Towson University
Department of Economics
Working Paper Series

Working Paper No. 2023-03

The Effects of Health and Local Unemployment on Job Promotions

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March 2024

The Effects of Health and Local Unemployment on Job Promotions*

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March 1, 2024

Abstract

We study the effects of work limiting health issues in combination with adverse local economic conditions on career advancement using a US panel data set that follows a cohort of people from 1987 (ages 22–30) to 2014 (ages 49–57). We find that work limiting health issues decrease the probability of promotions at the current job only if the individual lives in an area with high levels of unemployment. This effect is driven by individuals who do not or cannot move out of these areas. The combination of bad health and poor economic conditions significantly lowers the on-the-job promotion probabilities of workers between age 30–40 and is weaker and not significant for younger workers or workers past age 50. Gender and race play a minor role but the negative effect of work limiting health issues on promotions—conditional on living in areas with high unemployment—are enduring and can still be measured 6 years later. The low frequency of our data (biennial) does not allow us to establish a direct relationship between poor health during economic recessions on the probability of career advancement.

JEL: M51, J71, J62, J63, J16

Keywords: Job promotions, work limiting health issues, lifecycle labor market effects, local area unemployment.

*We would like to thank Jialu Streeter, Seth Gitter, Yongchen Zhao and participants at the 2023 D&R conference at the College of Business and Economics at Towson University for valuable comments and suggestions. In addition we would like to thank the editor and one anonymous referee for valuable feedback. All remaining errors are ours. The paper was previously distributed with the title: "The Lifecycle Effects of Health and Local Unemployment on Job Promotions."

Juergen Jung received grant support from the School of Emerging Technologies (SET) at Towson University. Beyond that he has no further relevant or material financial interests that relate to the research described in this paper. First draft: 15 June 2023.

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1 Introduction

The relationship between health and income is complex. Poor economic conditions have effects on health (Ruhm 2000; Ruhm 2015). Health in turn affects income (Currie and Madrian, 1999), especially through disability (Couch and Placzek, 2010). However, reverse causality can be at play. Thus, a large literature has established that income affects health (e.g., Smith 2004; Adda, Banks and von Gaudecker 2009; Gilleskie, Han and Norton 2017). This relationship is changing over time (Chetty, Stepner, Abraham, Lin, Scuderi, Turner, Bergeron and Cutler, 2016) as well as over the lifecycle of an individual (Deaton and Paxson, 1998).

In this paper we investigate how the interaction of bad health and poor economic conditions affects the career advancement of workers over the lifecycle. This is an often overlooked aspect in the labor and health economics literature that has traditionally focused on questions of employment, wages, as well as the above mentioned connections between health, income and wealth as summarized in Currie and Madrian (1999). While it is important to identify the drivers of wage growth over the lifecycle of a worker in general, the channel of promotions and how promotions react to adverse business cycle events in combination with idiosyncratic health conditions is not fully understood.

Sicker workers could be targeted with layoffs and/or denied promotions much easier during recessions or if a sector is in structural decline.[1] This can compound the negative income effect of a health shock. Statistical discrimination in labor markets is a widely studied phenomenon and the literature has documented labor market discrimination by race, age, and gender (e.g., Aigner and Cain, 1977). The timing of the health shock as well as the type of the health shock can also be crucial in its overall impact on the career of a worker. A young worker at the beginning of the lifecycle who suffers an accident is impacted differently than an older worker who is confronted with an onset of diabetes or some related chronic condition or a more severe diagnosis such as cancer.[2]

Furthermore, companies can use promotions for worker retention especially since promotions have been linked to job satisfaction even when controlling for wage increases (Kosteas, 2011). This may become attractive during difficult economic periods where more expensive retention policies such as bonus payments are more likely to get cut. On the other hand promotions function as market signals and are often tied to significant wage increases (e.g., Waldman, 1984; Milgrom and Oster, 1987; McCue, 1996). The latter are less likely in times of economic decline. So whether promotion frequencies will increase or decrease and whether sicker workers face lower odds of promotions are therefore important empirical questions.

In this paper we specifically address two questions: (i) Does bad health affect the probability of getting promoted at the current job and (ii) how does the local economic environment of a worker shape the effect of health on the career advancement over the lifecycle? We focus on promotions because in the U.S. about 15 percent of wage growth over the lifecycle for men stems from promotions.[3] As such, promotions are a significant factor for increases in household income. In addition, promotions present workers with normative

[1] Firms can use recession cut backs as an excuse to layoff exposed workers as labor law protections are weakened during recessions, especially during the great recession from 2007–2009 as demonstrated in Neumark and Button (2014).

[2] Forsythe (2022) presents evidence that during recessions firms are not only more likely to hire more experienced workers but that younger workers are also more likely to experience higher wage decreases.

[3] The percentage is somewhat smaller for women (McCue, 1996).

rewards as they achieve higher symbolic status within an organizational structure (Rosenbaum, 1979). Disentangling the interaction of bad health in combination with poor economic conditions is important in order to assess the overall labor market risk of US households. Insights into the economic effects of health risk in combination with either business cycle risk or more structural sectoral decline will shape policy discussions about what labor market and health policy measures could best reduce risk while minimizing the distortions in the labor market.

We use data from the NLSY79, a nationally representative household panel survey, which follows a cohort of individuals that were between 14–22 years old when first surveyed in 1979. These data contain information about household characteristics, firm characteristics, as well as information about on the job promotions and health issues. In addition, we merge county level unemployment data in order to distinguish areas that are highly exposed to economic decline. The latter can be amplified by recessions.

We find that health issues limiting one's ability to work reduce the likelihood of receiving a promotion within the subsequent 2-year period, but only for individuals residing in areas with high unemployment rates. This effect is driven by individuals who do not or cannot move from an area with high unemployment. The impact of health issues in combination with high local level unemployment is particularly pronounced among those aged 35–39 but affects older individuals beyond their 40s with higher frequency. Younger individuals and those nearing retirement are less affected in terms of missed promotion opportunities. The effect is driven by individuals living in areas with relatively high unemployment of 9 percent or higher. Interestingly, this adverse effect on promotions remains consistent across gender and race. Furthermore, the influence of health-related work limitations on promotions persists and remains measurable even after a span of 6 years. This finding contrasts somewhat with results from other countries, such as Germany as demonstrated by Chadi and Goerke (2018), who were unable to establish a causal link between poor health and subsequent promotions. This discrepancy may stem from the more dynamic nature of the labor markets in the US, as well as differences in regulatory oversight and the rules governing labor market security. Our study contributes to the existing literature on career advancement and wage growth over the lifespan. Previous research has identified variations in these outcomes based on factors such as race, gender, age, education, and to some extent, health. Our paper adds novelty by utilizing local area variation to examine the impact of health and business cycle risk on career advancement among workers across different age groups.

