlanta, GA 30302-3992, rmoore@gsu.edu.

Federal Reserve Bank of Atlanta working papers, including revised versions, are available on the Atlanta Fed's website at www.frbatlanta.org. Click "Publications" and then "Working Papers." To receive e-mail notifications about new papers, use frbatlanta.org/forms/subscribe.

“Some Like it Hot: Assessing Longer-Term Labor Market Benefits from a High-Pressure Economy”

1 Introduction and Background

A "high-pressure" economy is generally agreed to be one in which the unemployment rate is below the natural, or sustainable, unemployment rate -- that level of unemployment that can be maintained without putting too much pressure on inflation (Condon and Torres 2016). There is also general agreement that a high-pressure economy has potential risks, including financial instability, vulnerability to adverse shocks that could lead to recession, and could generally be a signal that an economy's long-run growth prospects are dim (Fischer 2016). In other words, if the demand for resources (including labor) expands beyond the economy’s capacity to supply them, the risk of undesirable inflation, financial imbalances, and other negative developments may grow.

High-pressure economies, however, have also been found to have significant contemporaneous benefits to workers. Okun, Fellner, and Greenspan (1973) describe the environment as one in which disadvantaged workers experience upward mobility as increased demand makes employers dig deeper into their available labor pool (also see Krause and Lubik 2006). Rose, Akerlof, and Yellen (1988) explain that the ability of workers to easily switch jobs during a high-pressure episode allows them to find better job matches in both the pecuniary and non-pecuniary dimensions. And, as might seem obvious, greater demand bids up the price of labor so workers experience greater wage growth during high-pressure periods (Holzer, Raphael, and Stoll 2006; also see Bellou and Kaymak 2012). The antithesis of this, of course, is that we would see lower wages, at least entry-level wages, during recessions (Carneiro, Guimarães, and Portugal 2012; Martins, Solon, and Thomas 2012). Evidence that high-pressure economies improve the relative unskilled-to-skilled unemployment experience is also found in Jefferson

(2005). As workers' wages are bid up and as employers have to dig deeper into the labor pool to meat demand during high-pressure economies, we might expect that these gains would be expressed as better outcomes in the future.

There is also evidence of significant racial gaps in the effect of recessions on labor market outcomes. For example, Cajner et al. (2017) find that not only are blacks (and Hispanics) hit harder by recessions, their experience is more volatile across the business cycle (also see Zavodny and Zha 2000). In other words, strong recoveries can go a long way to diminishing the economic disparities of disadvantaged groups (also see Engemann and Wall 2010). To the extent that policy makers desire to reduce labor market outcome gaps between advantaged and disadvantage groups, then, they may want to do what they can to sustain high-pressure economic environments. Whether these gap shrinkages persist is another question.

The evidence as to whether high-pressure economies have a lasting, longer-term impact on labor market outcomes of workers (i.e., positive hysteresis) is thin and varied. In the aggregate, Fleischman and Gallin (2001) find that positive aggregate shocks do not translate into persistently higher employment rates, however, there is more of a positive impact on younger workers compared with older workers. Kahn (2010) provides evidence of negative hysteresis in wages of white men who graduate from college during a recession; they experience lower wages for decades after graduating. The long-term cost of recessions to new graduates is also documented by Kondo (2015); Oreopoulos, von Wachter, and Heisz (2012); and von Wachter and Bender (2006). Other evidence suggests that the lasting effects of recessions also affect health (Maclean 2013) and self-esteem (Maclean and Hill 2015). Yagan (2017) also attributes most of the employment decline between 2007 and 2015 to local unemployment shocks during the great recession.

The purpose of this paper is to investigate whether the expected positive effects of greater exposure to a high-pressure episode during an expansion affect labor market outcomes during the following high-unemployment period and the next period of low-unemployment.[1] Additionally, we investigate whether intensity or duration of the high-pressure episode is more important. The analysis will be at the individual worker level. We make use of the 1979 and 1997 National Longitudinal Surveys of Youth (NLSY), which will allow us to potentially observe individuals across multiple business cycles, to be able to assign residence during high-pressure exposure, and to control for individual fixed effects.

Results in this paper suggest that exposure to a high-pressure economy during an expansion reduces the unemployment experience, increases labor market attachment, and moderates wage and hours losses during the following period of high unemployment. Breaking total high-pressure exposure into its average intensity and duration, suggests that these two factors have differing impacts depending on the outcome.

Additionally, the effect of high-pressure exposure appears to reach into the next expansion to varying degrees. An important observation, however, is that while the moderating effects of high-pressure exposure are statistically significantly different from zero, predicted outcomes only differ significantly from those with zero exposure when the level of exposure is relatively high.

[1] Since the declaration of a national recession may not coincide with an individual's state's economic environment, the analysis considers outcomes during state-specific "high-unemployment" periods, which are defined below. Results are consistent when periods of national recession are used instead of state-specific high-unemployment periods.

2 Quantifying High-pressure Time Periods

The definition of a high-pressure economy is generally accepted as an environment where the unemployment rate falls below NAIRU -- the non-accelerating inflation rate of unemployment (Condon and Torres 2016), also referred to as the natural rate of unemployment. The expectation is that economic growth that pushes the unemployment rate below this level is so intense that it results in inflationary pressures. While the notion of a natural rate of unemployment has its critics, it continues to be an important consideration in many policy forums (Williams 2016). The estimate of the natural rate of unemployment for the United States is provided by the Congressional Budget office based on a set of Philips curve equations, which describe an inverse relationship between the rate of unemployment and the rate of inflation (for details, see Arnold 2008; CBO 1994).

Since the notion of state-specific inflationary pressures isn't realistic, the CBO does not construct a NAIRU for each state separately. However, the employment condition can vary widely across states. Since the idea of a high-pressure economy is predicated on where the actual unemployment rate falls relative to the natural rate, we construct state-specific natural rates of unemployment based on the CBO's estimation of the national NAIRU and a state's long-term employment condition relative to the national condition. While state and regional unemployment rates are expected to follow similar trends (Hotchkiss 1991), the levels experienced by workers can vary dramatically across states (Walden 2012).

The total high-pressure exposure a person experiences during an expansion at the state level is calculated as the sum of the difference between the state's long-term unemployment rate and the state's actual unemployment rate. We make use of monthly Current Population Survey

(CPS) data between 1976 and 2015 to calculate each state's average annual unemployment rate.[2] The state's underlying long-term unemployment rate is constructed by adjusting the CBO's national long-term unemployment rate by the difference between the average state and national unemployment rates between 1976 and 2015 -- it's merely a state-specific shift in the long-term rate of unemployment as reported by the Congressional Budget Office (CBO).[3]

As an example, Figure 1 illustrates HP intensities for two very different states -- North Dakota and Mississippi.[4] The orange dashed line reflects the national long-term unemployment rate. Note that North Dakota's actual unemployment rate is almost always below the national long-term unemployment rate and Mississippi's actual unemployment rate is almost always above the national long-term unemployment rate. The gray bars reflect years in which the U.S. economy was in a recession. Periods of high-unemployment are those where the state's actual unemployment rate falls above the state's long-term unemployment rate.

Adjusting for the consistently low unemployment experience of North Dakota and the consistently high unemployment experience of Mississippi produces much lower overall high-pressure exposure for North Dakota residents, relative to those living in Mississippi. The total high-pressure exposure during an expansion is calculated as the discrete sum (i.e., area) of the difference between the state's long-term and actual rates of unemployment. For example, the only high-pressure period experienced in North Dakota over this time period was in the late

[2] The CPS is administered each month by the U.S. Bureau of Labor Statistics to roughly 60,000 households. This is the nationally representative cross-sectional survey from which we get reports of the unemployment rate and the labor force participation rate, among other monthly labor market statistics.

[3] See "Potential GDP and Underlying Inputs" on the CBO's web page for historical estimates for the underlying long-term national unemployment rate: https://www.cbo.gov/about/products/budget-economic-data#6. The underlying long-term unemployment rate is identical to what the CBO identifies as the natural rate of unemployment, except for the years 2008 through 2013. Since the natural rate does not deviate from the long-term rate during other recessionary periods, we are using the more consistent long-term rate.

[4] Each state's graph is included in an appendix, available upon request.

1990s and it was not very intense. Mississippi experienced six instances of high-pressure exposure. The three intermittent high-pressure periods in the mid-2000s are averaged to obtain the total exposure of high-pressure during that expansion. For example, during that expansion, residents of Mississippi experienced a total of 5.24 high-pressure exposure. Since each high-pressure period has both a level of intensity and duration, the total exposure will also be decomposed into these two components for analysis.

[Figure 1 about here]

3 The National Longitudinal Surveys of Youth (1979 and 1997)

The National Longitudinal Surveys of Youth (NLSY79 and NLSY97) are nationally represented annual surveys started in 1979 and 1997 of young people born between 1957 and 1965 -- the later half of the baby boomer generation (NLSY79) -- and young people born between 1980 and 1984 -- often referred to as Generation Y, Echo Boomers, or Millennials (NLSY97).[5] The NLSY79 started with 12,686 respondents and NLSY97 started with 8,984. The annual NLSY79 surveys became biennial after 1994. Figure 2 illustrates the oldest and youngest ages we have from each survey in each year, along with recessionary bars. Since we restrict the analysis to those 18 years and above, we will have only some observations from NLSY97 during the 2001 recession, but will have observations from both full samples during the 2008-2009 recession.

[Figure 2 about here]

The differences in average characteristics across cohorts and by age can be seen in the sample means of Table 1. Note that the cohorts overlap in only two age groups. The rise in average educational attainment over time can be seen comparing cohorts within age group – the

[5] See https://www.bls.gov/nls/nlsy79.htm and https://www.bls.gov/nls/nlsy97.htm

share with less than a high school degree is lower and the share with college or more is higher among the NSLY97 cohort.

[Table 1 about here]

We restrict the sample to include individuals 18 and older; the maximum age in the sample is 57. The higher share of black and Hispanic observations than one might expect reflects the oversampling of these groups by the NLSY. The means are unweighted to more accurately reflect the characteristics of the sample used for the analyses.[6] The next two sections illustrate sample averages for two of the labor market outcomes evaluated here -- share of time in the labor force spent unemployed and real hourly pay.

3.1 Share of Time Spent Unemployed in High- and Low-Unemployment Periods

Figure 3 illustrates the share of time in the labor force during the year that is spent unemployed, separately by high- and low-unemployment periods. The share of time spent unemployed is like a personal unemployment rate, designed to abstract from the labor supply decision. As expected, the share of time spent unemployed is higher, on average, during periods of high unemployment across all demographic groups. Figure 3 also shows the higher share of time spent unemployed in both period types for more disadvantaged groups (racial minorities, the young, and the less educated). In addition, on average, women appear to spend a greater share of their time in the labor force unemployed than men. The analysis below will also evaluate labor market attachment through the share of total time spent in the labor force.

[Figure 3 about here]

[6] For more information on oversampling and sampling weights in the NLSY see: https://www.nlsinfo.org/content/cohorts/nlsy97/using-and-understanding-the-data/sample-weights-design-effects/page/0/0/#practical

3.2 Real Hourly Pay in High- and Low-unemployment Periods

The debate over whether real wages differ across the business cycle has a long history (for example, see Abraham and Haltiwanger 1995). If workers suffer losses in real wages, it might be possible that those losses are mitigated from exposure to a high-pressure economy prior to the recession. If a high-pressure economy allows workers to experience greater upward mobility (Okun, Fellner, and Greenspan 1973; Krause and Lubik 2006) or better job matches (Rose, Akerlof, and Yellen 1988), those benefits might extend beyond the expansion into the next high-unemployment period. Evidence from the literature, however, suggests that expansionary wage boosts are not persistent once someone loses their job (Schmieder and von Wachter 2010).

Figure 4 illustrates the average real hourly pay (in 2014 dollars) across demographic groups during high- and low-unemployment periods. Unexpectedly, hourly pay, on average, is mostly higher during high-unemployment periods. The estimation sample requirement of being employed may be biasing the high-unemployment means upward. In other words, if the less productive are laid-off during high-unemployment periods (i.e., recessions), then those who are left will be the higher-paid workers. And, as will be seen below, once we control for individual characteristics, high-unemployment periods have a depressing effect on real hourly pay. We do see, however, that wages are lower overall among less advantage groups, in both high- and low-unemployment periods. In addition to hourly pay, the analysis below will also consider weekly hours of work.

[Figure 4 about here]

4 Modeling the Impact of High-pressure Exposure on Labor Market Outcomes

4.1 Total Exposure

The question posed here is whether greater exposure to a high-pressure environment during an expansion moderates the labor market experience during the following high-unemployment period. The share of time spent unemployed, the share of time spent in the labor force, real hourly pay, and weekly hours are the labor market outcomes analyzed. Since even longer term labor market outcomes are of particular interest for labor market gaps between advantages and disadvantaged demographic groups (for example, see Antecol and Bedard 2004), we will also explore whether high-pressure exposure reaches beyond the following high unemployment period into the next low-unemployment period.

Labor market outcome ($LMoutcome_{ist}$), of person *i*, in year, *t*, in state, s, is expressed as a function of the person's individual demographics, whether the observation is during a high-unemployment year (*HU*), and the extent to which the person was previously exposed to a high-pressure environment:

$$\begin{aligned} LMoutcome_{ist} = \alpha &+ \sum_{k=2}^{4}\left\{AGE_i^k(\delta_{1k} + \delta_{2k}HU_t + \delta_{3k}HU_tHPsum_{ish})\right\} \\ &+ \sum_{k=2}^{3}\left\{RACE_i^k(\beta_{1k} + \beta_{2k}HU_t + \beta_{3k}HU_tHPsum_{ish})\right\} \\ &+ \sum_{k=2}^{4}\left\{EDUC_i^k(\varphi_{1k} + \varphi_{2k}HU_t + \varphi_{3k}HU_tHPsum_{ish})\right\} \\ &+ MALE_i\{\theta_1 + \theta_2HU_t + \theta_3HU_tHPsum_{ish}\} + HU_t\{\rho_1 + \rho_2HPsum_{ishr}\} \\ &+ \tau_t + \sigma_s + \pi_i + \varepsilon_{ist}\ . \end{aligned} \tag{1}$$

Each demographic category (Age, Race, Education, and Male) enters on its own and is interacted with a high-unemployment dummy (HU_t), plus a high-unemployment dummy modified by the total high-pressure exposure during the expansion prior to the high-unemployment period, *h*

($HPsum_{ish}$).[7] For modeling purposes, we need well-defined periods that precede a high-unemployment period during which we assess a person's high-pressure exposure. We therefore, identify high-pressure exposure only if it is present during an NBER determined expansionary period for the U.S. economy.

HPsum only enters the regression as a modifier for the impact of high-unemployment periods. Note that the regression includes year (τ_t), state (σ_s), and person (π_i) fixed effects. Of course the race and sex indicators are not identified when the individual fixed effect is included as a regressor, but the impact of high-unemployment and the moderating effect of high-pressure intensity for all groups is. Estimation is performed via Ordinary Least Squares (OLS) and standard errors are clustered at the state level.

In order to have more confidence in the accuracy of time spent in the labor force, we restrict the sample to those who reported at least 44 weeks of total activity during the year (including employed, unemployed, and out of the labor force). We also restrict the analysis of hourly pay and weekly hours to those with non-zero wages and hours, respectively. Additionally, since the mechanism for high-pressure environments to modify recession experiences is expected to be the actual labor market experience during the preceding expansion, the sample is also restricted to those having non-zero employment at some point during the preceding expansion.

Given the regressors of interest, one could argue that it is unnecessary to control for individual fixed effects in this model. This question depends on whether it's reasonable to expect that an unobserved individual characteristic is correlated with how a high-pressure economy moderates a person's labor market experience during high-unemployment periods. For example, if industriousness is related to the intensity of high pressure a person experiences prior to a

[7] An analysis using an indicator for national recessions, instead of state-specific high-unemployment periods is discussed below.

period of high unemployment, say, through migration decisions (i.e., more industrious people migrate to high-pressure states), and also impacts their unemployment experience during high-unemployment periods, then controlling for individual fixed effects might be argued to remove that characteristic's confounding influence from the estimated moderating influence of high-pressure exposure on the impact of high-unemployment periods on the share of weeks unemployed. We will illustrate the implication of not controlling for individual fixed effects below.

4.2 Intensity vs. Duration

Periods of high-pressure exposure differ across two potentially important dimensions -- intensity (how far does the actual unemployment rate get below the natural rate of unemployment?) and duration (how long does the high-pressure environment persist?). Equation (1) is modified and re-estimated to decompose the effect of high-pressure exposure into these components:

$$\begin{aligned} LMoutcome_{ist} = \alpha &+ \sum_{k=2}^{4}\{AGE_i^k(\delta_{1k} + \delta_{2k}HU_t + \delta_{3k}HU_tHPavg_{ish} + \delta_{4k}HU_tHPn_{ish})\} \\ &+ \sum_{k=2}^{3}\{RACE_i^k(\beta_{1k} + \beta_{2k}HU_t + \beta_{3k}HU_tHPavg_{ish} + \beta_{4k}HU_tHPn_{ish})\} \\ &+ \sum_{k=2}^{4}\{EDUC_i^k(\varphi_{1k} + \varphi_{2k}HU_t + \varphi_{3k}HU_tHPavg_{ish} + \varphi_{4k}HU_tHPn_{ish})\} \\ &+MALE_i\{\theta_1 + \theta_2HU_t + \theta_3HU_tHPavg_{ish} + \theta_4HU_tHPn_{ish}\} \\ &+HU_t\{\rho_1 + \rho_2HPavg_{ish} + \rho_3HPn_{ish}\} + \tau_t + \sigma_s + \pi_i + \varepsilon_{ist} \ . \end{aligned} \tag{2}$$

In equation (2), the measure of total high-pressure exposure ($HPsum_{isr}$) is replaced with it's two characteristics -- intensity ($HPavg_{isr}$), or, the average percentage point difference between the state's long-term and actual unemployment rates, and duration (HPn_{isr}), the total

number of years during the expansion that the actual unemployment rate fell below the long-term unemployment rate.