Related literature. Gibbons and Waldman (1999, 2006) provide a theory of promotions and wage increases that can explain the observed patterns identified in the empirical literature based on firm level data such as Baker, Gibbs and Holmstrom (1994). Similar to the findings in McCue (1996), promotions in our data are highly correlated with wage increases and wage increases themselves are highly correlated. We contribute to this literature by highlighting the effects of health on the probability of being promoted at different points on the career path of US workers.

Our work has ties to the literature on statistical job discrimination. Statistical discrimination with respect to labor market outcomes is a widely studied phenomenon (e.g., Aigner and Cain, 1977) and goes back to models of discrimination by Phelps (1972) and Arrow (1973). The literature has studied labor market discrimination with a focus on race, age, and gender. Recently Blau and Devaro (2007) and Addison, Ozturk

and Wang (2014) have highlighted gender based discrimination in promotions. The latter also uses NLSY79 data. Challe, Duguet, Langot, Yannick, Parquet and Petit (2023) propose a model of job discrimination of older workers using a multidimensional discrimination framework and data from France to empirically show labor market discrimination against older workers. Different from these studies we focus on the role of health, especially during times of an economic decline, and exploit local area variation in unemployment to measure the effects of work limiting health problems and BMI on the probability of receiving a promotion.

There is a large literature investigating the relationship between health and earnings. Currie and Madrian (1999) provide an overview of the early literature that has predominantly used cross-sectional data. A large literature has focused on disability and labor market participation as early on research has found that disability is a good predictor for labor market participation (Stern, 1989). More recently, researchers have used panel data to investigate the dynamic and temporal effects of disability on earnings (e.g., Charles, 2003; Mok, Meyer, Charles and Achen, 2008; Meyer and Mok, 2019).[4] Some studies have addressed the endogeneity issue of health and labor market outcomes using joint models of health and work outcome variables (e.g., Lindeboom and Kerkhofs, 2009) while other approaches employ quasi experimental designs based on data on accidents (e.g., Dano, 2005; Mohanan 2013; Halla and Zweimüller, 2013). Related to this project are studies that examine the link between sickness related absences and future job mobility or career events. Typically these studies use either firm level data (e.g., Flabbi and Ichino, 2001; Audas, Barmby and Treble, 2004; Ichino and Moretti, 2009) or register data (e.g., Hansen, 2000; Hesselius, 2007; Andersen, 2010; Markussen, 2012) and find a negative relationship between sickness related absences and wages and a positive relationship between sickness related absences and subsequent unemployment.[5] None of these papers focus on the interactions of health issues and local area economic conditions with promotions nor do they investigate the long run career effects of bad health. In addition, results based on firm level data are difficult to generalize and often lack information about individual worker characteristics. The latter is even more problematic in register data.

Career trajectories are closely linked to the lifecycle of workers. The literature has demonstrated patterns of inequality of income and health over the lifecycle (e.g., Deaton and Paxson, 1998; Prados, 2018). Furthermore models of wage and promotion dynamics within firms and the connection to human capital accumulation have been established (e.g., Gibbons and Waldman, 1999; Gibbons and Waldman, 2006; Gorry, Gorry and Trachter, 2019). Closely related is the literature of the lifecycle health effects on employment and economic activity in general (e.g., Pelkowski and Berger, 2004; Prinz, Chernew, Cutler and Frakt, 2018). While we do not develop a lifecycle model of health and promotions, we do highlight certain lifecycle aspects of the combined effects of health issues and local economic conditions and their connection to job promotions.

There is a large literature investigating the effects of business cycle fluctuations on employment, wages,

[4] Similar results of the effects of health on labor market outcomes have also been reported for other countries (e.g., Disney, Emmerson and Wakefield, 2006; García-Gómez, van Kippersluis, O'Donnell and van Doorslaer, 2013; Lundborg, Nilsson and Vikström, 2015).

[5] Boyce and Oswald (2012) and Johnston and Lee (2013) reverse the question and ask how promotions affect health using dynamic panel data estimators and find only negligible effects. Interestingly, mental health seems to be adversely affected by a promotion in the long run as a higher level job is often more stressful.

health, and career progression. Rosenbaum (1979) is one of the earliest studies investigating career mobility during growth and non-growth periods in a large US corporation and generally finds that promotions slow down in non-growth periods. A mostly empirical literature has investigated the the short-run and long-run costs of job losses, especially during recessions (e.g., Ruhm, 1991; Jacobson, LaLonde and Sullivan, 1993; Davis and von Wachter, 2011). Huckfeldt (2022) highlights that the scarring effects of displacement are more severe during recessions and Adda, Dustmann, Meghir and Robin (2013) shows that the negative wage growth effects of recessions operate via productivity loss (for low skilled workers) and mobility loss (for high skilled workers) channels. Similarly, the literature on job ladder movements such as Haltiwanger, Hyatt, Kahn and McEntarfer (2018), Haltiwanger, Hyatt and McEntarfer (2018) and Hahn, Hyatt and Janicki (2021) has established that job ladder movements are pro-cyclical.

More recently, researchers have investigated the wage and employment effects of the Great recession using local area unemployment fluctuation (e.g., Yagan (2019) using tax records data and Rinz (2021) using Census data). Modrek and Cullen (2013) and Modrek, Hamad and Cullen (2015) have used firm level data to investigate the effects of the Great recession on health and mental health.[6] Forsythe (2022) shows that firms are reluctant to hire younger workers during recessions. Most recently the effects of the COVID-19 recession on career progression in the UK have been highlighted in Blundell, Dias, Joyce and Keiller (2020).

Unlike these studies we focus on the effects of poor economic conditions at the local level and health issues on promotions using representative household level data in combination with local area unemployment data. This approach not only allows for a rich set of control variables describing household, job, and some firm characteristics but also for more generalizable results than estimates based on firm level data.

Finally, recessions can lead to specific patterns in internal labor migration. This contributes to heterogeneous effects of recessions on local area unemployment and promotion probabilities. Workers with work limiting health conditions who live in highly exposed economic areas may exhibit a different propensity to migrate out of a county than healthier workers. If this is indeed the case, it would a priori not be clear whether recessions and health problems together will lead to higher or lower probabilities of promotions as employers will factor in the labor market mobility of its workforce when they decide on who to promote and when. The literature has not only reported procyclical geographic migration patterns, especially during the Great Recession (e.g., Saks and Wozniak, 2011; Ellis, Wright and Townley, 2014; Ulrich-Schad, 2015) but also procyclical patterns of transitioning from unemployment to employment and, somewhat counter intuitively, from employment to non-participation (Krusell, Mukoyama, Rogerson and Şahin, 2017). To the best of our knowledge, the literature has not investigated the migration patterns and transition patterns between labor market states and their effect on the probability of promotions of different health types.

Closest to our study is Chadi and Goerke (2018) who investigate the effects of sickness related absences on subsequent career events such as promotions and dismissals using data from a German household panel survey. While they do find a significant negative link between short-term sickness related absences and the probability of a subsequent promotion, they are not able to establish causality of a health event on career advancement. This is contrary to our finding where health issues are linked to lower probabilities of

[6]The effects of recessions on health is most notably highlighted in the body of work by Christopher Ruhm (e.g., Ruhm, 2000; Ruhm, 2015).

promotions in case a worker resides in an area with high local unemployment. This is an interesting result as it can possibly be linked to stronger labor protection laws in Germany compared to the U.S. Furthermore, as labor unions in the US are less powerful even existing labor protection laws may simply have less bite. Our study also differs in that we highlight the lifecycle aspects of a worker's health on subsequent promotions as well as issues of geographic job mobility that can be shaped by health.

Our paper is structured as follows. The next section introduces the data. Section 3 discusses the econometric specifications, Section 4 presents the results, and Section 5 concludes with a general discussion.[7]

2 Data

2.1 The National Longitudinal Survey of Youth 1979: 1979–2016

The National Longitudinal Survey of Youth 1979 (NLSY79) is a nationally representative longitudinal survey conducted by the Bureau of Labor Statistics every year from 1979–1994 and every other year since 1994. It samples 12,686 individuals who were between 14–22 years old when first surveyed in 1979. The respondents were 51–60 at the time of their 2016 interviews which is the most recent survey year we use. Table 1 provides a summary of the year waves of the data as well as the covered age groups in each wave.[8]

The survey provides rich panel data including information about labor market behavior, educational attainment (high school, college, training), family background (including data collected from parents in round 1), Armed Services Vocational Aptitude Battery tests (measures knowledge and skills including reading and mathematics), high school information received from respondents' schools and school transcripts, government program participation, family life (marital status, fertility, and child care), health issues, assets, and income. This allows for the tracking of labor market and career developments of individuals over time. Due to certain data limitations that we point out below, we end up using data from the years 1987–1990 and 1994–2016 in the main specifications.

2.1.1 Dependent variable: Promotions and job specific descriptors

The literature has used different variables to measure career trajectories of workers over the lifecycle. Some of these include indirect measures such as wage patterns, wage growth rates or occupational characteristics and others are more direct measures that indicate whether a worker got promoted, demoted, or fired.[9]

The NLSY79 contains direct questions about on the job promotions. This information is available in the years 1984, 1988–1990, and 1996–2016 as highlighted in Table 1. The universe of respondents contains

[7] An online appendix contains additional figures and tables.

[8] The survey comprises three subsamples of individuals born between January 1, 1957, and December 31, 1964: (i) a cross-sectional sample of 6,111 respondents representing the non-institutionalized civilian population in the US, (ii) a supplemental sample of 5,295 civilian Hispanic or Latino, black, and economically disadvantaged non-Black/non-Hispanic respondents living in the United States in 1979, and (iii) a sample of 1,280 respondents representing the population serving in one of the four branches of the US military as of September 30, 1978. Following the 1984 interview, 1,079 members of the military sample were no longer eligible for interview and following the 1990 interview, none of the 1,643 members of the economically disadvantaged, non-Black/non-Hispanic sample were eligible for interview.

[9] Promotions/demotions can be measured as a change in the rank of the position of a worker at the firm where she is currently employed.

individuals that work and are not self employed.[10] First, each respondent is asked whether they changed positions with their current or most recent employer in the past year in waves prior to 1996 or the past two years in waves since 1994 (variable: QES-PROMO38_01–QES-PROMO38_05). Second, if a person reports having changed positions, a follow up question asks whether it was a promotion, demotion, or a change at the same level (variable: QES-PROMO39_01–QES-PROMO39_05). The promotional variable in our study, PROMOTION equals one if the positional change is a promotion. Demotions are very rare and are therefore not used in the analysis. Starting in 1996 the promotion question is asked for up to five jobs held since the last interview where job 1 refers to the current job.

Our main analysis will define PROMOTION as having received a promotion in any of the jobs the respondent held since the last interview.[11] The 1989–90 waves contain follow up questions about the type of promotions which is summarized in Pergamit and Veum 1999. About 70 percent of promotions included higher level duties and position upgrades while 30 percent of promotions entailed basically the same work as before.[12] These data are unfortunately not available past 1990 so we are not able to distinguish by type of promotion according to these categories. We do however distinguish between promotions that include wage increases and provide estimates for these in the appendix.

The survey also contains a question that asks respondents whether they believe a promotion is possible within the next two years and if not, why not. This promotion expectation variable takes the value of one, if the respondent says that they believe a promotion is possible over the next two years.

2.1.2 Variable of interest: Work limiting health problems

The NLSY79 includes three questions about health and how health is connected with work. The three variables are:

1. HEALTH LIMITS KIND OF WORK: The survey asks "Are you (or would you be) limited in the kind of work you (could) do on a job for pay because of your health?"

2. HEALTH LIMITS AMOUNT OF WORK: The survey asks "Are you (would you be) limited in the amount of work you (could) do because of your health?"

3. HEALTH LIMITS WORK: The survey asks "Does the respondent have health limitations?" It is coded as "YES" if either of the two previous questions were answered with "YES."