There may be reason to expect that either intensity or duration may differ in importance for moderating the effect of high-unemployment periods on different outcomes. For example, a more intense high-pressure period may mean the employer has to adjust quickly to large shifts in demand requiring additions to the production process on the extensive margin -- i.e., raising wages to quickly attract more workers. On the other hand, an employer may be able to respond to a period of high-pressure that is not as intense, but lasts longer, by making adjustments on the intensive margin -- i.e., increasing hours of existing workforce. The question, then, is whether these experiences during the high-pressure period extend into the next high-unemployment period.

4.3 Impact of High-pressure Exposure into the Next Low-unemployment Period

In order to assess the impact of high-pressure exposure on longer-term labor market outcomes, equation (2) is re-estimated for all outcomes during the *next* low-pressure period -- the low-pressure period following the expansion in which the high-pressure environment was experienced. These two time periods are separated by a period of high-unemployment. So, instead of a high-unemployment indicator, there will be a low-unemployment indicator, plus the low-unemployment indicator modified by the high-pressure intensity and duration during the previous expansion. In other words, does the impact of the high-pressure environment to which someone is exposed reach beyond the immediately following high-unemployment period into the next low-unemployment period?

5 Results

5.1 Impact of Total High-pressure Exposure

Table 2 reports the estimated marginal effects of high-unemployment periods and the moderating influence of exposure to a high-pressure economy during the preceding expansion on the share of time spent unemployed, the share of the time spent in the labor force, log real hourly pay, and weekly hours of work.

[Table 2 about here]

Overall, on average across the full sample, during periods of high-unemployment, workers spend a greater share of their time unemployed (about 1.2 percentage points), less time in the labor market (but not statistically significant), face lower wages (about two percent), and worker fewer hours per week (nearly half an hour less). For the most part, disadvantaged workers (e.g., less education, non-white) are hit harder by high-unemployment periods. These results are generally consistent with much of the literature that finds that more disadvantaged groups face worse labor market outcomes during recessions (Cajner et al. 2017; Engemann and Wall 2010; Hoynes, Miller, and Schaller 2012).

Additionally, across the full sample, experiencing greater exposure to a high-pressure environment moderates the impact of high-unemployment, except with respect to hours of work. The only demographic groups whose hours during a high-unemployment period are improved from high-pressure exposure are older workers and blacks. Also, when high-pressure exposure benefits workers, less advantaged workers benefit more, especially blacks, the young, and those with less education. These results are consistent with those in the literature that suggest that particularly strong growth can help to narrow labor market disparities between advantaged and disadvantaged workers (Bradbury 2000).

In spite of fact that most labor market outcomes benefit more from previous high-pressure exposure among less advantaged workers, the net effect (impact of high-unemployment minus benefit of high-pressure exposure) is still greater for the advantaged group for all outcomes; the larger benefit from high-pressure exposure is not enough to offset the larger hit during a high-unemployment period. For example, the net impact of a high-unemployment period on real hourly pay among blacks, on average, at the median total high-pressure exposure of 1.7 is -0.021. This is a larger average net wage loss than experienced by whites (-0.018). This result is not consistent with Biddle and Hamermesh (2013) who find that the wage disadvantage between whites and blacks decreases with negative shocks.

5.2 Impact of High-pressure Intensity vs. Duration

Periods of high-pressure differ in both their intensity and duration. The results from decomposing the effect of total high-pressure exposure into intensity and duration are found in Table 3 (for share of time spent unemployed and in the labor force) and Table 4 (for log real hourly pay and weekly hours of work). The estimated high-unemployment impacts are similar to that reported for all outcomes in Table 2. The marginal effects of intensity and duration that are statistically different from zero at conventional levels are in bold.

[Tables 3 and 4 about here]

5.2.1 Share of Time Spent Unemployed and in the Labor Force. There is no obvious pattern determining which dimension of high-pressure exposure is more beneficial in mitigating the impact of high-unemployment periods on the share of time spend unemployed and share of time spent in the labor force. For the full sample, intensity ($\partial HPavg$) is more important, as the duration effect (∂HPn) is not statistically different from zero. This would make sense if even a brief, but intense high-pressure period forced employers to increase production in order to meet

the greater demand by adjusting their workforce along the extensive margin (hiring more workers). However, duration is also importance for some demographic groups. In particular, unemployment and labor force outcomes for young workers, racial minorities, those across the education spectrum to varying degrees, and women benefit from high-pressure exposure of longer duration. The *positive* marginal effect of duration on the share of time spent unemployed for Hispanics and those with at least some college is unexpected. However, the net effect (at median values for intensity, 0.6, and duration, 3, for Hispanics is an improvement in time spent unemployed by 0.53 percentage points (net marginal effect of -0.0053). The net marginal effect is still positive for college grads at +0.0003 and for those with some college at +0.0015.

5.2.2 Log Real Hourly Pay and Hours of Work. The results in Table 4 are also consistent with employers responding to more intense high-pressure periods by hiring workers along the extensive margin. This is indicated by average wage losses during high-unemployment periods being mitigated consistently more significantly during periods of more intense high-pressure versus longer high-pressure periods. In order to expand their workforce (by significant amount, perhaps quickly), employers need to bid up wages -- wage gains that appear to extend into the next high-unemployment period.

Additionally, Table 4 also indicates that in times of extended high-pressure periods (perhaps not as intense), employers are more likely to make labor force adjustments along the intensive margin by increasing hours of their existing workforce -- hours increases that carry over into the next high-unemployment period. This is indicated by average hours losses during high-unemployment periods being mitigated consistently more significantly during high - pressure periods that are longer, rather than more intense. Where statistically significant, the

influence of high-pressure duration on mitigating hours losses is greater for blacks and Hispanics than for whites and for the less educated and females.[8]

5.3 Statistically Significant Slopes vs. Practical Impact

It is one thing to estimate a statistically significant marginal effect of high-pressure intensity and/or duration on labor market outcomes, but quite another for the predicted impact to be meaningful at reasonable high-pressure values. To illustrate this point, Figure 5 plots the predicted share of time spent unemployed for each demographic group, during high-unemployment periods for individuals exposed to different levels of high-pressure intensity (zero, then high-pressure intensity at the 25th, 50th, and 75th percentiles). Figure 6 plots the predicted share of time spent unemployed for each demographic group, during high-unemployment periods for individuals exposed to different levels of high-pressure duration (zero, then high-pressure duration at the 25th, 50th, and 75th percentile).

[Figures 5 and 6 about here]

Regarding the impact of high-pressure intensity, Figure 5 shows that in spite of the fact that the marginal effect (the slope of the line) is statistically significantly different from zero for six demographic groups (plus the full sample), only two demographic groups (in addition to the full sample, not shown) have predicted lower shares of time spent unemployed at high-pressure intensity levels higher than zero. Those ages 18-24 benefit, relative to zero exposure, from a high-pressure intensity at the 25th percentile (and higher) and males benefit at high-pressure intensity levels at the median or higher. Figure 6 illustrates that only two demographic groups benefit, relative to zero exposure, from longer high-pressure durations -- those with less than a

[8] Even though the marginal effect of intensity is negative for hours for females, combining the intensity with the positive marginal effect of duration produces a net effect--at the median values for intensity (0.6) and duration (3)--that is positive, at 0.1626.

high school education (benefiting from median duration and above) and black, non-Hispanics (at the 25th percentile and above).

Similarly, Figures 7 and 8 illustrate the impact of high-pressure intensity and duration, relative to zero exposure, for the share of time spent in the labor force during high-unemployment periods. Only two demographic groups have predicted higher shares of time spent in the labor force at high-pressure intensity levels greater than zero. Those ages 18-24 and males benefit, relative to zero exposure, from a high-pressure intensity at the 25th percentile (and higher). Figure 8 illustrates that three demographic groups benefit, relative to zero exposure, from longer high-pressure durations -- those 18-24 years old (benefiting at median and above high-pressure durations) and Females and blacks, benefiting from a high pressure durations at the 25th percentile (and higher).

[Figures 7 and 8 about here]

With respect to real hourly pay, Figure 9 plots the predicted outcome at different levels of high-pressure intensity; there are no demographic groups for which the predicted outcome at different levels of high-pressure duration was statistically significantly different from zero exposure. In addition to the full sample (not shown), those aged 25-34 and blacks experience greater mitigation of wage loss, compared to zero exposure, during high-unemployment periods from high-pressure exposure of at least a median amount of duration; males experience a benefit from high-pressure durations of at least the 25th percentile.

[Figure 9 about here]

Figure 10 plots the average predicted outcomes for weekly hours during high-unemployment levels for different demographic groups at different high-pressure duration levels; there was no exposure to different high-pressure intensity levels that benefited hours, compared

to zero exposure. Hours of high school graduates and women during periods of high-unemployment benefit from having been exposed to high-pressure duration at least at the 25th percentile and those aged 35-44 or 18-24 benefit at median duration levels or higher.

[Figure 10 about here]

The bottom line from these charts is that even if the marginal effect of intensity or duration is statistically different from zero, for most demographic groups, these measures of high-pressure exposure would need to be substantial for predicted outcomes during periods of high-unemployment to differ from those experienced by workers with zero exposure.

5.4 Outcomes During Low-unemployment periods

Results that explore the extent to which the moderating effects of high-pressure intensity and duration reach beyond the following high-unemployment period into the next low-unemployment period are found in Appendix A. The bottom line, analogous to those reported above is that individuals experience less time unemployed (by one percentage point), more time in the labor force (by about five percentage points), higher wages (8.2 percent), and longer hours of work (about 20 minutes longer per week) during periods of low-unemployment. The impacts of either intensity or duration, however, are smaller and less significant than they are during high-unemployment periods immediately following the high-pressure experience, and are not necessarily in the direction one might expect.

6 Sensitivity Analyses

5.1 Outcomes During Recessions

While each labor market is somewhat unique across the country, downturns that are more widespread typically earn an official declaration of recession. To see whether labor market

outcomes and the impact of high-pressure exposure on moderating those outcomes differs during these periods of common agony versus individual state-level high-unemployment periods, the analysis described in equation (2) is repeated with an indicator for an NBER-declared recession, rather than the state-specific high-unemployment period. Results of this analysis are reported in Appendix B. Interpreting the results from this analysis are a bit problematic since multi-collinearity necessitates dropping one year from the analysis (1991), in addition to the base year dummy. So, the marginal effects of a recession should be taken with a grain of salt (since they vary widely depending on which year is dropped), but the marginal effects of the average intensity and duration are not affected by which year is dropped. Overall, while slightly less statistically significant (as one might expect since state-level labor markets might differ from the national average experience), the pattern of results (negative impact of recessions and moderating effects of intensity and duration of high-pressure periods) mirror those reported in Tables 3 and 4.

5.2 Excluding Individual Fixed Effects

A question was raised earlier as to whether it makes sense to control for individual fixed effects. The high-unemployment analysis is repeated excluding individual fixed-effects and results are reported in Appendix C. While qualitatively similar across demographic groups, the marginal effects are sometimes larger and sometimes smaller. For the full sample, the high-unemployment and high-pressure exposure marginal effects are all qualitatively larger when individual fixed effects are excluded, which is what we would typically expect if the individual fixed effect is picking up something unobserved that is correlated with both the outcome and exposure.

5.3 Excluding Industry and Occupation Controls from Pay and Hours analyses

Some of the disparities between advantaged and disadvantaged demographic groups has been tied to the concentration of black and the low-skilled workers into certain occupations and/or industries (for example, see Bayer and Charles 2017 and Cajner et al. 2017). The results in Appendix D illustrate that much of one's labor market experience (at least in wages and hours), across all demographic groups, derives from the particular occupation and industry in which one is employed. Both the impact of high-unemployment periods and the benefit of more intense (for wages) and longer (for hours) high-pressure exposure are quantitatively larger when industry and occupation are excluded from the regession. In other words, much of the variation in these outcomes across the business cycle is absorbed by the industry and occupation in which one is employed.

5.4 The Role of Migration

One of the advantages of using longitudinal data is that we can see whether an individual was exposed to a high-pressure environment in a state different than the one in which he/she is experiencing the high-unemployment period. It was suggested that perhaps individuals could move in order to take advantage of high-pressure environments and any benefits that came with that exposure. Depending on the sample, there is anywhere from three percent (hourly pay and hours) to 22 percent (share of time spent unemployed and in the labor force) of observations that are in a different state at some point during the high-pressure exposure period than during the following high-unemployment period. Since we require non-zero wages and hours, it makes sense that there would be less mobility among those included in the hourly pay and hours analyses. There are very few instances in which the moderating effect of either intensity or duration of high-pressure exposure is greater for those who migrated between that exposure and

the high-unemployment experience. 18-24 year olds who migrated benefit slightly more in the moderation of their time spent unemployed and in the labor force as do those with at least a college degree; the share of time spent in the labor force by blacks who migrated benefit more from greater high-pressure duration. There is very little evidence that wage and hours losses are mitigated more among those who migrate, although this sample might be more constrained given that we require them to be employed to be included in the analyses.

7 Conclusions

Evidence from the NLSY suggests that high-pressure labor markets during expansionary periods generate positive hysteresis by reducing the share of time spent unemployed, increasing the share of time in the labor force, and boosting hourly pay and hours in the following period of high-unemployment. The importance of intensity versus duration of the high-pressure period varies depending on the labor market outcome assessed. The results suggest that employers adjust their work force in response to more intense high-pressure periods along the extensive margin, raising wages (to attract workers) that last into the next high-unemployment period, whereas employers adjust their work force along the intensive margin, increasing hours, in response to longer, but perhaps not as intense, periods of high-pressure.

However, in spite of estimating an impact of high-pressure exposure (intensity or duration) that is statistically significantly different from zero for several outcomes and for several demographic groups, there are fewer demographic groups whose predicted outcomes are consistently improved from moderate levels of exposure over those with zero exposure. The share of time spent unemployed and in the labor force are improved from high-pressure exposure, relative to their counterparts with zero exposure for those who are 18-24, males, and

black. Blacks and males, exposed to moderate high-pressure intensity also have predicted real hourly pay during high-unemployment periods that is higher than their counterparts with zero exposure.

We also find that benefits from exposure to high-pressure environments do not significantly extend beyond the high-unemployment period into the next low-unemployment period. In addition, migrating does not necessarily improve one's outcome during high-unemployment periods.

The bottom line is that the results in this paper indicate that the advantages of a high-pressure economy can extend beyond the expansionary period for many different demographic groups. However, few demographic groups exposed to higher intensity or longer duration actually enjoy a predicted outcome significantly better than their counterparts with zero exposure. Additionally, while it is often the case that disadvantaged groups experience greater benefits from either more intense or longer periods of high-pressure exposure, the benefit (at median exposure levels) is typically not large enough to overcome the greater negative impact of the high-unemployment period for disadvantaged groups. The implication is that moderate periods of high-pressure environments are not likely to greatly improve labor market outcome gaps. Consequently, as a tool for substantially improving labor market outcomes or reducing labor market gaps, the costs of extending a high-pressure economic environment would likely be found to outweigh the benefits.

References

Abraham, Katharine G., and John C. Haltiwanger. 1995. "Real Wages and the Business Cycle." *Journal of Economic Literature* 33 (3):1215–64. https://doi.org/10.2307/2729121.

Antecol, Heather, and Kelly Bedard. 2004. "The Racial Wage Gap." *Journal of Human Resources* 39 (2):564.

Arnold, Robert. 2008. "Reestimating the Phillips Curve and the NAIRU." Working Paper 2008-06. Washington, D.C.: Congressional Budget Office. https://www.cbo.gov/publication/20009.

Bayer, Patrick, and Kerwin Kofi Charles. 2017. "Divergent Paths: Structural Change, Economic Rank, and the Evolution of Black-White Earnings Differences, 1940-2014." Working Paper 22797. National Bureau of Economic Research. https://doi.org/10.3386/w22797.

Bellou, Andriana, and Barış Kaymak. 2012. "Wages, Implicit Contracts, and the Business Cycle: Evidence from a European Panel." *Labour Economics* 19 (6):898–907. https://doi.org/10.1016/j.labeco.2012.08.003.

Biddle, Jeff E., and Daniel S. Hamermesh. 2013. "Wage Discrimination over the Business Cycle." *IZA Journal of Labor Policy; Heidelberg* 2 (1):1–19. http://dx.doi.org.ezproxy.gsu.edu/10.1186/2193-9004-2-7.

Bradbury, Katharine L. 2000. "Rising Tide in the Labor Market: To What Degree Do Expansions Benefit the Disadvantaged?" *New England Economic Review; Boston*, June, 3–33.