All three questions are asked if the respondent had a job last week or health would not prevent the respondent from working at a job for pay. Figure 1a shows the timing of the PROMOTION indicator and the HEALTH

[10] The question title is: "RECEIVED ANY PROMOTIONS SINCE LAST INT?" and the detailed question is: "BETWEEN (DATE IN Q.6) AND (DATE IN Q.7B/NOW) (HAVE/HAD) YOU RECEIVED ANY PROMOTIONS FROM THIS EMPLOYER?" Respondents are individuals with an employer for at least 10 hours per week for at least 9 weeks.

[11] In robustness exercises we will conduct our analysis with promotion in current job only (job 1) as dependent variable. We will also distinguish between current job promotions and promotions after a job switch since the previous interview.

[12] According to Table 1 in Pergamit and Veum 1999, among the 24.23 percent promoted in their sample of 24–33 year olds who worked at least 30 hours per week, 26.45 percent had a position upgrade, 8.12 percent took over their supervisor's job, 14.27 percent were promoted to a higher level job in a different section, 9.59 percent were chosen to fill a newly created position with greater responsibilities, 30.50 percent received a promotion but continued to perform basically the same duties as before, 2.33 made a lateral move to a different section, and 3.20 percent were classified as "other."

LIMITS WORK indicator in the survey. If not otherwise indicated, our preferred variable of interest is the third variable HEALTH LIMITS WORK as it is the most comprehensive variable. We later show in Section 4 that all three measures exhibit a very similar age profiles.[13] In addition to these three variables the survey also includes the body mass index for some of the waves.[14]

In order to control for initial health conditions we define an initial health index based on whether an individual reports having work limiting health problems between age 19–22. The index is defined as the average count of having a work limiting health problem:

$$\text{Initial-Health-Index} = \frac{1}{4}\left(\sum_{\text{age}=19}^{22} 1(\text{HEALTH LIMITS WORK}_{\text{age}} = 1)\right)$$

which results in values between 0 (reporting no health problem at age 19, 20, 21, and 22) and 1 (reporting a health problem at each single age 19, 20, 21, and 22).

2.1.3 Other controls

Demographics. The NLSY79 contains data on age, marital status, gender, race, years of education, family size, number of newborn children since last interview[15], whether the respondent lives in an urban area, and the Armed Forces Qualification Test (AFQT) scores.

Employment. NLSY79 reports the employment status of an individual only in some waves. Alternatively, we can calculate an employment variable from the five variables: Working Job 1, Working Job2, ..., Working Job 5. The advantage of the second definition is that it is available in all waves. Since the two employment variables turn out to be almost identical, we use the employment information based on Job 1–5 variables for the rest of the paper.[16] We also observe tenure at current job, job satisfaction, union membership status, and whether the employee has a health insurance plan.[17] The NLSY79 also reports limited information about firm characteristics. We are therefore able to control for the number of employees at the respondent's current job and whether the employer has multiple locations or plants. Controls for sector and occupation type are also available.

Wages and income. Wage and income information covers the past calendar year. For instance, wave 2002 data would contain wage and income information from year 2001. All wages are reported in 2010 US$. We report three different wages. The first definition of hourly wage is reported directly but only available up to year 1994. For the second wage definition we divide annual wage income by annual hours worked. Both

[13] The survey also includes a fourth variable HEALTH PREVENTS WORK which asks "Would health prevent working at a job for pay now?" However, it is only asked if the respondent did **not** have a job in the prior week. Since our analysis focuses on the working population, we do not use this measure.

[14] The survey also uses a health questionnaire including more detailed questions about the physical and mental health status. Unfortunately, this questionnaire is only deployed when a person is 40 (H40-SF12 variables) and then again at age 50 (H50-SF12 variables). The responses therefore enter as time invariant variables into the survey.

[15] A variable indicating pregnancy is only available in select years and therefore not used in this study.

[16] Employment figures based on the two definitions are shown in the Appendix, Figure A.1.

[17] The reported job satisfaction variable takes on four possible values 1 (Like it very much), 2 (Like it fairly well), 3 (Dislike it somewhat), and 4 (Dislike it very much). We define a new binary variable SATISFIED-AT-JOB1 equal to one if individuals respond with either a 1 or 2 on the job satisfaction question.

variables are available for all waves. The third wage definition takes the directly reported annual wage from Job 1 (information on Job 1–5 is reported). Job 1 is the primary job.[18] We drop observations with wages below $5 and above $400 but keep observations that report zero wages.

2.2 Recessions

Since the promotion variable in NLSY79 is only available starting in 1988, our data covers three recession periods. The NBER Business Cycle Dating Committee Announcements page officially defines them as July 1990–March 1991, March 2001–November 2001, and December 2007–June 2009.[19] They are shown as gray bars in all the time series plots and gray rows in Table 1.

2.3 Local area data 1987–2016

Given the timing of the survey waves and the timing of recessions, it is difficult to establish a direct link of recessions to labor market outcomes with the NLSY79.[20] We therefore use local area unemployment data (at the county level) to establish a link between a worker's exposure to labor market pressure, her health and the resulting probability of getting promoted. For instance, if a worker lives in an area with high unemployment, it could be more difficult for the worker to ask for or receive a promotion with or without an associated wage increase (e.g., Beaudry and DiNardo, 1991; Topel and Ward, 1992). Similarly, workers can respond by moving away from such areas (Saks and Wozniak, 2011) which could affect the likelihood of promotions and result in heterogeneous local promotion patterns based on an individual's particular exposure to health and business cycle shocks.

In order to measure the local exposure to poor economic conditions, we merge county level unemployment data from the Bureau of Labor Statistics into our sample.[21] These data are available from 1979–2019 and include annual observations for county level population size, the size of the labor force, the number of employed individuals, the number of unemployed individuals, and the number of people living in poverty. Since information about promotions in the NLSY79 is only available in select years, we focus on the years 1987–1990 and 1996–2016.