Cajner, Tomaz, Tyler Radler, David Ratner, and Ivan Vidangos. 2017. "Racial Gaps in Labor Market Outcomes in the Last Four Decades and over the Business Cycle." Working Paper 2017-071. Finance and Economics Discussion Series. Washington, D.C.: Federal Reserve Board.

Carneiro, Anabela, Paulo Guimarães, and Pedro Portugal. 2012. "Real Wages and the Business Cycle: Accounting for Worker, Firm, and Job Title Heterogeneity." *American Economic Journal: Macroeconomics* 4 (2):133–52. https://doi.org/10.1257/mac.4.2.133.

CBO. 1994. "Appendix B: Reestimating the NAIRU." In *The Economic and Budget Outlook: An Update*, 59–62. Washington, D.C.: Congressional Budget Office. https://www.cbo.gov/publication/15041.

Condon, Christopher, and Craig Torres. 2016. "Fed's Rosengren Says Economy Already Headed for Hot Labor Market." *Bloomberg.Com*, October 17, 2016. https://www.bloomberg.com/news/articles/2016-10-17/fed-s-rosengren-says-economy-already-headed-for-hot-labor-market.

Engemann, Kristie M., and Howard J. Wall. 2010. "The Effects of Recessions Across Demographic Groups." Federal Reserve Bank of St. Louis.

Fischer, Stanley. 2016. "Why Are Interest Rates So Low? Causes and Implications." Speech transcript. Board of Governors of the Federal Reserve System, Speeches. October 17, 2016. https://www.federalreserve.gov/newsevents/speech/fischer20161017a.htm.

Fleischman, Charles A., and Joshua H. Gallin. 2001. "Employment Persistence." Finance and Economics Discussion Series 2001–25. Board of Governors of the Federal Reserve System (U.S.). https://ideas.repec.org/p/fip/fedgfe/2001-25.html.

Holzer, Harry J., Steven Raphael, and Michael A. Stoll. 2006. "Employers in the Boom: How Did the Hiring of Less-Skilled Workers Change during the 1990s?" *The Review of Economics and Statistics* 88 (2):283–99.

Hotchkiss, Julie L. 1991. "A Time Series Analysis of Disaggregate U.S. Unemployment." *Journal of Macroeconomics* 13 (4):701–11. https://doi.org/10.1016/S0164-0704(05)80021-7.

Hoynes, Hilary, Douglas L. Miller, and Jessamyn Schaller. 2012. "Who Suffers During Recessions?" *The Journal of Economic Perspectives* 26 (3):27–47.

Jefferson, Philip N. 2005. "Does Monetary Policy Affect Relative Educational Unemployment Rates?" *American Economic Review* 95 (2):76–82.

Kahn, Lisa B. 2010. "The Long-Term Labor Market Consequences of Graduating from College in a Bad Economy." *Labour Economics* 17 (2):303–16.

Kondo, Ayako. 2015. "Differential Effects of Graduating during a Recession across Gender and Race." *IZA Journal of Labor Economics; Heidelberg* 4 (1):1–24. http://dx.doi.org.ezproxy.gsu.edu/10.1186/s40172-015-0040-6.

Krause, Michael U., and Thomas A. Lubik. 2006. "The Cyclical Upgrading of Labor and On-the-Job Search." *Labour Economics*, Special Issue: European Association of Labour Economists, 2nd World Conference SOLE/EALE, Fairmont Hotel San Francisco, USA, 2–5 June 2005, 13 (4):459–77. https://doi.org/10.1016/j.labeco.2006.02.007.

Maclean, Johanna Catherine. 2013. "The Health Effects of Leaving School in a Bad Economy." *Journal of Health Economics* 32 (5):951–64. https://doi.org/10.1016/j.jhealeco.2013.07.003.

Maclean, Johanna Catherine, and Terrence D. Hill. 2015. "Leaving School in an Economic Downturn and Self-Esteem across Early and Middle Adulthood." *Labour Economics* 37 (December):1–12. https://doi.org/10.1016/j.labeco.2015.08.004.

Martins, Pedro S., Gary Solon, and Jonathan P. Thomas. 2012. "Measuring What Employers Do about Entry Wages over the Business Cycle: A New Approach." *American Economic Journal: Macroeconomics* 4 (4):36–55. https://doi.org/10.1257/mac.4.4.36.

Okun, Arthur M., William Fellner, and Alan Greenspan. 1973. "Upward Mobility in a High-Pressure Economy." *Brookings Papers on Economic Activity* 1973 (1):207–61. https://doi.org/10.2307/2534087.

Oreopoulos, Philip, Till von Wachter, and Andrew Heisz. 2012. "The Short-and Long-Term Career Effects of Graduating in a Recession." *American Economic Journal: Applied Economics* 4 (1):1–29.

Rose, Andrew K., George A. Akerlof, and Janet L. Yellen. 1988. "Job Switching and Job Satisfaction in the U.S. Labor Market." *Brookings*, no. 2:495–582.

Schmieder, Johannes F., and Till von Wachter. 2010. "Does Wage Persistence Matter for Employment Fluctuations? Evidence from Displaced Workers." *American Economic Journal: Applied Economics* 2 (3):1–21. https://doi.org/10.1257/app.2.3.1.

Wachter, Till von, and Stefan Bender. 2006. "In the Right Place at the Wrong Time: The Role of Firms and Luck in Young Workers' Careers." *The American Economic Review* 96 (5):1679–1705.

Walden, Michael L. 2012. "Explaining Differences in State Unemployment Rates During the Great Recession." *Journal of Regional Analysis & Policy* 43 (3):251–57.

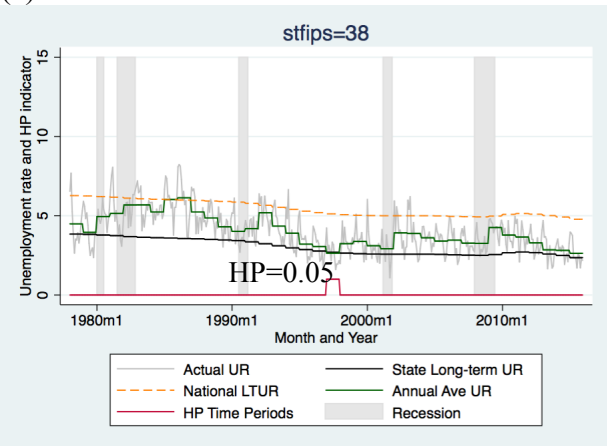
Williams, Joan C. 2016. "What So Many People Don't Get About the U.S. Working Class." Harvard Business Review. November 10, 2016. https://hbr.org/2016/11/what-so-many-people-dont-get-about-the-u-s-working-class.

Yagan, Danny. 2017. "Employment Hysteresis from the Great Recession." Working Paper 23844. National Bureau of Economic Research. https://doi.org/10.3386/w23844.

Zavodny, Madeline, and Tao Zha. 2000. "Monetary Policy and Racial Unemployment Rates." *Federal Reserve Bank of Atlanta Economic Review* 85 (4):1–59.

Figure 1. Actual and natural rate of unemployment with indicator of high-pressure total exposure for North Dakota and Mississippi.

(a) North Dakota



(b) Mississippi

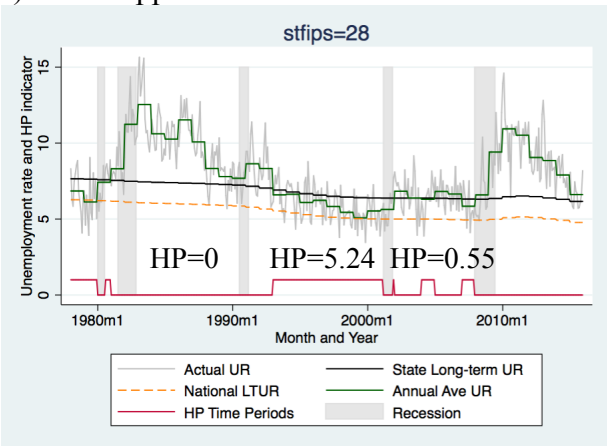
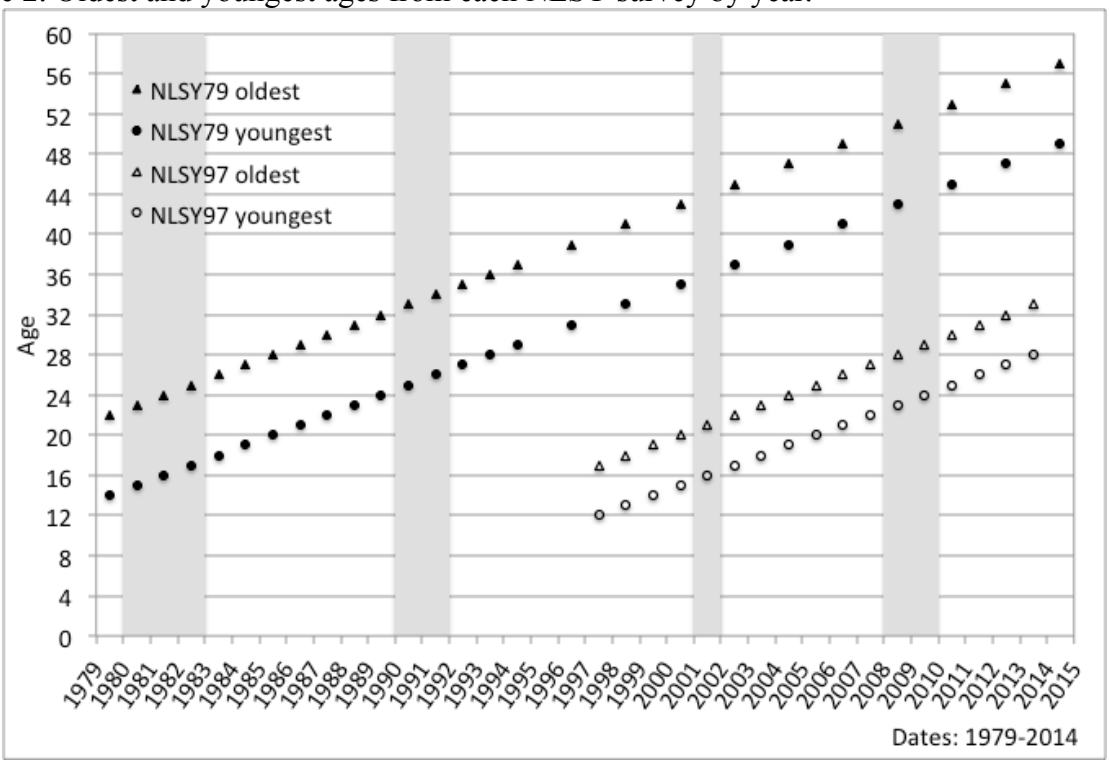
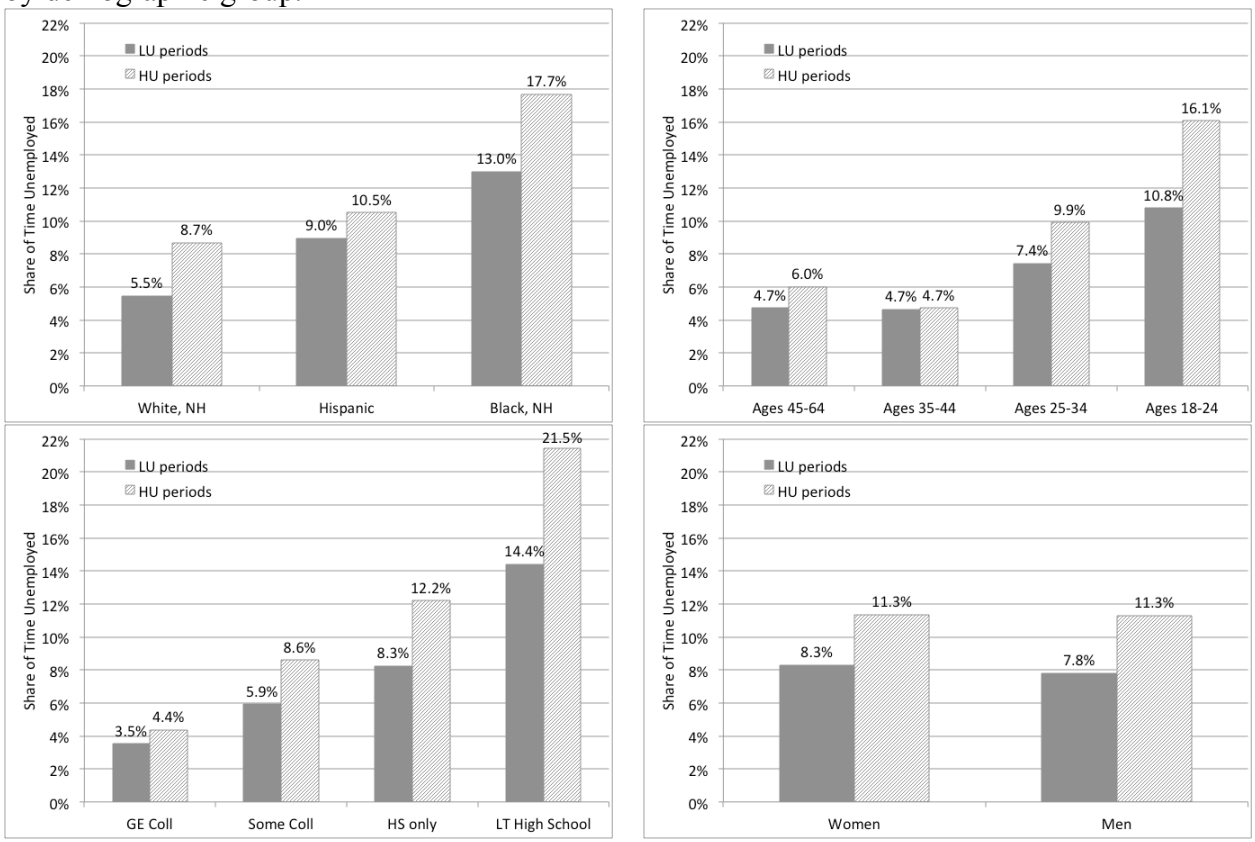


Figure 2. Oldest and youngest ages from each NLSY survey by year.



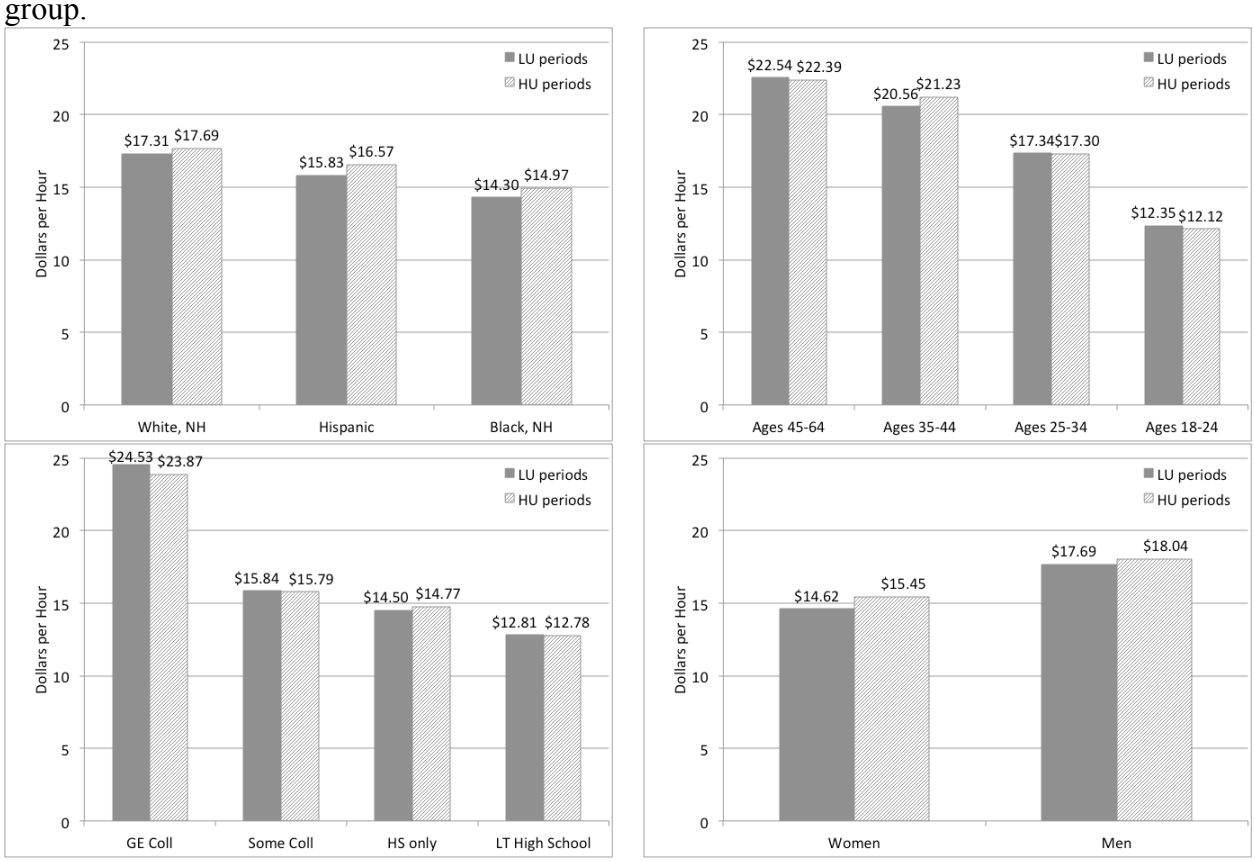
Note: Recessionary years shaded in gray.

Figure 3. Average share of time spent unemployed during high- and low-unemployment periods by demographic group.



Notes: Data source is the NLSY (1979 and 1997). Means for those with non-zero employment during expansions.

Figure 4. Average hourly pay during high- and low-unemployment periods by demographic group.



Notes: Data source is the NLSY (1979 and 1997). Means over workers only, excluding bottom and top one percent of wage earners and those reporting a wage of less than one dollar per hour; real values in 2014 dollars.

Figure 5. Predicted *share of time spent unemployed* during high-unemployment periods for various levels of high-pressure **intensity** in preceding expansion.

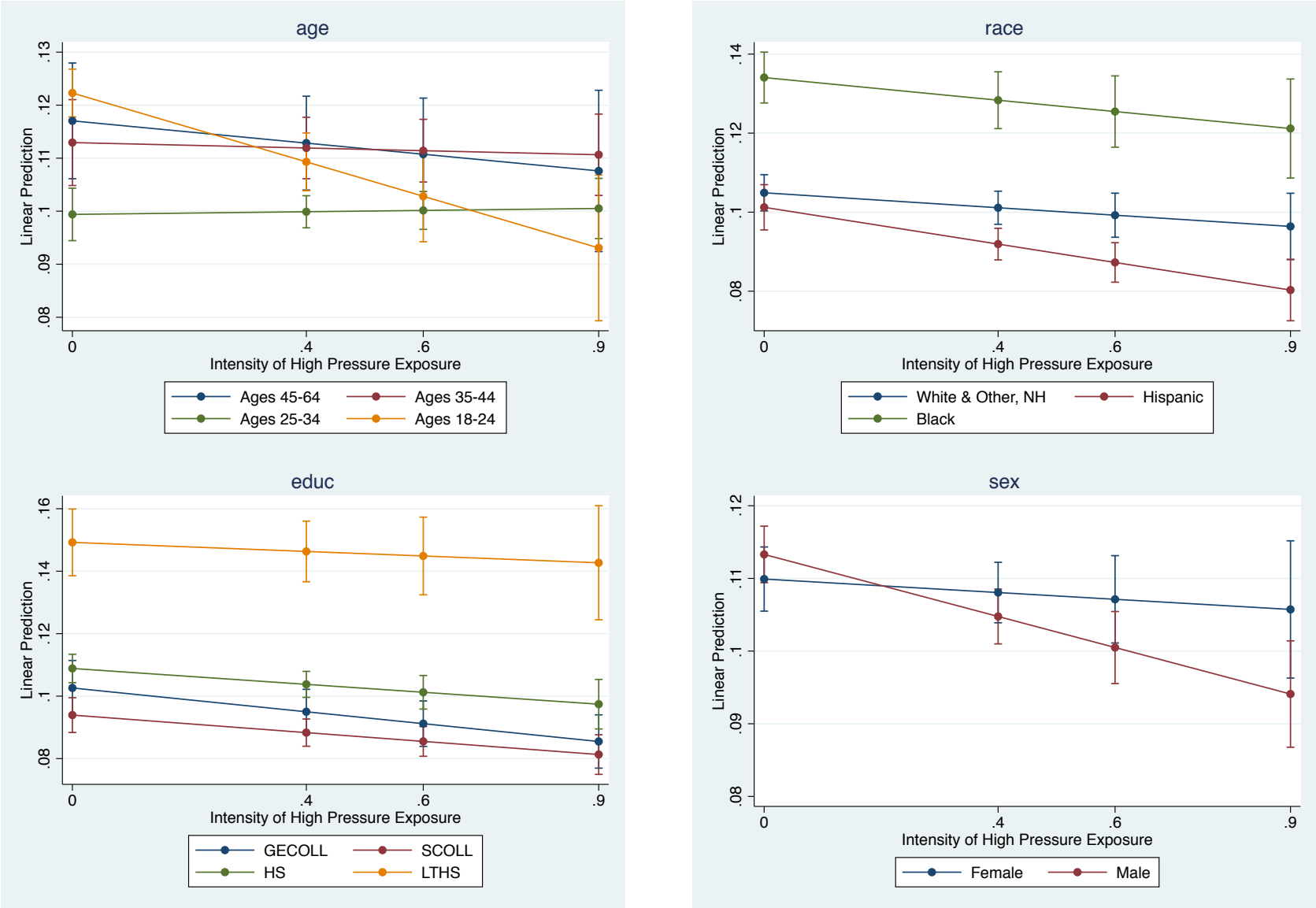


Figure 6. Predicted *share of time spent unemployed* during high-unemployment periods for various levels of high-pressure **duration** (in years) in preceding expansion.

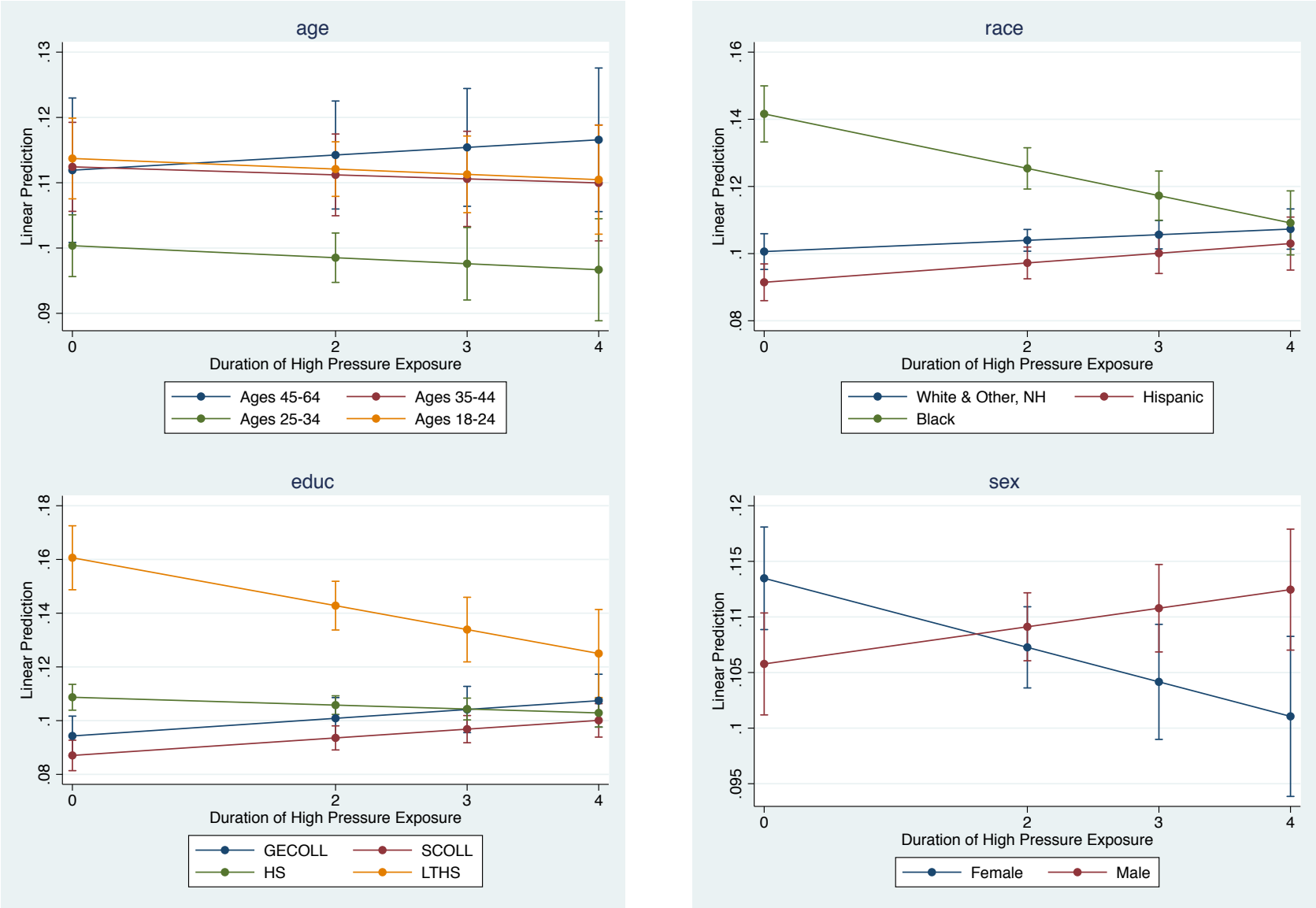


Figure 7. Predicted *share of time spent in the labor force* during high-unemployment periods for various levels of high-pressure **intensity** in preceding expansion.

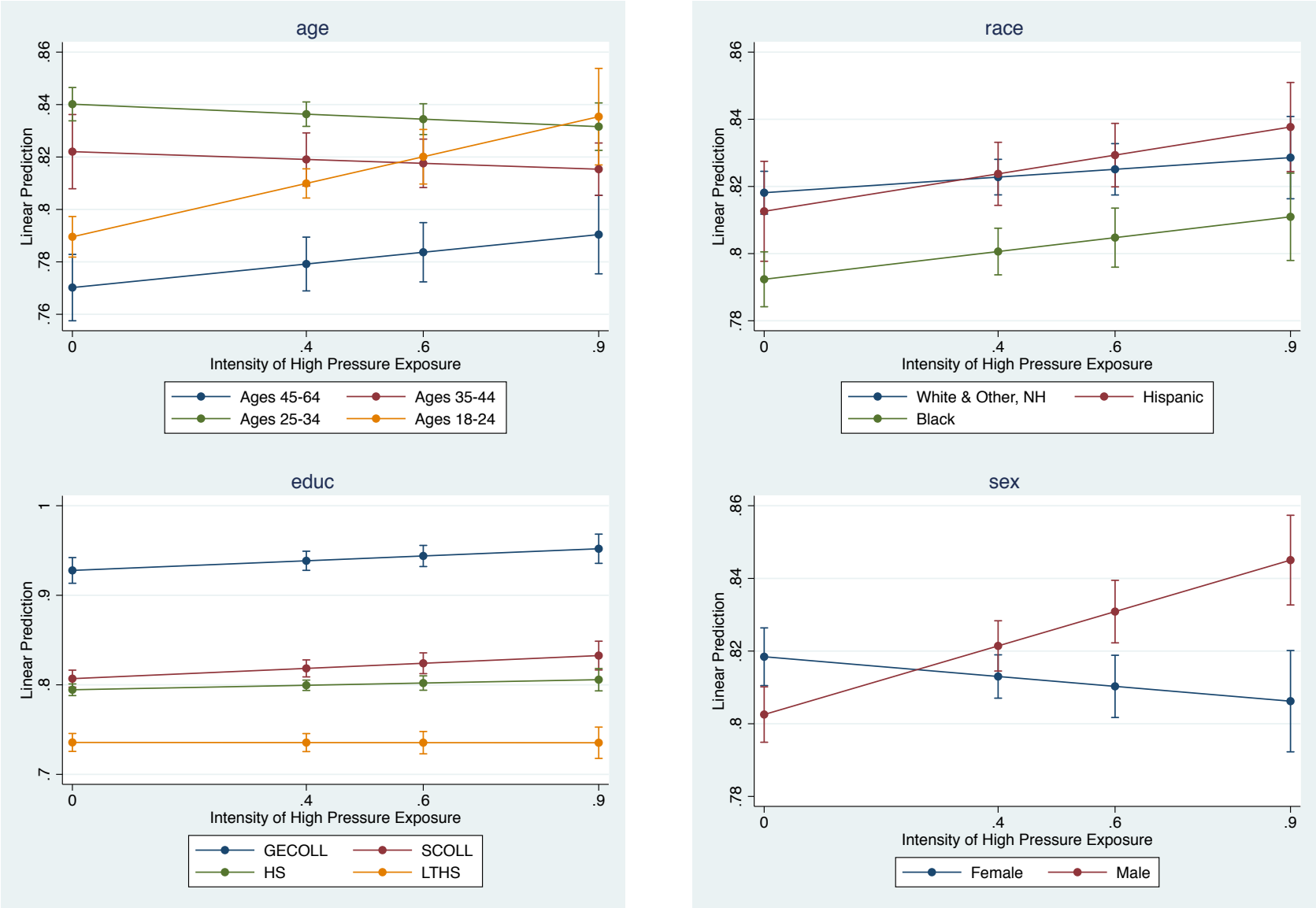


Figure 8. Predicted *share of time spent in the labor force* during high-unemployment periods for various levels of high-pressure **duration** (in years) in preceding expansion.

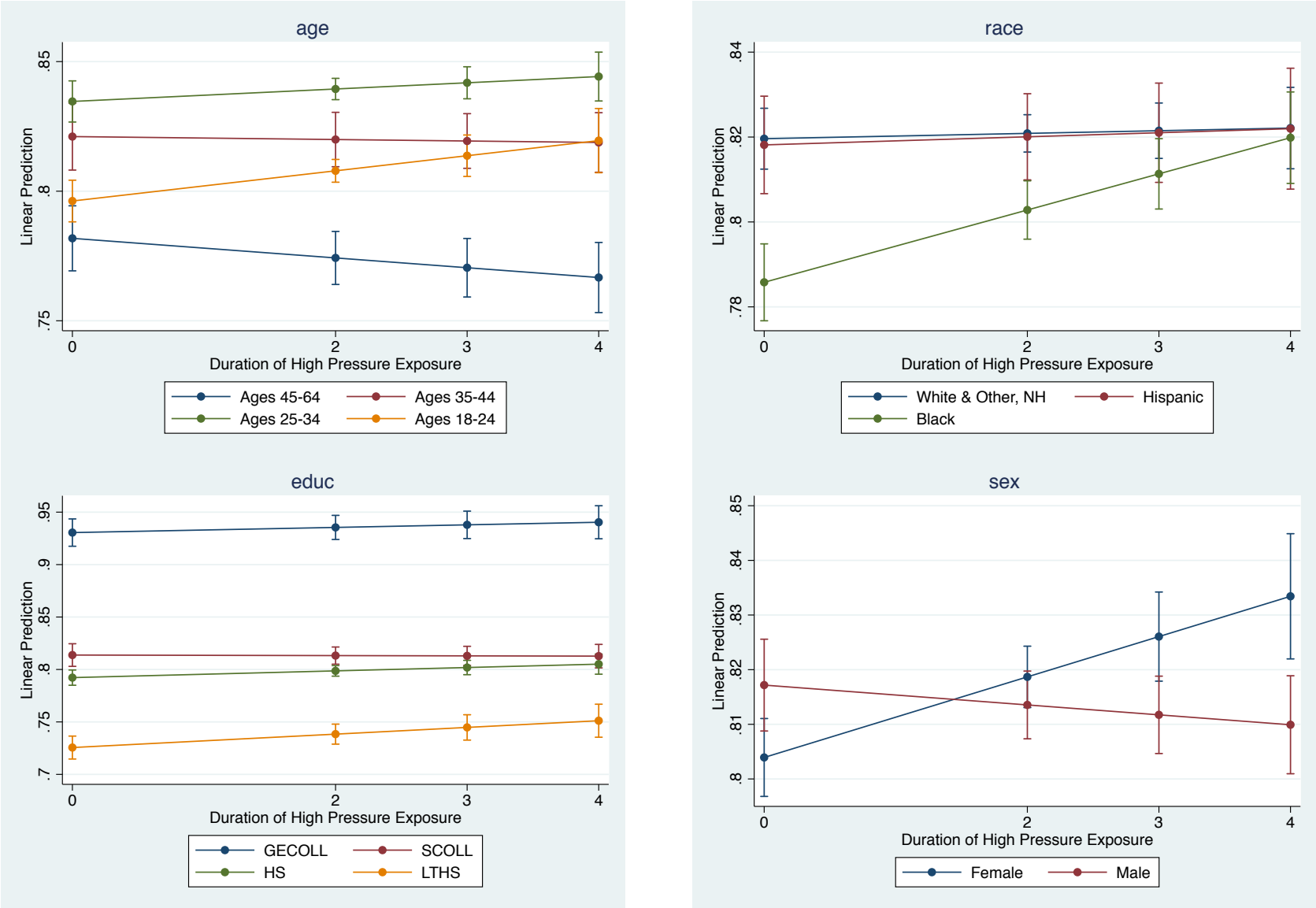


Figure 9. Predicted *real hourly pay* during high-unemployment periods for various levels of high-pressure **intensity** in preceding expansion.