Using the local county level unemployment rate we construct a variable indicating whether an individual lives in a county with high unemployment. We construct this variable for every year so that UE-HIGH-k$_{ct}$ with $k \in \{7, 8, ..., 11\}$ is defined as an indicator variable equal to one, if the local area unemployment rate is k percent or higher in year t. For instance, variable UE-HIGH-7$_{ct}$ indicates counties that have unemployment rates that are 7 percent or higher. Variable UE-HIGH-8$_{ct}$ indicates a smaller set of counties with at least an 8 percent unemployment rate etc. We use variation in these measures as indicators of local area economic effects of recessions. We also experiment with alternative definitions of "high unemployment areas" and present results based on grouping observations into exclusive bins of observations from counties with un-

[18] Figure A.2 in Appendix A shows the alternative wage measures over time.

[19] https://www.nber.org/research/business-cycle-dating/business-cycle-dating-committee-announcements

[20] Especially the switch to the biennial survey format in 1996 amplifies the frequency issue.

[21] Available at: https://www.bls.gov/lau/#cntyaa

employment levels of either [0–4], (4–8], (8–12], (12–16], (16–20), and higher than 20 percent. Figure 1b shows the timing of the PROMOTION indicator and the UE-HIGH-k$_{ct}$ indicator in the survey.

3 Econometric specification

We first impose the following structural model to describe the relationship of present health issues and future on-the-job promotions:

$$\begin{aligned}\text{PROMOTION}_{i,c,t+1} &= \gamma_1^P \times \text{HEALTH LIMITS WORK}_{i,c,t+1} + \delta^P \times \text{HEALTH LIMITS WORK}_{ict} \\ &\quad + \gamma_2^P \times \text{PROMOTION}_{ct} + \bar{\gamma}_i^P + \gamma_3^P X_{ict} + \eta_c^P + \tau_t^P + \varepsilon_{i,c,t+1}^P, \qquad (1)\\ \text{HEALTH LIMITS WORK}_{i,c,t+1} &= \gamma_1^H \times \text{PROMOTION}_{i,c,t+1} + \delta^H \times \text{HEALTH LIMITS WORK}_{ict} \\ &\quad + \gamma_2^H \times \text{PROMOTION}_{ct} + \bar{\gamma}_i^H + \gamma_3^H X_{ict} + \eta_c^H + \tau_t^H + \varepsilon_{i,c,t+1}^H, \qquad (2)\end{aligned}$$

where PROMOTION$_{i,c,t+1}$ is a binary variable which represents whether an individual i who lives in county c in period t receives a promotion over the course of the next period from t to $t+1$. The term HEALTH LIMITS WORK$_{ict}$ is an indicator variable for having work limiting health issues in period t. The coefficient of interest is δ^P which shows the effect of a work limiting health issue in period t on the probability of getting promoted over the next period compared to an individual without such a health problem.[22]

Variables $\bar{\gamma}^P$ and $\bar{\gamma}^H$ are unobserved individual effects whereas X_{ict} is a vector of control variables. It comprises either time varying household characteristics such as age, education, family size, etc. or time fixed characteristics such as gender, race and initial health. In addition, it includes financial information such as wages and household income. These variables typically cover the past calendar year. Variables η_c^P and η_c^H denote county fixed effects, τ_t^P and τ_t^H are time fixed effects, and $\varepsilon_{i,c,t+1}^P$ and $\varepsilon_{i,c,t+1}^H$ are the error terms. After substituting expression 2 into 1 we get the following reduced form:

$$\begin{aligned}\text{PROMOTION}_{i,c,t+1} &= \left(\frac{\gamma_1^P \bar{\gamma}_i^H + \bar{\gamma}_i^P}{1-\gamma_1^P\gamma_1^H}\right) + \left(\frac{\gamma_1^P\delta^H + \delta^P}{1-\gamma_1^P\gamma_1^H}\right) \times \text{HEALTH LIMITS WORK}_{ict} + \left(\frac{\gamma_1^P\gamma_2^H + \gamma_2^P}{1-\gamma_1^P\gamma_1^H}\right) \times \text{PROMOTION}_{ct} \\ &\quad + \left(\frac{\gamma_1^P\gamma_3^H + \gamma_3^P}{1-\gamma_1^P\gamma_1^H}\right) X_{ict} + \left(\frac{\gamma_1^P\eta_c^H + \eta_c^P}{1-\gamma_1^P\gamma_1^H}\right) + \left(\frac{\gamma_1^P\tau_t^H + \tau_t^P}{1-\gamma_1^P\gamma_1^H}\right) + \left(\frac{\gamma_1^P\varepsilon_{i,c,t+1}^H + \varepsilon_{i,c,t+1}^P}{1-\gamma_1^P\gamma_1^H}\right),\end{aligned}$$

which after redefining the reduced form parameters we write as:[23]

$$\text{PROMOTION}_{i,c,t+1} = \bar{\alpha}_i + \delta \times \text{HEALTH LIMITS WORK}_{ict} + \beta \times \text{PROMOTION}_{ct} + \lambda X_{ict} + \eta_c + \tau_t + \varepsilon_{i,c,t+1}. \qquad (3)$$

The reduced form parameter δ is only a consistent estimate for δ^P in expression 1 if we can rule out a

[22] An alternative way of thinking about our econometric setup would be to use a measure of job level as dependent variable (an ordinal variable) and use a health stock measure a la Grossman 1972 as explanatory variable. Differencing such a version of the model would result in a differenced dependent variable very similar to our promotion indicator. It would equal one if a worker was able to achieve a higher job level. On the right hand side of such a model the differencing would lead to differenced health stock measure which would be very similar to our indicator variable about a work limiting health issue, which could be the result of a drop in health capital.

[23] The reduced form parameters are defined as: $\bar{\alpha}_i := \left(\frac{\gamma_1^P\bar{\gamma}_i^H + \bar{\gamma}_i^P}{1-\gamma_1^P\gamma_1^H}\right)$, $\delta := \left(\frac{\gamma_1^P\delta^H + \delta^P}{1-\gamma_1^P\gamma_1^H}\right)$, etc.

contemporaneous effect of health on promotion, or $\gamma_1^P = 0$. In this case we can estimate δ^P from specification 3 with pooled OLS, a random effects panel estimator, or a fixed effects (within) panel estimator depending on which relationship we are willing to impose between the individual effect $\bar{\alpha}_i$ and the error term (i.e., random or systematic).[24]

A zero contemporaneous effect $\gamma_1^P = 0$ would be plausible if a work limiting health issue would not immediately lead to a change in an employee's decision to apply for a promotion and an employer's inability to observe either the health issue itself or indirectly the effects of the health issue on productivity at the workplace. We reason that this is likely for minor health issues or newly occurring health issues that do not immediately lead to changes in observed behavior at the workplace. In such cases a worker might be willing to disclose work limiting health issues in an anonymous survey (such as the NLSY79), but still be able to hide the effects of the health issue from the employer. We will therefore also distinguish between a variable measuring "having working limiting health issues" and a variable measuring "having **new** work limiting health issues" that did not exist in the previous period. In a robustness test, we argue that the variable measuring new work limiting health issues is less likely to have a contemporaneous effect than a variable measuring work limiting health issues unconditionally.