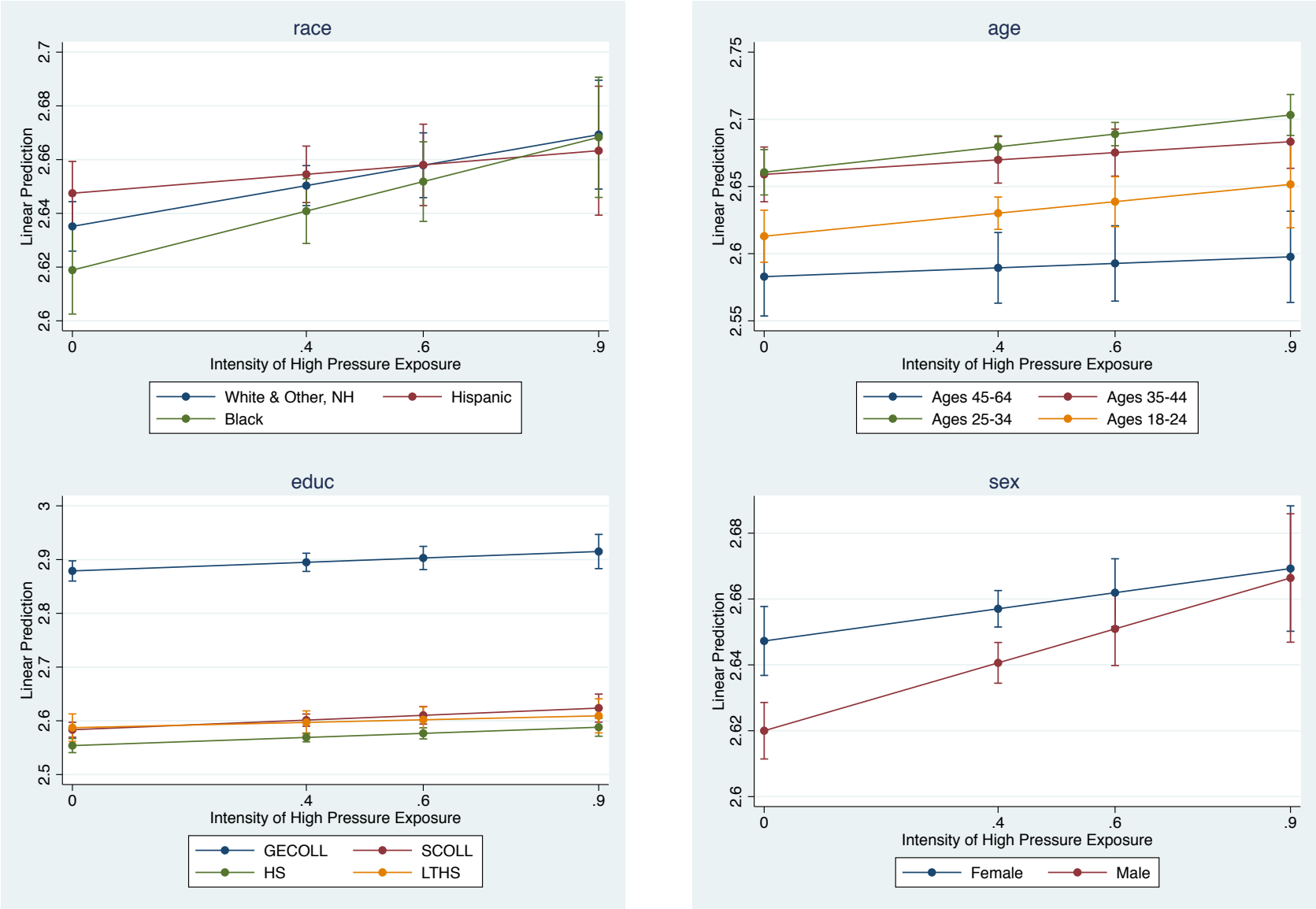


Figure 10. Predicted *weekly hours* during high-unemployment periods for various levels of high-pressure **duration** (in years) in preceding expansion.

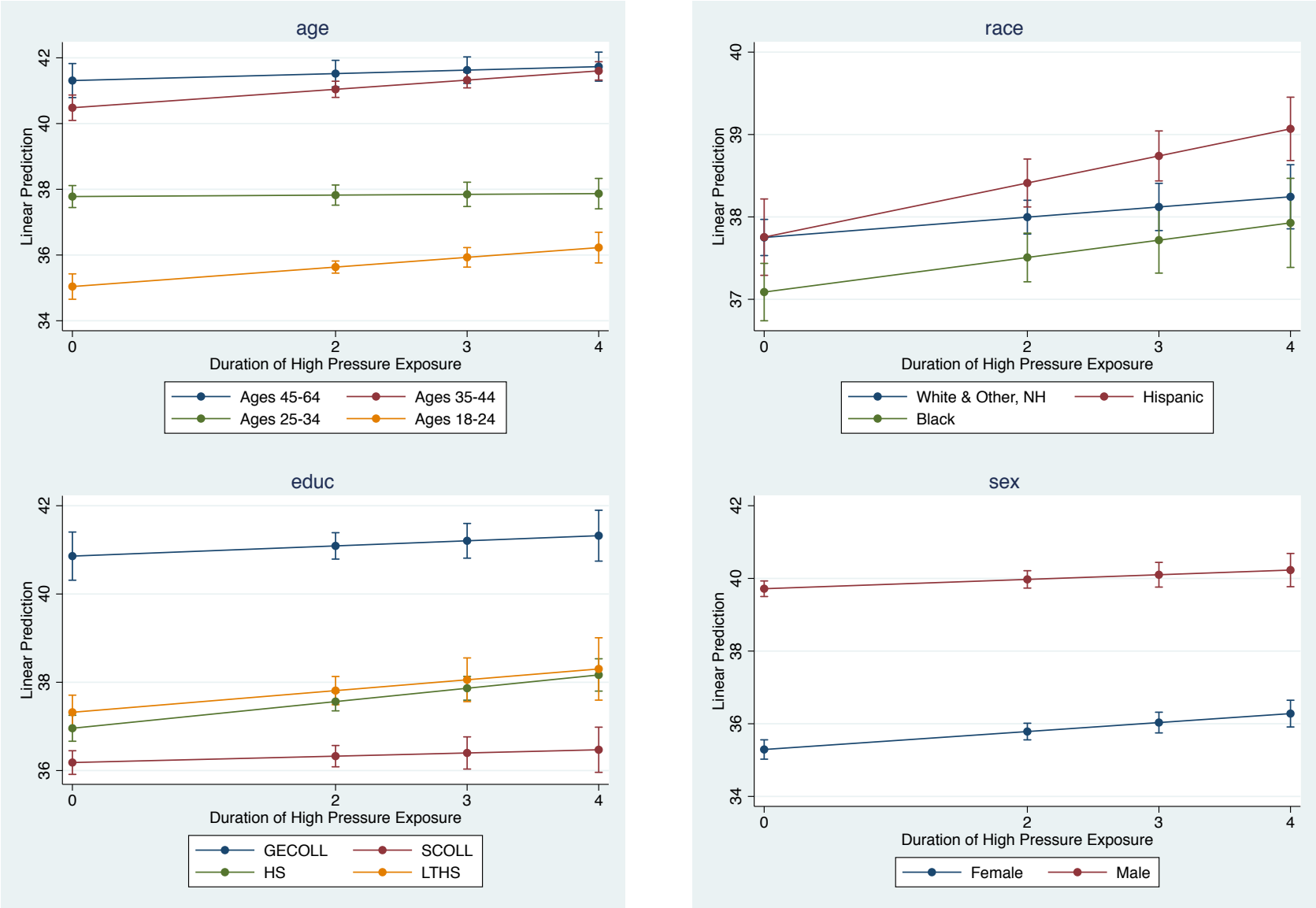


Table 1. Unweighted sample means of NLSY by cohort and age group.

	All Ages		18-24 year olds		25-34 year olds		35-44 year olds	45-64 year olds
Variable	NLSY79	NLSY97	NLSY79	NLSY97	NLSY79	NLSY97	NLSY79	NLSY79
Age 45-64 = 1	.1408	0						
	(.3478)	(0)						
Age 35-44 = 1	.1839	0						
	(.3874)	(0)						
Age 25-34 = 1	.3891	.4139						
	(.4876)	(.4925)						
Age 18-24 = 1	.2861	.5861						
	(.452)	(.4925)						
College or more = 1	.1838	.1982	.0727	.116	.2096	.3146	.2321	.2754
	(.3874)	(.3986)	(.2597)	(.3202)	(.407)	(.4643)	(.4222)	(.4467)
Some College = 1	.244	.3377	.2437	.3566	.2274	.311	.2491	.2839
	(.4295)	(.4729)	(.4293)	(.479)	(.4191)	(.4629)	(.4325)	(.4509)
High School = 1	.3732	.3106	.409	.3474	.3675	.2584	.3531	.3424
	(.4837)	(.4627)	(.4917)	(.4761)	(.4821)	(.4378)	(.478)	(.4745)
Less than HS = 1	.1989	.1535	.2745	.18	.1955	.116	.1656	.0983
	(.3992)	(.3605)	(.4463)	(.3842)	(.3966)	(.3202)	(.3718)	(.2977)
White & Other = 1	.5689	.5312	.6068	.5367	.576	.5234	.5292	.5244
	(.4952)	(.499)	(.4885)	(.4987)	(.4942)	(.4995)	(.4992)	(.4994)
Hispanic = 1	.1704	.2119	.159	.2111	.1672	.2131	.1851	.1833
	(.376)	(.4087)	(.3657)	(.4081)	(.3732)	(.4095)	(.3884)	(.3869)
Black = 1	.2607	.2569	.2342	.2522	.2568	.2635	.2857	.2923
	(.439)	(.4369)	(.4235)	(.4343)	(.4369)	(.4405)	(.4518)	(.4548)
Male = 1	.5213	.504	.5172	.5017	.5255	.5071	.522	.5174
	(.4995)	(.5)	(.4997)	(.5)	(.4994)	(.5)	(.4995)	(.4997)
Observations	170938	81859	48913	47980	66517	33879	31441	24067

Note: Samples include NLSY oversample of the poor and racial/ethnic minorities; restricted to those with non-zero employment during expansions. Standard deviations in parentheses.

Table 2. Marginal effect of the impact of high-unemployment periods and high-pressure total intensity on labor market outcomes, by demographic groups.

	Share of time spent unemployed		Share of time spent in the labor force		Log real hourly pay		Weekly hours	
	Marginal effect of high unempl. $\frac{\partial Ushare}{\partial HU}$	Marginal effect of HP exposure $\left.\frac{\partial Ushare}{\partial HPsum}\right\|_{HU=1}$	Marginal effect of high unempl. $\frac{\partial LFshare}{\partial HU}$	Marginal effect of HP exposure $\left.\frac{\partial LFshare}{\partial HPsum}\right\|_{HU=1}$	Marginal effect of high unempl. $\frac{\partial lnW}{\partial HU}$	Marginal effect of HP exposure $\left.\frac{\partial lnW}{\partial HPsum}\right\|_{HU=1}$	Marginal effect of high unempl. $\frac{\partial Hrs}{\partial HU}$	Marginal effect of HP exposure $\left.\frac{\partial Hrs}{\partial HPsum}\right\|_{HU=1}$
Full Sample	0.0122***	-0.0014***	-0.0004	0.0027***	-0.0200***	0.0033*	-0.2638**	0.019
	[0.0025]	[0.0004]	[0.0046]	[0.0007]	[0.0037]	[0.0016]	[0.0989]	[0.0230]
Ages 45-57	-0.0188*	-0.0012	-0.0039	0.0004	-0.0433***	0.0059**	-0.8094*	0.0807*
	[0.0085]	[0.0012]	[0.0085]	[0.0013]	[0.0115]	[0.0018]	[0.3159]	[0.0407]
Ages 35-44	0.0033	-0.0012*	0.0038	-0.001	-0.0205***	0.0033	-0.7032***	0.025
	[0.0045]	[0.0005]	[0.0064]	[0.0011]	[0.0046]	[0.0018]	[0.1877]	[0.0348]
Ages 25-34	0.0139***	-0.0001	0.009	-0.0001	-0.0121	0.0047*	0.0209	-0.0737
	[0.0026]	[0.0007]	[0.0048]	[0.0009]	[0.0072]	[0.0024]	[0.2105]	[0.0404]
Ages 18-24	0.0194***	-0.0045***	-0.0062	0.0098***	-0.0192***	0.0049	-0.0825	0.1209
	[0.0037]	[0.0013]	[0.0058]	[0.0026]	[0.0051]	[0.0032]	[0.0912]	[0.0686]
White, NH	0.0074**	0.0006	0.0045	0.0012	-0.0175***	0.0039	-0.0592	-0.0266
	[0.0029]	[0.0005]	[0.0045]	[0.0009]	[0.0043]	[0.0022]	[0.1167]	[0.0311]
Hispanic	-0.0004	-0.0014	0.0053	0.0040*	-0.0110*	0.0041	-0.3517*	0.0825
	[0.0027]	[0.0009]	[0.0068]	[0.0017]	[0.0054]	[0.0035]	[0.1624]	[0.0747]
Black, NH	0.0313***	-0.0081***	-0.0148**	0.0085***	-0.0320***	0.0066**	-0.6271***	0.1373**
	[0.0043]	[0.0013]	[0.0054]	[0.0015]	[0.0065]	[0.0022]	[0.1315]	[0.0496]
GE College	-0.0077**	0.0003	0.0039	0.0043*	0.0179	4.1x10-5	0.8178**	-0.075
	[0.0029]	[0.0005]	[0.0065]	[0.0019]	[0.0105]	[0.0015]	[0.2492]	[0.0384]
Some College	0.0046	0.0007	-0.0055	0.0032***	-0.0250***	0.0082*	-0.3454*	0.0203
	[0.0030]	[0.0008]	[0.0051]	[0.0007]	[0.0060]	[0.0033]	[0.1535]	[0.0308]
High School	0.0136***	-0.0024**	0.0055	0.0033**	-0.0349***	0.0066*	-0.7388***	0.0915
	[0.0025]	[0.0008]	[0.0051]	[0.0011]	[0.0056]	[0.0028]	[0.1542]	[0.0510]
LT High School	0.0396***	-0.0078***	-0.0084	0.0043*	-0.0259**	-0.0007	-0.4574***	0.0976
	[0.0050]	[0.0013]	[0.0068]	[0.0018]	[0.0082]	[0.0026]	[0.1214]	[0.1059]

	Share of time spent unemployed		Share of time spent in the labor force		Log real hourly pay		Weekly hours	
	Marginal effect of high unempl. $\frac{\partial Ushare}{\partial HU}$	Marginal effect of HP exposure $\left.\frac{\partial Ushare}{\partial HPsum}\right\|_{HU=1}$	Marginal effect of high unempl. $\frac{\partial LFshare}{\partial HU}$	Marginal effect of HP exposure $\left.\frac{\partial LFshare}{\partial HPsum}\right\|_{HU=1}$	Marginal effect of high unempl. $\frac{\partial lnW}{\partial HU}$	Marginal effect of HP exposure $\left.\frac{\partial lnW}{\partial HPsum}\right\|_{HU=1}$	Marginal effect of high unempl. $\frac{\partial Hrs}{\partial HU}$	Marginal effect of HP exposure $\left.\frac{\partial Hrs}{\partial HPsum}\right\|_{HU=1}$
Females	0.0127***	-0.0027***	-0.0022	0.0032**	-0.0113**	0.0026	-0.2133	0.0319
	[0.0029]	[0.0006]	[0.0046]	[0.0010]	[0.0042]	[0.0023]	[0.1264]	[0.0353]
Males	0.0117***	-0.0015*	0.0013	0.0041**	-0.0282***	0.0066**	-0.3111*	0.0418
	[0.0028]	[0.0007]	[0.0055]	[0.0014]	[0.0039]	[0.0024]	[0.1275]	[0.0545]
Observations	252,797		271,814		140,997		149,158	

Notes: Data source is the National Longitudinal Survey of Youth (1979 and 1997). Robust standard errors, in brackets, are clustered at the state level; *** p<0.01, ** p<0.05, * p<0.1. All regressions include year, state, and individual fixed effects. Hourly pay and weekly hours regressions include controls for occupation and industry. Regressions include the NLSY oversample of the poor and racial/ethnic minorities. Sample is restricted to individual who had nonzero employment during expansionary periods, positive wage (for log real hourly pay analysis), and positive hours (for weekly hours analysis).

Table 3. Marginal effect of high-unemployment periods and high-pressure intensity and high-pressure duration on share of time unemployed and share of time in the labor force, by demographic groups

	Share of time spent unemployed			Share of time in labor force		
	Marginal effect of high unempl. $\frac{\partial ushare}{\partial HU}$	Marginal effect of average HP intensity $\left.\frac{\partial Ushare}{\partial HPavg}\right\|_{HU=1}$	Marginal effect of HP duration $\left.\frac{\partial Ushare}{\partial HPn}\right\|_{HU=1}$	Marginal effect of high unempl. $\frac{\partial LFshare}{\partial HU}$	Marginal effect of average HP intensity $\left.\frac{\partial LFshare}{\partial HPavg}\right\|_{HU=1}$	Marginal effect of HP duration $\left.\frac{\partial LFshare}{\partial HPn}\right\|_{HU=1}$
Full Sample	0.0128***	**-0.0098****	-0.0003	-0.0009	**0.0131***	0.0019
	[0.0025]	[0.0034]	[0.0007]	[0.0049]	[0.0054]	[0.0011]
Ages 45-57	-0.0198*	-0.0105	0.0012	-0.0007	**0.0225***	-0.0038
	[0.0086]	[0.0109]	[0.0019]	[0.0091]	[0.0104]	[0.0021]
Ages 35-44	0.0036	-0.0025	-0.0006	0.007	-0.0074	-0.0006
	[0.0046]	[0.0062]	[0.0012]	[0.0070]	[0.0083]	[0.0016]
Ages 25-34	0.0141***	0.0012	-0.0009	0.0102*	-0.0095	0.0024
	[0.0026]	[0.0049]	[0.0013]	[0.0052]	[0.0070]	[0.0020]
Ages 18-24	0.0184***	**-0.0325*****	-0.0008	-0.005	**0.0509*****	**0.0058***
	[0.0039]	[0.0092]	[0.0015]	[0.0062]	[0.0141]	[0.0024]
White, NH	0.0071*	-0.0095	0.0017	0.0052	0.0116	0.0006
	[0.0030]	[0.0058]	[0.0012]	[0.0049]	[0.0089]	[0.0018]
Hispanic	-0.0004	**-0.0233*****	**0.0029***	0.0041	0.0279*	0.001
	[0.0027]	[0.0061]	[0.0012]	[0.0074]	[0.0121]	[0.0020]
Black, NH	0.0349***	-0.0143	-0.0081***	-0.0181**	**0.0207***	**0.0085*****
	[0.0042]	[0.0073]	[0.0017]	[0.0058]	[0.0091]	[0.0018]
GE College	-0.0076*	**-0.0190*****	**0.0033****	0.0013	**0.0269***	0.0025
	[0.0030]	[0.0056]	[0.0010]	[0.0069]	[0.0124]	[0.0022]
Some Coll	0.0041	**-0.0140****	**0.0033****	-0.0065	**0.0286****	-0.0003
	[0.0032]	[0.0046]	[0.0010]	[0.0055]	[0.0099]	[0.0019]
High Schl	0.0143***	**-0.0127***	-0.0015	0.0055	0.0125	0.0032
	[0.0024]	[0.0054]	[0.0009]	[0.0055]	[0.0088]	[0.0017]
LT HS	0.0408***	-0.0073	**-0.0089****	-0.0073	-0.0004	**0.0064****
	[0.0049]	[0.0124]	[0.0028]	[0.0070]	[0.0108]	[0.0025]
Females	0.0134***	-0.0046	**-0.0031***	-0.0014	-0.0136	**0.0074*****
	[0.0029]	[0.0066]	[0.0012]	[0.0049]	[0.0106]	[0.0020]
Males	0.0122***	**-0.0213*****	0.0017	-0.0005	**0.0472*****	-0.0018
	[0.0028]	[0.0048]	[0.0010]	[0.0060]	[0.0082]	[0.0016]
Obs	252,797			271,814		

Notes: Data source is the National Longitudinal Survey of Youth (1979 and 1997). Robust standard errors, in brackets, are clustered at the state level; *** p<0.01, ** p<0.05, * p<0.1. All regressions include year, state, and individual fixed effects. Regressions include the NLSY oversample of the poor and racial/ethnic minorities. Sample is restricted to individual who had nonzero employment during expansionary periods.

Table 4. Marginal effect of high-unemployment periods and high-pressure intensity and high-pressure duration on log real hourly pay and weekly hours, by demographic group.

	Log Real Hourly Pay			Weekly Hours		
	Marginal effect of high unempl. $\frac{\partial lnW}{\partial HU}$	Marginal effect of average HP intensity $\left.\frac{\partial lnW}{\partial HPavg}\right\|_{HU=1}$	Marginal effect of HP duration $\left.\frac{\partial lnW}{\partial HPn}\right\|_{HU=1}$	Marginal effect of high unempl. $\frac{\partial Hrs}{\partial HU}$	Marginal effect of average HP intensity $\left.\frac{\partial Hrs}{\partial HPavg}\right\|_{HU=1}$	Marginal effect of HP duration $\left.\frac{\partial Hrs}{\partial HPn}\right\|_{HU=1}$
Full Sample	-0.0252***	**0.0267****	0.0007	-0.4241***	0.0421	**0.1130*****
	[0.0040]	[0.0092]	[0.0012]	[0.1085]	[0.2154]	[0.0340]
Ages 45-57	-0.0483***	0.0164	0.0055	-0.2307	-0.5472	0.1059
	[0.0123]	[0.0197]	[0.0032]	[0.3136]	[0.3523]	[0.0667]
Ages 35-44	-0.0257***	**0.0270***	0.001	-0.6698**	**-0.9121****	**0.2801*****
	[0.0059]	[0.0117]	[0.0023]	[0.2155]	[0.3337]	[0.0587]
Ages 25-34	-0.0201*	**0.0474****	-0.0017	-0.5593*	-0.0975	0.0222
	[0.0082]	[0.0159]	[0.0028]	[0.2750]	[0.3745]	[0.0670]
Ages 18-24	-0.0215***	0.0428	0.002	-0.0396	0.8461	**0.2963****
	[0.0048]	[0.0262]	[0.0029]	[0.1139]	[0.6714]	[0.0986]
White, NH	-0.0233***	**0.0379***	0.0011	-0.222	0.0005	**0.1235***
	[0.0045]	[0.0150]	[0.0020]	[0.1293]	[0.3656]	[0.0613]
Hispanic	-0.0165**	0.0176	0.0041	-0.5005**	-0.3376	**0.3286*****
	[0.0056]	[0.0171]	[0.0031]	[0.1700]	[0.3586]	[0.0793]
Black, NH	-0.0350***	**0.0549****	-0.0014	-0.7834***	0.4906	**0.2100***
	[0.0075]	[0.0171]	[0.0024]	[0.1398]	[0.4065]	[0.0882]
GE College	0.0124	0.0402	-0.0033	0.7039**	-0.3937	0.1157
	[0.0096]	[0.0217]	[0.0044]	[0.2620]	[0.5800]	[0.1212]
Some Coll	-0.0334***	**0.0448***	**0.0054***	-0.5909***	0.9488	0.0724
	[0.0072]	[0.0191]	[0.0022]	[0.1731]	[0.5075]	[0.0840]
High Schl	-0.0405***	**0.0380****	0.0031	-0.8581***	-0.3511	**0.3021*****
	[0.0060]	[0.0141]	[0.0019]	[0.1623]	[0.3346]	[0.0658]
LT HS	-0.0248**	0.0245	**-0.0062***	-0.5733***	-0.1656	**0.2455***
	[0.0089]	[0.0214]	[0.0030]	[0.1556]	[0.7088]	[0.1204]
Females	-0.0150***	0.0244	0.0008	-0.2526*	-0.4287	**0.2470*****
	[0.0044]	[0.0158]	[0.0022]	[0.1137]	[0.2799]	[0.0575]
Males	-0.0349***	**0.0515*****	0.0012	-0.5866***	0.5203	0.1284
	[0.0043]	[0.0149]	[0.0020]	[0.1663]	[0.5010]	[0.0677]
Obs	140,997			149,158		

Notes: Data source is the National Longitudinal Survey of Youth (1979 and 1997). Robust standard errors, in brackets, are clustered at the state level; *** p<0.01, ** p<0.05, * p<0.1. All regressions include year, state, and individual fixed effects as well as controls for industry and occupation. Regressions include the NLSY oversample of the poor and racial/ethnic minorities. Sample is restricted to individual who had nonzero employment during expansionary periods. Only workers with non-zero wages and hours are included in analysis.

Appendix A. Outcomes During Low-unemployment Periods

Table A1. Marginal effect of low-unemployment periods and high-pressure intensity and high-pressure duration on share of time unemployed and share of time in the labor force, by demographic groups

	Share of time spent unemployed			Share of time in labor force		
	Marginal effect of low unempl. $\frac{\partial Ushare}{\partial LU}$	Marginal effect of average HP intensity $\left.\frac{\partial Ushare}{\partial HPavg}\right\|_{LU=1}$	Marginal effect of years of HP exposure $\left.\frac{\partial Ushare}{\partial HPn}\right\|_{LU=1}$	Marginal effect of low unempl. $\frac{\partial LFshare}{\partial LU}$	Marginal effect of average HP intensity $\left.\frac{\partial LFshare}{\partial HPavg}\right\|_{LU=1}$	Marginal effect of years of HP exposure $\left.\frac{\partial LFshare}{\partial HPn}\right\|_{LU=1}$
Full Sample	-0.0102***	0.003	-0.0004	0.0499***	-0.0062	0.0001
	[0.0025]	[0.0016]	[0.0004]	[0.0064]	[0.0115]	[0.0028]
Ages 45-57	0.0479***	-0.0249	-0.0036	0.0768***	0.0146	-0.003
	[0.0095]	[0.0189]	[0.0030]	[0.0067]	[0.0255]	[0.0042]
Ages 35-44	-0.0029	0.0131	-0.0022	0.0804***	-0.0152	0.002
	[0.0047]	[0.0086]	[0.0020]	[0.0099]	[0.0095]	[0.0025]
Ages 25-34	-0.0181***	**0.0180***	-0.0006	0.0581***	**-0.0219***	0.0005
	[0.0022]	[0.0086]	[0.0018]	[0.0062]	[0.0097]	[0.0024]
Ages 18-24	-0.0196***	0.0036	-0.0011	0.0358***	0.0305	-0.002
	[0.0036]	[0.0094]	[0.0028]	[0.0079]	[0.0176]	[0.0031]
White, NH	-0.0090***	0.0047	0.001	0.0446***	-0.0091	-0.0007
	[0.0025]	[0.0059]	[0.0018]	[0.0066]	[0.0094]	[0.0022]
Hispanic	0.0004	0.0118	-0.0013	0.0529***	-0.0015	-0.0001
	[0.0032]	[0.0119]	[0.0030]	[0.0069]	[0.0179]	[0.0030]
Black, NH	-0.0203***	0.0116	**-0.0062****	0.0589***	0.0300*	-0.0009
	[0.0045]	[0.0106]	[0.0019]	[0.0076]	[0.0119]	[0.0023]
GE College	0.0085*	-0.0029	0.0001	0.0487***	**0.0355****	**-0.0059****
	[0.0034]	[0.0082]	[0.0014]	[0.0064]	[0.0110]	[0.0021]
Some Coll	-0.0044	0.0089	-0.0015	0.0471***	0.0068	-0.0016
	[0.0028]	[0.0063]	[0.0019]	[0.0075]	[0.0107]	[0.0023]
High Schl	-0.0129***	0.0123	-0.0008	0.0479***	-0.0125	0.0012
	[0.0030]	[0.0083]	[0.0019]	[0.0074]	[0.0121]	[0.0023]
LT HS	-0.0330***	0.0087	-0.0034	0.0583***	-0.0068	0.0023
	[0.0047]	[0.0096]	[0.0023]	[0.0059]	[0.0147]	[0.0028]
Females	-0.0095**	**0.0136***	**-0.0035***	0.0491***	-0.0153	0.0028
	[0.0030]	[0.0060]	[0.0015]	[0.0063]	[0.0111]	[0.0024]
Males	-0.0109***	0.0024	0.0008	0.0506***	**0.0202***	**-0.0040***
	[0.0027]	[0.0079]	[0.0020]	[0.0068]	[0.0097]	[0.0017]
Obs	252,797			271,814		

Notes: Data source is the National Longitudinal Survey of Youth (1979 and 1997). Robust standard errors, in brackets, are clustered at the state level; *** p<0.01, ** p<0.05, * p<0.1. All regressions include year, state, and individual fixed effects. Regressions include the NLSY oversample of the poor and racial/ethnic minorities. Sample is restricted to individual who had nonzero employment during expansionary periods.

Table A2. Marginal effect of high-unemployment periods and high-pressure intensity and high-pressure duration on log real hourly pay and weekly hours, by demographic group.

	Log Real Hourly Pay			Weekly Hours		
	Marginal effect of low unempl. $\frac{\partial lnW}{\partial LU}$	Marginal effect of average HP intensity $\left.\frac{\partial lnW}{\partial HPavg}\right\|_{LU=1}$	Marginal effect of HP duration $\left.\frac{\partial lnW}{\partial HPn}\right\|_{LU=1}$	Marginal effect of low unempl. $\frac{\partial H}{\partial LU}$	Marginal effect of average HP intensity $\left.\frac{\partial H}{\partial HPavg}\right\|_{LU=1}$	Marginal effect of HP duration $\left.\frac{\partial H}{\partial HPn}\right\|_{LU=1}$
Full Sample	0.0082*	**0.0075***	-0.0012	0.3240*	0.0576	0.0141
	[0.0039]	[0.0033]	[0.0007]	[0.1385]	[0.1361]	[0.0242]
Ages 45-57	0.0204	0.0824	-0.0088	1.8084*	**-2.5671***	0.1185
	[0.0187]	[0.0532]	[0.0084]	[0.7466]	[1.1488]	[0.1497]
Ages 35-44	0.0104	0.0182	-0.0024	0.5868**	0.3745	-0.061
	[0.0095]	[0.0106]	[0.0028]	[0.2202]	[0.2805]	[0.0874]
Ages 25-34	0.0014	0.0219	-0.0048	-0.0049	0.3009	-0.0285
	[0.0075]	[0.0145]	[0.0031]	[0.2379]	[0.4000]	[0.0709]
Ages 18-24	0.0108*	0.0284*	-0.0019	0.072	0.1589	0.1792
	[0.0052]	[0.0144]	[0.0037]	[0.0929]	[0.9053]	[0.1501]
White, NH	0.0048	0.0477***	-0.0063*	0.2385	-0.4344	0.0859
	[0.0049]	[0.0140]	[0.0026]	[0.1520]	[0.3916]	[0.0707]
Hispanic	-0.0064	0.0048	0.0087	0.357	0.3245	0.0107
	[0.0064]	[0.0269]	[0.0058]	[0.1860]	[0.6558]	[0.1452]
Black, NH	0.0273***	0.0135	**-0.0076*****	0.4791**	0.4497	0.0483
	[0.0049]	[0.0136]	[0.0021]	[0.1716]	[0.4919]	[0.1096]
GE College	-0.0542***	0.0352	**0.0110****	-0.8464**	-0.7194	**0.3008****
	[0.0149]	[0.0222]	[0.0040]	[0.2647]	[0.4923]	[0.1062]
Some Coll	0.0093	**0.0462****	-0.0029	0.3357	0.4157	0.0686
	[0.0068]	[0.0163]	[0.0027]	[0.2163]	[0.5162]	[0.0964]
High Schl	0.0311***	0.0198	**-0.0077***	0.8857***	0.0013	-0.0392
	[0.0058]	[0.0147]	[0.0031]	[0.1981]	[0.4851]	[0.1033]
LT HS	0.0357***	0.0166	**-0.0153*****	0.6247***	-0.231	-0.0472
	[0.0071]	[0.0210]	[0.0044]	[0.1825]	[0.6068]	[0.1098]
Females	0.0071	0.0073	-0.0038	0.3986*	-0.7345	0.0963
	[0.0044]	[0.0132]	[0.0028]	[0.1627]	[0.4552]	[0.1012]
Males	0.0093	**0.0523*****	-0.0036	0.2542	0.5744	0.029
	[0.0048]	[0.0148]	[0.0031]	[0.1862]	[0.6222]	[0.0863]
Obs	140,997			149,158		

Notes: Data source is the National Longitudinal Survey of Youth (1979 and 1997). Robust standard errors, in brackets, are clustered at the state level; *** p<0.01, ** p<0.05, * p<0.1. All regressions include year, state, and individual fixed effects as well as controls for industry and occupation. Regressions include the NLSY oversample of the poor and racial/ethnic minorities. Sample is restricted to individual who had nonzero employment during expansionary periods. Only workers with non-zero wages and hours are included in analysis.