Using "lead" variables is often used to address potential simultaneity issues, although it has been pointed out recently that very strong assumptions need to hold in order for this practice to effectively control reverse causality (Bellemare, Masaki and Pepinsky 2017; Leszczensky and Wolbring 2022). In our case using a "lead" variable is also necessary as it addresses the specific variable timing issue that we illustrated in Figure 1a. The variable PROMOTION$_{ict}$ indicates a promotion since the last interview, which means within the past year for waves up to 1994 and within the past two years for all waves after 1994.[25] The main variable of interest HEALTH LIMITS WORK$_{ict}$, on the other hand, is likely to be a contemporaneous variable as it is asked in combination with having (or not having) a job "in the past week." As a consequence, using PROMOTION$_{ict}$ as dependent variable in equation 3 and PROMOTION$_{i,c,t-1}$ as covariate could easily result in regressing a "past" outcome variable (i.e., PROMOTION$_{ict}$ measuring two years back) on a "present" explanatory variable (i.e., HEALTH LIMITS WORK$_{ict}$ potentially measuring only one week back). This misspecification can easily lead to a significant downward bias with estimates of δ very close to zero.[26]

If the assumption of no-contemporaneous health effects on promotions holds (no reverse causality), an omitted variable that affects both current health issues and future promotion probabilities (omitted variable bias) could still introduce an estimation bias. In this case health needs to be treated as endogenous variable and an IV estimator is in order. To check the robustness of our results we therefore also present estimates based on Arellano and Bond (1991) that not only allow for the instrumentation of endogenous covariates but also endogenous dependent variables using lagged values of the dependent variables as instruments. In addition, the system is estimated with GMM in first differences which has the added benefit in that it also controls for individual fixed effects $\bar{\alpha}_i$.

We next allow for heterogeneous effects of health issues on promotions based on local economic condi-

[24] Compare the discussion of panel estimators in Cameron and Trivedi (2005).

[25] We unfortunately do not observe when exactly within the $[t-1, t]$ time frame the promotion happened.

[26] Results of this specification are available from the authors upon request.

tions. As discussed in the introduction, we argue that the effect of health issues on promotions could vary by the local economic condition in which the employer of said individual is operating. We therefore use local area variation (at the county level) in unemployment rates and interact it with the indicator variable for work limiting health issues. The resulting specification can be written as:

$$\begin{aligned}\text{PROMOTION}_{i,c,t+1} = \bar{\alpha}_i + \delta \times (\text{HEALTH LIMITS WORK}_{ict} \times \text{UE-HIGH}_{ct}) + \beta_1 \times \text{PROMOTION}_{ict} \\ + \beta_2 \times \text{HEALTH LIMITS WORK}_{ict} + \beta_3 \times \text{UE-HIGH}_{ct} + \lambda X_{ict} + \eta_c + \tau_t + \varepsilon_{i,c,t+1},\end{aligned} \tag{4}$$

where UE-HIGH_{ct} is an indicator variable for high unemployment in county c at time t. Coefficient δ of the interaction term $\text{HEALTH LIMITS WORK}_{ict} \times \text{UE-HIGH}_{ct}$ shows the effect of living in an area with a high unemployment rate and having work limiting health issues on the probability of getting promoted over the next period. The remaining controls are identical to our earlier specification.

Finally, we focus our analysis on currently working individuals. While this includes individuals who may lose their job over the following period (in which case they report $\text{PROMOTION}_{i,c,t+1} = 0$), it excludes individuals who may have found a job soon after the interview and then reported a promotion status in $t+1$. Our analysis therefore only addresses the job promotion probabilities of individuals with a job tenure of at least a year. Including individuals with shorter tenures adds a lot of noise to the estimates as it introduces promotion outcomes of individuals that either job hop or are only marginally attached to the job market.

4 Results

4.1 Descriptive statistics

4.1.1 Time trends

As discussed in Section 2, we distinguish between two samples in general, one using individual/year observations from 1987–1990 and the second using individual/year observations from 1994–2016. Both samples are based on information from currently employed individuals.

However, in order to show the time trend of employment status and the effects of sample selection on the main variables of interest, we include currently unemployed individuals in the plots of Figure 2. From this figure we clearly see that promotions decrease over time and that sample selection barely affects the incidence of promotions. Second, the incidence of work limiting health issues increases over time as individuals age but less so in our sample of currently employed individuals. This is to be expected as employed individuals tend to be healthier on average. This also highlights again the focus of our paper which is not on the effects of health on labor market participation, but the effects of health on the career prospects of currently employed individuals. Panel 3 shows the trend in employment over time. Employment status first increases strongly as individuals start out in their respective careers, begin to flatten around 1995 and then slowly decline as some of the now older individuals exit the labor market. In addition, employment drops sharply during periods of recession. Finally, panel 4 shows average wage income over time. Wage income increases over time and begins to flatten starting in early 2000. If we condition on workers only, wage income increases throughout

but the growth rate of wage income decreases somewhat starting around year 2000.[27]

4.1.2 Sample 1987–2014

As stated above, our econometric specification focuses on currently employed workers and their probability to get promoted over the next period. We therefore use a sample of employed individuals for the years 1987–2014 as well as a smaller sample (for which we have firm specific information) that covers only the years 1994–2014. From Table 1 we see that sample 1987–2014 uses data from waves 1987–2014 (as well as information about promotions from wave 1990 and wave 2016) of currently employed individuals. The promotional information is not available for the waves 1991–1993, so these individual/year observations are therefore dropped. This sample consists of 69,603 individual year observations. After merging county level information the total number of individual/year observations slightly reduces to 69,033 as a few individuals/year entries lack a county identifier. Figure 3a shows the age distribution of this sample and Table 2 shows summary statistics of the variables we use in our analysis.[28]

The average age in the full sample is 37.9 years. About 16 percent receive a promotion over the next period, irrespective of whether it was their current main job (job 1) or any other job that they have held since the last interview (job 2–5). About 17 percent have been promoted since the prior interview. The fraction of promotions with wage increases are somewhat lower at 10 percent. Most of the promotions recorded are based on Job 1 promotions which is the current main job that individuals report. About 60 percent respond that a promotion seems possible over the next period.[29] The job satisfaction rate is very high with about 92 percent. About 5 percent of responders say that their health limits their work in some way and only about 1 percent claim that health prevents them from working. The average body mass index is 27.6 and 28 percent report BMIs greater or equal than 30 which is the cutoff for the definition of obesity.

More than half of the sample responses are from married individuals and roughly 49 percent are females. The fraction of African Americans and Hispanics is 28 percent and 17 percent respectively and represents the over sampling of minority groups in the NLSY.[30] Individuals report an average of 13 years of education, about 9 percent has no high school degree and 23 percent of responses are from individuals with at least a college degree. The average family size is 3 and about 77 percent live in urban areas. We reduce the sample to individuals that are employed in the current period. About 92 percent maintain their employment in the next period. The average wage (expressed in 2010 USD) is 20.06 USD per hour. The average annual wage income is 41,000 USD and the average net family income is 73,000 USD.

The average tenure at the current job is 6.6 years. About 21 percent are union members. This variable is only available in later waves and therefore only covers individual/time observations of workers 30 years

[27] The panels for PROMOTION and WAGE INCOME show two lines to reflect the fact that these variables cover the "past calendar" year. This means that say **wave 2000** wage income is actually wage income from **year 1999**. The health and employment status variables are contemporaneous and typically cover the past couple of weeks, so that wave 2000 health or employment status information coincides with year 2000.

[28] All dollar values are denominated in 2010 USD using the OECD-CPI for the U.S. from OECD (2022), "Inflation (CPI)" (indicator) at: https://doi.org/10.1787/eee82e6e-en (accessed on 09 November 2022).

[29] We use this variable to conduct subsample analysis on individuals for whom promotions seem possible.

[30] Following the 1990 interview, none of the 1,643 members of the economically disadvantaged, non-Black/non-Hispanic sample were eligible for interview.

and older. A relatively large fraction of individuals, 87 percent, report having a health plan. The average firm size is very large at about 1,000 employees, whereas the medium firm size is only about 50 employees. This is due to the fact that firm size is highly right skewed with a small number of firms having over 100,000 employees. Finally about 39 percent of firms have multiple locations. Retail and professional services are the two largest industry groups whereas admins and operator/fabricator are the two largest occupational groups.

4.1.3 Sample 1994–2014

Firm specific descriptors such as whether a job is a union job, whether a worker has a health insurance plan, the number of employees, etc. are only consistently available in later waves. Using these variables reduces the sample to waves 1994–2014 with $50,540$ individual/year observations where individuals are 29 or older. Again, after merging the county level unemployment rates, the total number of individual/year observations reduces slightly to $50,313$. Figure 3b shows the age distribution in this sample and columns (1) and (2) in Table 3 show the average values of all the variables of the two samples side by side.

We see that in the 1994–2014 sample individuals have a lower probability to get promoted in the next period as they are on average 4 years older (42 as opposed to 38). The incidence of work limiting health issues is slightly higher as is their average BMI. Figure 4 shows that work limiting health issues increase with age. All three health measures track each other very closely and the distinction between our preferred measure HEALTH LIMITS WORK and HEALTH LIMITS KIND OF WORK is almost immaterial. The second measure HEALTH LIMITS AMOUNT OF WORK is more "restrictive" in the sense that fewer respondents report having this type of restriction.

Marriage, gender, and race indicators are very similar as are the education and family size controls. The hourly wage is about 2 dollars higher than in the larger sample, the average wage income is 46,000 USD compared to 42,000 USD, and the average net family income is 77,000 USD compared to 73,000 USD.

In columns (3) and (4) of Table 3 we break the sample into the group of individuals without and with work limiting health issues, respectively. Comparing the two columns we see that the probability of promotion over the next period is lower in the group of respondents who report having work limiting health issues as only 11 percent receive a promotion compared to 13 percent in the group without any health issues. Individuals with work limiting health issues are on average about 1.4 years older, less satisfied with their jobs, less likely to be married, more likely to be female, less likely to be Hispanic, less likely to have a college degree, less likely to be employed over the next period, have lower wage rates, lower wage income, and lower family income.

Figure 5 shows the time trends of promotions, wage income and annual hours worked by work limiting health status. The figure shows significant differences with respect to these three variables over time. An interesting pattern emerges from these figures. While the difference in wage income and hours worked is very consistent, i.e., healthier individuals have a higher income and work more hours, the difference in promotion probability switches signs which suggests that age and business cycle effects may be offsetting each other. We also see from Panel 1B that the difference in the promotion probability turns significantly negative after the 2001 and 2007–2009 recessions while it seems to trend upwards in the years prior to both recessions.

4.1.4 Local area unemployment

While we do observe some interesting patterns in promotions following recessions, it is going to be challenging to directly identify the effect of recessions on promotion probabilities due to the biennial panel structure. We therefore rely on county level variation in unemployment rates to draw conclusions of how (local) economic conditions can affect a worker's career advancement.

First, Figure 6 shows how local area unemployment rates (at the county level) match up with the official recession periods. We clearly see a strong correlation of local unemployment levels with the timing of recessions. Second, columns (5)–(14) in Table 3 show summary statistics based on relative local unemployment levels by county and health status. In general the pattern of promotions in this table suggests that in areas with high unemployment (rates of 7 percent or higher), the fraction of individuals who get promoted in the following period is lower at 11 percent compared to 13 percent in the overall sample in column (2). It is interesting to see that as we focus on smaller groups of individuals who live in areas with even higher unemployment rates, say 9, 10 or 11 percent, the overall fraction of individuals does not seem to be affected and stays constant at 11 percent. However, if we focus on individuals who also report having health issues, we clearly see a drop in their probability of getting promoted, from 8 percent (if they live in areas with 7 percent or higher unemployment) in column (6) down to 4 percent (if they live in in areas with 11 percent of higher unemployment) in column (14). Wages, wage income and family net income follow a similar pattern. As local area unemployment increases, labor market outcome variables decrease.