Appendix B. Outcomes During Recessioons

Table B1. Marginal effect of recessions and high-pressure intensity and high-pressure duration on share of time unemployed and share of time in the labor force, by demographic groups

	Share of time spent unemployed			Share of time in labor force		
	Marginal effect of recession $\frac{\partial Ushare}{\partial R}$	Marginal effect of average HP intensity $\left.\frac{\partial Ushare}{\partial HPavg}\right\|_{R=1}$	Marginal effect of years of HP exposure $\left.\frac{\partial Ushare}{\partial HPn}\right\|_{R=1}$	Marginal effect of recession $\frac{\partial LFshare}{\partial R}$	Marginal effect of average HP intensity $\left.\frac{\partial LFshare}{\partial HPavg}\right\|_{R=1}$	Marginal effect of years of HP exposure $\left.\frac{\partial LFshare}{\partial HPn}\right\|_{R=1}$
Full Sample	0.0541***	-0.0036**	-0.0006*	-0.0530***	0.0039	0.0016***
	[0.0049]	[0.0014]	[0.0003]	[0.0066]	[0.0022]	[0.0005]
Ages 45-57	0.0759***	0.0013	-0.0031	-0.0599***	0.0082	-0.0037
	[0.0083]	[0.0149]	[0.0035]	[0.0067]	[0.0191]	[0.0040]
Ages 35-44	0.0674***	0.0625	-0.0162*	-0.0678***	-0.0066	-0.0018
	[0.0083]	[0.0337]	[0.0081]	[0.0103]	[0.0438]	[0.0092]
Ages 25-34	0.0486***	-0.0073	-0.0003	-0.0475***	-0.0073	0.0017
	[0.0061]	[0.0064]	[0.0015]	[0.0064]	[0.0084]	[0.0026]
Ages 18-24	0.0500***	-0.0315**	-0.0036	-0.0519***	0.0413*	0.0153***
	[0.0058]	[0.0109]	[0.0024]	[0.0094]	[0.0197]	[0.0037]
White, NH	0.0456***	-0.0076	-0.0018	-0.0417***	0.012	0.0027
	[0.0053]	[0.0081]	[0.0018]	[0.0072]	[0.0108]	[0.0023]
Hispanic	0.0539***	-0.0197	-0.0003	-0.0570***	0.0182	0.006
	[0.0063]	[0.0117]	[0.0028]	[0.0081]	[0.0189]	[0.0044]
Black, NH	0.0726***	0.0031	-0.0105***	-0.0740***	0.0112	0.0128***
	[0.0054]	[0.0144]	[0.0030]	[0.0083]	[0.0148]	[0.0036]
GE College	0.0480***	0.0065	-0.0031	-0.0527***	-0.0241	0.0139**
	[0.0055]	[0.0070]	[0.0018]	[0.0097]	[0.0240]	[0.0050]
Some Coll	0.0428***	-0.003	0.0016	-0.0455***	0.0114	0.0005
	[0.0053]	[0.0081]	[0.0017]	[0.0079]	[0.0160]	[0.0027]
High Schl	0.0544***	-0.0226*	-0.0021	-0.0528***	0.0259*	0.0058*
	[0.0053]	[0.0101]	[0.0022]	[0.0075]	[0.0132]	[0.0029]
LT HS	0.0761***	0.0029	-0.0159***	-0.0637***	0.0260*	0.0064
	[0.0068]	[0.0148]	[0.0037]	[0.0064]	[0.0132]	[0.0033]
Females	0.0588***	0.0037	-0.0070***	-0.0465***	-0.0084	0.0068*
	[0.0052]	[0.0095]	[0.0020]	[0.0062]	[0.0128]	[0.0029]
Males	0.0497***	-0.0171*	-0.0008	-0.0593***	0.0340*	0.0051
	[0.0058]	[0.0084]	[0.0017]	[0.0082]	[0.0147]	[0.0029]
Obs	252,797			271,814		

Notes: Data source is the National Longitudinal Survey of Youth (1979 and 1997). Robust standard errors, in brackets, are clustered at the state level; *** p<0.01, ** p<0.05, * p<0.1. All regressions include year, state, and individual fixed effects. Regressions include the NLSY oversample of the poor and racial/ethnic minorities. Sample is restricted to individual who had nonzero employment during expansionary periods.

Table B2. Marginal effect of recessions and high-pressure intensity and high-pressure duration on log real hourly pay and weekly hours, by demographic group.

	Log Real Hourly Pay			Weekly Hours		
	Marginal effect of recession $\frac{\partial lnW}{\partial R}$	Marginal effect of average HP intensity $\left.\frac{\partial lnW}{\partial HPavg}\right\|_{R=1}$	Marginal effect of HP duration $\left.\frac{\partial lnW}{\partial HPn}\right\|_{R=1}$	Marginal effect of recession $\frac{\partial H}{\partial R}$	Marginal effect of average HP intensity $\left.\frac{\partial H}{\partial HPavg}\right\|_{R=1}$	Marginal effect of HP duration $\left.\frac{\partial H}{\partial HPn}\right\|_{R=1}$
Full Sample	-0.1637***	0.0079**	0.0006	-4.2932***	-0.0348	0.0249*
	[0.0199]	[0.0026]	[0.0006]	[0.6963]	[0.0623]	[0.0126]
Ages 45-57	-0.1713***	0.0258	0.0009	-3.9435***	-0.573	0.0277
	[0.0197]	[0.0285]	[0.0056]	[0.6448]	[0.8716]	[0.1860]
Ages 35-44	-0.2074***	0.0508	-0.0024	-6.1411***	-0.192	0.2000
	[0.0254]	[0.0642]	[0.0149]	[0.7985]	[1.3845]	[0.3510]
Ages 25-34	-0.1775***	0.0466	0.0017	-4.1127***	-0.9894	0.0883
	[0.0192]	[0.0245]	[0.0053]	[0.6853]	[0.5177]	[0.1250]
Ages 18-24	-0.1291***	0.0451**	0.0054	-3.6144***	0.6327	0.2120**
	[0.0207]	[0.0153]	[0.0028]	[0.7576]	[0.4403]	[0.0788]
White, NH	-0.1636***	0.0374*	0.0031	-4.1259***	0.3755	0.0623
	[0.0189]	[0.0187]	[0.0046]	[0.7122]	[0.4192]	[0.0886]
Hispanic	-0.1582***	0.014	0.0053	-4.1475***	-1.7986	0.3322*
	[0.0259]	[0.0310]	[0.0076]	[0.7187]	[0.9239]	[0.1343]
Black, NH	-0.1675***	0.0824***	-0.0019	-4.7433***	-0.0941	0.1998
	[0.0203]	[0.0238]	[0.0042]	[0.7645]	[0.6240]	[0.1294]
GE College	-0.1362***	-0.0342	0.01	-3.1974***	-0.9528	0.1499
	[0.0237]	[0.0355]	[0.0080]	[0.7306]	[0.8869]	[0.1585]
Some Coll	-0.1680***	0.046	-0.0001	-3.9494***	1.1911	-0.3541*
	[0.0191]	[0.0272]	[0.0056]	[0.7177]	[0.7141]	[0.1488]
High Schl	-0.1759***	0.0645**	0.0031	-4.9334***	-1.2359*	0.5308***
	[0.0201]	[0.0212]	[0.0043]	[0.7284]	[0.5314]	[0.1245]
LT HS	-0.1637***	0.0987**	-0.005	-4.9628***	0.5063	0.306
	[0.0209]	[0.0344]	[0.0066]	[0.7184]	[1.0438]	[0.1896]
Females	-0.1574***	0.032	0.0021	-4.1118***	-0.4036	0.2155*
	[0.0193]	[0.0233]	[0.0050]	[0.7222]	[0.5629]	[0.1039]
Males	-0.1696***	0.0562**	0.0023	-4.4633***	0.0517	0.0893
	[0.0208]	[0.0180]	[0.0042]	[0.7048]	[0.4766]	[0.0882]
Obs	140,997			149,158		

Notes: Data source is the National Longitudinal Survey of Youth (1979 and 1997). Robust standard errors, in brackets, are clustered at the state level; *** p<0.01, ** p<0.05, * p<0.1. All regressions include year, state, and individual fixed effects as well as controls for industry and occupation. Regressions include the NLSY oversample of the poor and racial/ethnic minorities. Sample is restricted to individual who had nonzero employment during expansionary periods. Only workers with non-zero wages and hours are included in analysis.

Appendix C. Results Excluding Individual Fixed Effects

Table C1. Marginal effect of high-unemployment periods and high-pressure intensity and high-pressure duration on share of time unemployed and share of time in the labor force, by demographic groups, excluding individual fixed effects.

	Share of time spent unemployed			Share of time in labor force		
	Marginal effect of high-unempl. $\frac{\partial Ushare}{\partial HU}$	Marginal effect of average HP intensity $\left.\frac{\partial Ushare}{\partial HPavg}\right\|_{HU=1}$	Marginal effect of years of HP exposure $\left.\frac{\partial Ushare}{\partial HPn}\right\|_{HU=1}$	Marginal effect of high-unempl. $\frac{\partial LFshare}{\partial HU}$	Marginal effect of average HP intensity $\left.\frac{\partial LFshare}{\partial HPavg}\right\|_{HU=1}$	Marginal effect of years of HP exposure $\left.\frac{\partial LFshare}{\partial HPn}\right\|_{HU=1}$
Full Sample	0.0134***	-0.0119**	-0.0002	-0.002	0.0280***	0.0009
	[0.0028]	[0.0043]	[0.0008]	[0.0055]	[0.0069]	[0.0013]
Ages 45-57	-0.0188*	-0.0075	0.0005	-0.0073	0.0265*	-0.0034
	[0.0089]	[0.0120]	[0.0022]	[0.0081]	[0.0126]	[0.0024]
Ages 35-44	0.0052	0.0094	-0.0038**	0.0005	-0.0249**	0.0053**
	[0.0047]	[0.0056]	[0.0011]	[0.0085]	[0.0092]	[0.0018]
Ages 25-34	0.0189***	-0.0028	-0.0008	0.0028	0.0037	0.0015
	[0.0031]	[0.0060]	[0.0016]	[0.0070]	[0.0070]	[0.0024]
Ages 18-24	0.0149**	-0.0404***	0.0006	0.0044	0.0937***	0.0018
	[0.0049]	[0.0106]	[0.0017]	[0.0056]	[0.0191]	[0.0032]
White, NH	0.0090*	-0.0105	0.0007	0.0005	0.0360**	-0.0003
	[0.0035]	[0.0072]	[0.0014]	[0.0054]	[0.0104]	[0.0020]
Hispanic	0.0029	-0.0229*	0.0023	-0.0001	0.0316	0.0035
	[0.0034]	[0.0097]	[0.0017]	[0.0068]	[0.0207]	[0.0040]
Black, NH	0.0306***	-0.0234**	-0.0052**	-0.0089	0.0426***	0.0043*
	[0.0040]	[0.0083]	[0.0016]	[0.0069]	[0.0097]	[0.0019]
GE College	-0.0094**	-0.0120*	0.0025**	0.013	0.0295*	0.0001
	[0.0033]	[0.0054]	[0.0009]	[0.0067]	[0.0131]	[0.0021]
Some Coll	0.0045	-0.0115	0.0032**	-0.0099	0.0442***	0.0013
	[0.0031]	[0.0060]	[0.0011]	[0.0077]	[0.0122]	[0.0022]
High Schl	0.0152***	-0.0191*	-0.0011	0.0026	0.0414***	0.001
	[0.0027]	[0.0072]	[0.0012]	[0.0053]	[0.0112]	[0.0022]
LT HS	0.0429***	-0.0215	-0.0082*	-0.0124	0.0254	0.0045
	[0.0069]	[0.0173]	[0.0037]	[0.0080]	[0.0134]	[0.0027]
Females	0.0124***	-0.0071	-0.0028*	-0.0005	-0.0017	0.0078***
	[0.0032]	[0.0072]	[0.0012]	[0.0056]	[0.0104]	[0.0022]
Males	0.0144***	-0.0246***	0.0016	-0.0035	0.0750***	-0.0046*
	[0.0030]	[0.0069]	[0.0013]	[0.0068]	[0.0133]	[0.0022]
Obs	252,797			271,814		

Notes: Data source is the National Longitudinal Survey of Youth (1979 and 1997). Robust standard errors, in brackets, are clustered at the state level; *** p<0.01, ** p<0.05, * p<0.1. All regressions include year and state fixed effects. Regressions include the NLSY oversample of the poor and racial/ethnic minorities. Sample is restricted to individual who had nonzero employment during expansionary periods.

Table C2. Marginal effect of high-unemployment periods and high-pressure intensity and high-pressure duration on log real hourly pay and weekly hours, by demographic group, excluding individual fixed effects.

	Log Real Hourly Pay			Weekly Hours		
	Marginal effect of high-unempl. $\frac{\partial lnW}{\partial HU}$	Marginal effect of average HP intensity $\left.\frac{\partial lnW}{\partial HPavg}\right\|_{HU=1}$	Marginal effect of HP duration $\left.\frac{\partial lnW}{\partial HPn}\right\|_{HU=1}$	Marginal effect of high- unempl. $\frac{\partial H}{\partial HU}$	Marginal effect of average HP intensity $\left.\frac{\partial H}{\partial HPavg}\right\|_{HU=1}$	Marginal effect of HP duration $\left.\frac{\partial H}{\partial HPn}\right\|_{HU=1}$
Full Sample	-0.0266***	0.0308*	0.0022	-0.4214***	0.0573	0.1334**
	[0.0050]	[0.0116]	[0.0018]	[0.1087]	[0.2060]	[0.0389]
Ages 45-57	-0.0145	0.0393	-0.001	0.0573	-0.1032	0.0026
	[0.0146]	[0.0291]	[0.0052]	[0.3563]	[0.5274]	[0.1207]
Ages 35-44	-0.0057	-0.0067	0.0142**	-0.5823*	-1.2060**	0.3401***
	[0.0155]	[0.0198]	[0.0041]	[0.2570]	[0.4058]	[0.0778]
Ages 25-34	-0.0426***	0.0731**	-0.005	-0.5741*	-0.4007	0.0835
	[0.0098]	[0.0258]	[0.0054]	[0.2763]	[0.3670]	[0.0741]
Ages 18-24	-0.0264***	0.036	0.0085**	-0.0864	1.1441	0.3289**
	[0.0068]	[0.0258]	[0.0032]	[0.1309]	[0.6194]	[0.1046]
White, NH	-0.0288***	0.0439*	0.0037	-0.2596	0.0692	0.1500*
	[0.0055]	[0.0208]	[0.0028]	[0.1395]	[0.3295]	[0.0626]
Hispanic	-0.0262*	0.009	0.0141**	-0.5345**	-0.1074	0.3464**
	[0.0103]	[0.0278]	[0.0048]	[0.1541]	[0.4724]	[0.1151]
Black, NH	-0.0204*	0.0553**	-0.0021	-0.6763***	0.2219	0.2630**
	[0.0096]	[0.0190]	[0.0036]	[0.1741]	[0.3802]	[0.0842]
GE College	-0.0191	0.0421	0.0044	0.4874	-0.5308	0.1937
	[0.0107]	[0.0293]	[0.0045]	[0.2605]	[0.6085]	[0.1302]
Some Coll	-0.0365***	0.0552**	0.0096**	-0.5704**	1.3025*	0.1369
	[0.0066]	[0.0168]	[0.0030]	[0.1816]	[0.5549]	[0.1076]
High Schl	-0.0286***	0.0424*	0.0035	-0.7542***	-0.7069	0.3396***
	[0.0077]	[0.0197]	[0.0031]	[0.1529]	[0.3967]	[0.0873]
LT HS	-0.0157	0.0031	-0.0046	-0.5712**	0.168	0.1439
	[0.0134]	[0.0243]	[0.0037]	[0.1722]	[0.6487]	[0.1102]
Females	-0.0037	0.0156	0.0043	-0.1154	-0.4422	0.2854***
	[0.0056]	[0.0190]	[0.0029]	[0.1258]	[0.3427]	[0.0719]
Males	-0.0483***	0.0631***	0.0042	-0.7099***	0.5577	0.1538*
	[0.0064]	[0.0156]	[0.0024]	[0.2014]	[0.4551]	[0.0758]
Obs	140,997			149,158		

Notes: Data source is the National Longitudinal Survey of Youth (1979 and 1997). Robust standard errors, in brackets, are clustered at the state level; *** p<0.01, ** p<0.05, * p<0.1. All regressions include year and state fixed effects as well as controls for industry and occupation. Regressions include the NLSY oversample of the poor and racial/ethnic minorities. Sample is restricted to individual who had nonzero employment during expansionary periods. Only workers with non-zero wages and hours are included in analysis.

Appendix D. Excluding Occupation and Industry Controls

Table D1. Marginal effect of high-unemployment periods and high-pressure intensity and high-pressure duration on log real hourly pay and weekly hours, by demographic group, excluding controls for industry and occupation.

	Log Real Hourly Pay			Weekly Hours		
	Marginal effect of high-unempl. $\frac{\partial lnW}{\partial HU}$	Marginal effect of average HP intensity $\left.\frac{\partial lnW}{\partial HPavg}\right\|_{LH=1}$	Marginal effect of HP duration $\left.\frac{\partial lnW}{\partial HPn}\right\|_{HU=1}$	Marginal effect of high- unempl. $\frac{\partial H}{\partial HU}$	Marginal effect of average HP intensity $\left.\frac{\partial H}{\partial HPavg}\right\|_{HU=1}$	Marginal effect of HP duration $\left.\frac{\partial H}{\partial HPn}\right\|_{HU=1}$
Full Sample	-0.0322***	0.0421***	0.0007	-0.5334***	0.2459	0.1350***
	[0.0050]	[0.0097]	[0.0012]	[0.1075]	[0.1936]	[0.0353]
Ages 45-57	-0.0605***	0.019	0.0055	-0.6462*	-0.6208	0.1229
	[0.0131]	[0.0235]	[0.0032]	[0.2883]	[0.5098]	[0.0828]
Ages 35-44	-0.0435***	0.0417**	0.001	-1.1574***	-1.2637**	0.3875***
	[0.0075]	[0.0148]	[0.0023]	[0.2412]	[0.4460]	[0.0778]
Ages 25-34	-0.0253**	0.0470***	-0.0017	-0.5115*	-0.4677	0.1177
	[0.0079]	[0.0142]	[0.0028]	[0.2415]	[0.3380]	[0.0728]
Ages 18-24	-0.0221***	0.0941***	0.002	-0.0321	1.8126**	0.2265*
	[0.0048]	[0.0246]	[0.0029]	[0.1376]	[0.5735]	[0.0909]
White, NH	-0.0323***	0.0586***	0.0011	-0.2514*	0.2985	0.1438*
	[0.0048]	[0.0164]	[0.0020]	[0.1206]	[0.3069]	[0.0569]
Hispanic	-0.0315***	0.0521***	0.0041	-0.6038***	-0.0408	0.3119**
	[0.0071]	[0.0152]	[0.0031]	[0.1758]	[0.3945]	[0.0962]
Black, NH	-0.0320***	0.0757***	-0.0014	-1.1017***	0.6861*	0.2687***
	[0.0096]	[0.0177]	[0.0024]	[0.1608]	[0.3233]	[0.0774]
GE College	-0.0105	0.0558*	-0.0033	0.286	-0.1157	0.2191
	[0.0102]	[0.0236]	[0.0044]	[0.3182]	[0.5713]	[0.1179]
Some Coll	-0.0452***	0.0706***	0.0054*	-0.7410***	1.0359*	0.087
	[0.0070]	[0.0213]	[0.0022]	[0.1791]	[0.4718]	[0.0835]
High Schl	-0.0388***	0.0655***	0.0031	-0.7064***	-0.0016	0.2882***
	[0.0062]	[0.0136]	[0.0019]	[0.1423]	[0.2973]	[0.0635]
LT HS	-0.0233*	0.0454*	-0.0062*	-0.7303***	0.3167	0.2356*
	[0.0092]	[0.0204]	[0.0030]	[0.1686]	[0.5117]	[0.1075]
Females	-0.0216***	0.0528**	0.0008	-0.3891**	-0.052	0.2394***
	[0.0050]	[0.0164]	[0.0022]	[0.1201]	[0.2789]	[0.0584]
Males	-0.0420***	0.0701***	0.0012	-0.6671***	0.6889	0.1771*
	[0.0056]	[0.0147]	[0.0020]	[0.1488]	[0.4566]	[0.0693]
Obs	165,919			185,179		

Notes: Data source is the National Longitudinal Survey of Youth (1979 and 1997). Robust standard errors, in brackets, are clustered at the state level; *** p<0.01, ** p<0.05, * p<0.1. All regressions include year, state, and individual fixed effects. Regressions include the NLSY oversample of the poor and racial/ethnic minorities. Sample is restricted to individual who had nonzero employment during expansionary periods. Only workers with non-zero wages and hours are included in analysis.

Appendix E. Impact of Migration

Table E1. Differential marginal effect of the impact of high-pressure intensity $\left(\frac{\partial Ushare}{\partial HPavg}\Big|_{HU=1}\right)$ and high-pressure duration $\left(\frac{\partial Ushare}{\partial HPn}\Big|_{HU=1}\right)$ on share of *time spent unemployed* based on whether the person moved states between expansion and high-unemployment periods, by demographic group.

	Marginal effect of high-unemployment period		Marginal effect of HP intensity		Marginal effect of HP duration	
	Same State	Different State	Same State	Different State	Same State	Different State
Full Sample	0.0126***	0.0150***	-0.0101**	-0.0063	-0.0004	0.0002
	[0.0025]	[0.0024]	[0.0037]	[0.0067]	[0.0007]	[0.0015]
Ages 45-57	-0.0203*	-0.0094	-0.0115	0.0155	0.0008	0.0034
	[0.0086]	[0.0105]	[0.0112]	[0.0278]	[0.0020]	[0.0044]
Ages 35-44	0.0034	0.0053	-0.0037	0.0033	-0.0006	-0.0005
	[0.0046]	[0.0054]	[0.0060]	[0.0192]	[0.0013]	[0.0029]
Ages 25-34	0.0141***	0.0140***	-0.0003	0.0116	-0.0006	-0.0031
	[0.0026]	[0.0030]	[0.0053]	[0.0104]	[0.0015]	[0.0025]
Ages 18-24	0.0181***	0.0212***	-0.0313**	-0.0406**	-0.0013	0.0029
	[0.0040]	[0.0035]	[0.0101]	[0.0130]	[0.0016]	[0.0029]
White, NH	0.0070*	0.0084**	-0.0096	-0.005	0.0017	0.0018
	[0.0030]	[0.0029]	[0.0060]	[0.0111]	[0.0012]	[0.0025]
Hispanic	-0.0004	-0.0003	-0.0229***	-0.0215	0.0028*	0.0026
	[0.0027]	[0.0039]	[0.0065]	[0.0167]	[0.0014]	[0.0033]
Black, NH	0.0344***	0.0407***	-0.0157	-0.0089	-0.0083***	-0.005
	[0.0043]	[0.0038]	[0.0085]	[0.0132]	[0.0019]	[0.0031]
GE College	-0.0079**	-0.005	-0.0167**	-0.0286***	0.0025*	0.0071***
	[0.0030]	[0.0032]	[0.0063]	[0.0075]	[0.0011]	[0.0014]
Some Coll	0.0039	0.0065	-0.0172***	0.0105	0.0038***	-0.0001
	[0.0033]	[0.0035]	[0.0049]	[0.0122]	[0.0011]	[0.0020]
High Schl	0.0142***	0.0147***	-0.0129*	-0.0105	-0.0014	-0.0017
	[0.0024]	[0.0030]	[0.0060]	[0.0152]	[0.0010]	[0.0039]
LT HS	0.0403***	0.0466***	-0.0066	-0.0153	-0.0094**	-0.003
	[0.0051]	[0.0045]	[0.0133]	[0.0257]	[0.0031]	[0.0053]
Females	0.0130***	0.0174***	-0.0051	-0.0018	-0.0033*	-0.0007
	[0.0030]	[0.0029]	[0.0073]	[0.0110]	[0.0014]	[0.0030]
Males	0.0122***	0.0127***	-0.0217***	-0.0159	0.0017	0.001
	[0.0028]	[0.0030]	[0.0050]	[0.0118]	[0.0010]	[0.0022]
Obs = 252,797						

Notes: Data source is the National Longitudinal Survey of Youth (1979 and 1997). Robust standard errors, in brackets, are clustered at the state level; *** p<0.01, ** p<0.05, * p<0.1. Regression includes year, state, and individual fixed effects. Regressions include the NLSY oversample of the poor and racial/ethnic minorities. Sample is restricted to individual who had nonzero employment during expansionary periods. Analysis restricts sample to those with positive earnings and positive hours of work, respectively.

Table E2. Differential marginal effect of the impact of high-pressure intensity $\left(\frac{\partial LFshare}{\partial HPavg}\Big|_{HU=1}\right)$ and high-pressure duration $\left(\frac{\partial LFshare}{\partial HPn}\Big|_{HU=1}\right)$ on *share of time in the labor force* based on whether the person moved states between expansion and high-unemployment periods, by demographic group.

	Marginal effect of high-unemployment period		Marginal effect of HP intensity		Marginal effect of HP duration	
	Same State	Different State	Same State	Different State	Same State	Different State
Full Sample	-0.0006	-0.0072	0.0154*	-0.0073	0.0018	0.0024
	[0.0049]	[0.0054]	[0.0061]	[0.0067]	[0.0011]	[0.0016]
Ages 45-57	0.0004	-0.0186	0.0267*	-0.0477	-0.0038	-0.003
	[0.0092]	[0.0114]	[0.0107]	[0.0450]	[0.0022]	[0.0084]
Ages 35-44	0.007	0.0018	-0.0093	0.0179	0.0002	-0.0097**
	[0.0069]	[0.0081]	[0.0085]	[0.0186]	[0.0017]	[0.0031]
Ages 25-34	0.0104*	0.0064	-0.0095	-0.0083	0.0027	-0.0009
	[0.0052]	[0.0055]	[0.0072]	[0.0120]	[0.0020]	[0.0033]
Ages 18-24	-0.0044	-0.0116	0.0581***	-0.0068	0.0049	0.0126***
	[0.0062]	[0.0074]	[0.0165]	[0.0193]	[0.0027]	[0.0033]
White, NH	0.0053	0.0014	0.0125	-0.004	0.0007	0.0007
	[0.0049]	[0.0051]	[0.0099]	[0.0126]	[0.0020]	[0.0028]
Hispanic	0.0045	-0.0017	0.0299*	0.0095	0.0011	0.0003
	[0.0071]	[0.0103]	[0.0126]	[0.0216]	[0.0021]	[0.0060]
Black, NH	-0.0170**	-0.0302***	0.0286**	-0.0299*	0.0079***	0.0097***
	[0.0058]	[0.0070]	[0.0104]	[0.0132]	[0.0019]	[0.0026]
GE College	0.0009	0.0003	0.0288	0.004	0.002	0.0065*
	[0.0069]	[0.0072]	[0.0154]	[0.0126]	[0.0025]	[0.0027]
Some Coll	-0.0061	-0.0116	0.0335**	-0.0118	-0.0008	0.0042
	[0.0055]	[0.0071]	[0.0109]	[0.0176]	[0.0021]	[0.0036]
High Schl	0.0064	-0.0058	0.0165	-0.0199	0.0033	0.0015
	[0.0054]	[0.0067]	[0.0097]	[0.0182]	[0.0018]	[0.0040]
LT HS	-0.0068	-0.0129	-0.0011	0.0062	0.0069**	0.0007
	[0.0070]	[0.0085]	[0.0115]	[0.0223]	[0.0025]	[0.0055]
Females	0	-0.0157**	-0.0118	-0.0226	0.0083***	-0.0018
	[0.0048]	[0.0057]	[0.0114]	[0.0138]	[0.0021]	[0.0031]
Males	-0.0011	0.0014	0.0513***	0.0058	-0.0029	0.0078**
	[0.0060]	[0.0064]	[0.0092]	[0.0109]	[0.0017]	[0.0025]
Obs = 271,814						

Notes: Data source is the National Longitudinal Survey of Youth (1979 and 1997). Robust standard errors, in brackets, are clustered at the state level; *** p<0.01, ** p<0.05, * p<0.1. Regression includes year, state, and individual fixed effects. Regressions include the NLSY oversample of the poor and racial/ethnic minorities. Sample is restricted to individual who had nonzero employment during expansionary periods. Analysis restricts sample to those with positive earnings and positive hours of work, respectively.

Table E3. Differential marginal effect of the impact of high-pressure intensity $\left(\frac{\partial lnW}{\partial HPavg}\Big|_{HU=1}\right)$ and high-pressure duration $\left(\frac{\partial lnW}{\partial HPn}\Big|_{HU=1}\right)$ on *log real hourly pay* based on whether the person moved states between expansion and high-unemployment periods, by demographic group.

	Marginal effect of high-unemployment period		Marginal effect of HP intensity		Marginal effect of HP duration	
	Same State	Different State	Same State	Different State	Same State	Different State
Full Sample	-0.0252***	-0.0384*	0.0262**	0.0171	0.0008	0.0003
	[0.0040]	[0.0171]	[0.0093]	[0.0562]	[0.0012]	[0.0127]
Ages 45-57	-0.0483***	-0.0397	0.0166	-0.0359	0.0054	0.0201
	[0.0122]	[0.0239]	[0.0196]	[0.1858]	[0.0032]	[0.0326]
Ages 35-44	-0.0255***	-0.1094*	0.0276*	-0.1812	0.0008	-0.0179
	[0.0059]	[0.0551]	[0.0118]	[0.4331]	[0.0023]	[0.1073]
Ages 25-34	-0.0197*	-0.0229*	0.0467**	0.0885	-0.0015	-0.0118
	[0.0082]	[0.0095]	[0.0162]	[0.0521]	[0.0028]	[0.0094]
Ages 18-24	-0.0221***	0.0003	0.0414	0.0609	0.0021	0.0129
	[0.0048]	[0.0102]	[0.0264]	[0.0577]	[0.0029]	[0.0116]
White, NH	-0.0232***	-0.0396*	0.0371*	0.03	0.0012	-0.0044
	[0.0045]	[0.0169]	[0.0153]	[0.1110]	[0.0020]	[0.0255]
Hispanic	-0.0164**	-0.0344	0.0168	0.0558	0.0041	-0.0109
	[0.0056]	[0.0216]	[0.0170]	[0.1265]	[0.0031]	[0.0283]
Black, NH	-0.0351***	-0.0422	0.0549**	-0.0547	-0.0015	0.0177
	[0.0075]	[0.0221]	[0.0174]	[0.0909]	[0.0024]	[0.0219]
GE College	0.0122	0.0046	0.0403	-0.036	-0.0034	0.0086
	[0.0096]	[0.0190]	[0.0216]	[0.1185]	[0.0044]	[0.0251]
Some Coll	-0.0334***	-0.0439*	0.0434*	0.0972	0.0055*	-0.0081
	[0.0072]	[0.0217]	[0.0192]	[0.1383]	[0.0022]	[0.0316]
High Schl	-0.0401***	-0.0730***	0.0376**	0.0225	0.0031	-0.013
	[0.0060]	[0.0204]	[0.0144]	[0.1208]	[0.0019]	[0.0255]
LT HS	-0.0252**	-0.0068	0.024	-0.1065	-0.0063*	0.0327
	[0.0089]	[0.0241]	[0.0213]	[0.1251]	[0.0030]	[0.0322]
Females	-0.0147***	-0.0387	0.0241	-0.026	0.0008	-0.0028
	[0.0044]	[0.0201]	[0.0158]	[0.1087]	[0.0022]	[0.0254]
Males	-0.0352***	-0.0380*	0.0507***	0.0501	0.0013	0.0028
	[0.0042]	[0.0171]	[0.0152]	[0.1039]	[0.0020]	[0.0233]
Obs = 140,997						

Notes: Data source is the National Longitudinal Survey of Youth (1979 and 1997). Robust standard errors, in brackets, are clustered at the state level; *** p<0.01, ** p<0.05, * p<0.1. Regression includes year, state, and individual fixed effects as well as controls for industry and occupation. Regressions include the NLSY oversample of the poor and racial/ethnic minorities. Sample is restricted to individual who had nonzero employment during expansionary periods. Analysis restricts sample to those with positive earnings and positive hours of work, respectively.

Table E4. Differential marginal effect of the impact of high-pressure intensity $\left(\frac{\partial Ushare}{\partial HPavg}\Big|_{HU=1}\right)$ and high-pressure duration $\left(\frac{\partial Ushare}{\partial HPn}\Big|_{HU=1}\right)$ on *weekly hours* based on whether the person moved states between expansion and high-unemployment periods, by demographic group.

	Marginal effect of high-unemployment period		Marginal effect of HP intensity		Marginal effect of HP duration	
	Same State	Different State	Same State	Different State	Same State	Different State
Full Sample	-0.3400***	-0.3343	-0.155	-0.1516	0.0851**	0.1147
	[0.1033]	[0.2825]	[0.1802]	[1.3330]	[0.0266]	[0.2796]
Ages 45-57	-0.8784**	-0.2901	-0.7084*	13.8034*	0.2034***	-2.0508*
	[0.3263]	[0.6805]	[0.3464]	[6.7371]	[0.0541]	[1.0432]
Ages 35-44	-0.7545***	-1.4525	0.4578	-12.3872	-0.0255	1.829
	[0.1922]	[0.8081]	[0.2967]	[8.9752]	[0.0419]	[2.0011]
Ages 25-34	0.0215	0.0235	-0.6917*	-0.2872	0.0992	0.0152
	[0.2157]	[0.3032]	[0.2761]	[1.6704]	[0.0549]	[0.3918]
Ages 18-24	-0.1522	0.0492	0.14	-0.8491	0.1936*	0.4958
	[0.0951]	[0.2534]	[0.5500]	[1.8518]	[0.0831]	[0.3666]
White, NH	-0.1132	0.1851	-0.262	-3.2975	0.062	0.7823
	[0.1273]	[0.3425]	[0.3497]	[2.3949]	[0.0583]	[0.4910]
Hispanic	-0.3967*	-0.3161	-0.4563	-1.6352	0.2326**	0.4704
	[0.1746]	[0.5129]	[0.3906]	[3.2610]	[0.0787]	[0.6947]
Black, NH	-0.7727***	-1.3143**	0.2925	3.4645	0.1718*	-0.7959
	[0.1285]	[0.4523]	[0.3964]	[3.4545]	[0.0824]	[0.7306]
GE College	0.7275**	1.8162***	-0.081	-2.5766	-0.0099	1.2029*
	[0.2729]	[0.4195]	[0.5308]	[2.3671]	[0.1024]	[0.5084]
Some Coll	-0.4083*	-0.6639*	0.5627	-1.4733	-0.0277	0.2039
	[0.1599]	[0.3366]	[0.4132]	[2.3115]	[0.0664]	[0.4733]
High Schl	-0.8007***	-1.5991***	-0.5306	-2.943	0.2523***	0.1898
	[0.1580]	[0.4487]	[0.2901]	[2.7361]	[0.0542]	[0.6511]
LT HS	-0.5414***	-0.1271	-0.8262	4.5697	0.3104*	-0.3602
	[0.1411]	[0.4891]	[0.7633]	[4.9282]	[0.1293]	[1.0764]
Females	-0.2554	-0.3307	-0.6792*	1.2038	0.1868***	-0.22
	[0.1337]	[0.3363]	[0.2849]	[2.8063]	[0.0522]	[0.5679]
Males	-0.4211**	-0.3204	0.3329	-3.499	0.0644	0.8128
	[0.1341]	[0.3202]	[0.4624]	[1.9507]	[0.0542]	[0.4635]
Obs = 149,158						

Notes: Data source is the National Longitudinal Survey of Youth (1979 and 1997). Robust standard errors, in brackets, are clustered at the state level; *** p<0.01, ** p<0.05, * p<0.1. Regression includes year, state, and individual fixed effects as well as controls for industry and occupation. Regressions include the NLSY oversample of the poor and racial/ethnic minorities. Sample is restricted to individual who had nonzero employment during expansionary periods. Analysis restricts sample to those with positive earnings and positive hours of work, respectively.