The two top panels of Figure 7 show the fraction of promotions by age group of four distinct worker types: (i) workers without work limiting health problems who live in low unemployment areas; (ii) workers with health problems in low unemployment areas; (iii) workers without a health problem in high unemployment areas; and (iv) workers with health problems in high unemployment areas. A high unemployment area is defined as a county with an unemployment rate exceeding 9 percent.[31]

The relative frequency of promotions is downward sloping for all four types. Health issues are associated with a lower fraction of individuals with promotions (over the next period) for some age groups as can be seen from the difference-graphs in panels 3 and 4. Health issues seem to decrease promotions for individuals around age 30 and in their mid forties. The patterns are less clear for younger individuals, especially the ones living in high unemployment areas (see Panel 4).

The combined effect of health issues and poor economic conditions (i.e., high local level unemployment) on promotions over the next period is shown in the bottom panel 5. It shows the difference-in-differences of expected promotions by age groups across types. From this graph we see that individuals between age 30–40 seem to be harmed by the "double shock"of work limiting health issues and poor economic conditions whereas other age groups, especially the ones in their late 40s, seem somewhat immune to the double exposure.

[31] While this is an arbitrary cutoff, the graphs illustrate an interesting pattern that is robust to alternative cutoffs such as 7, 8, 9, 10, and 11 percent.

4.1.5 Promotions and Wages

We next investigate what proportion of promotions trigger wage increases. Table 4 shows that the fraction of individuals with wage increases in the group of individuals who received promotions is larger at 68.5 percent than the proportion of people with wage increases in the group of individuals who were not promoted at 55.5 percent. Comparing the sizes of the wage increases we find that they are fairly evenly distributed among the groups with and without promotions. On the very high end of wage increases (the 200+ percent group) the no promotion group exhibits a higher share of wage increases. Some of this could be explained by switching jobs. Individuals would indicate that they did not receive a promotion but they may still have gained much higher wages. Another explanation could be that the no promotion group includes many of the older individuals who are already toward the top of a company's hierarchy and thus cannot be promoted further while they can still experience large wage increases. Furthermore, union membership does not seem to have a strong effect on promotion as the samples of promoted vs. non-promoted seem fairly balanced on this characteristic. We next compare the frequencies of the four recorded types of health issues between the promoted and not promoted group. Table 4 clearly shows that the fraction of individuals with health issues is much higher in the group of people who have not been promoted. Somewhat surprisingly the job satisfaction rate is very similar between workers that received promotions and workers that did not. Finally , the fraction of obese individuals (BMI ≥ 30) is smaller among workers who received promotions.

Next, in Figure 8 we compare the difference-in-differences by age group of the 4 worker types for promotions, promotions with wage increases and hourly wages, respectively. The pattern of the combined effect of health issues and poor local economic conditions on promotion with or without accompanying wage increases is fairly similar as can be seen from Figures 8a and 8b. Finally Figure 8c shows that work limiting health problems are associated with lower hourly wages.[32] However, the connection with poor economic conditions together with health issues is less apparent as we can see from Panel 2 in Figure 8c.

In summary, the double exposure to bad health and poor economic conditions may indeed lower the probability of promotion but the data is noisy. We next present the results from the regression analysis suggested in Section 3.

4.2 Estimation results

First, Table 5 shows the regression results of model 3, which relates the effect of work limiting health issues on the probability of receiving a promotion over the next period for individuals who are currently working. From column one we see that work limiting health problems have a negative effect on the probability of promotion. Based on the linear probability model this would suggest that the probability of promotion decreases by about 3 percent if a worker has a work limiting health problem. However, once we add control variables, the effect of work limiting health issues on the probability of promotions becomes much weaker and disappears. This may not be all that surprising since Figure 7 has already shown that the association of health (in combination with measurements of high unemployment) and promotions is non-linear in age and potentially switches signs. The latter could cancel out negative effects that hit only certain age groups.

[32] If we included individuals who are currently not employed this difference would be even more pronounced.

We next move to our main specification (expression 4) which allows for differentiating the effect of health by local area economic conditions. Table 6 shows the results of the model with an interaction term for high unemployment area. More specifically, the local area unemployment indicator flags observations from counties with an unemployment rate of 9 percent or higher. The interaction coefficient estimate is negative and becomes statistically significant from column 4 onward. Starting with column (4) we reduce the sample to individual/year observations from 1994–2014. This is a slightly older sample where individuals are between 29–57 years old and where information about job characteristics is available. Comparing columns (2) and (4) we clearly see that once we focus on the older age group, the interaction effect doubles in size and becomes statistically significant even with controls for year and county fixed effects in place. Adverse labor market conditions, possibly the result from recessions, identified via county level variation in high local unemployment rates, amplify the negative effects of work limiting health issues and significantly decrease the probability of on-the-job promotions over the next period. An individual who has work limiting health issues would experience about a 3 percent decrease in the probability of getting promoted, conditional on living in a county with an unemployment of 9 percent of higher.

Adding more control variables for individual, household and firm characteristics do not change this result significantly as can be seen from columns (5)–(8). In column (9) we focus on observations of individuals who still report being employed in period $t+1$. In this case the magnitude of the interaction terms decreases and loses statistical significance. While this might be an indication for our effect being driven by individuals who lose their job in period $t+1$ (and therefore report no promotions in $t+1$), we do not observe this drop-off for individuals residing in counties with higher level of unemployment such as a 10 or 11 percent cutoff level as can be seen from Table 7.[33] The higher we pick the cutoff of what constitutes a county with high unemployment, the stronger the result—both in terms of magnitude and statistical significance—becomes. The probability of promotion can decrease by as much as 10 percent if the local area unemployment level is very high as can be seen from the last panel in column (10) for the case with county unemployment of 11 percent or higher. Individuals who live in areas with very high unemployment and who suffer from work limiting health conditions have a lower probability of getting promoted than individuals without health issues or individuals living in areas with better economic conditions.

4.3 Robustness checks

In this section we provide a series of robustness checks. We first control for unobservable individual heterogeneity and use a fixed effects (within) estimator to estimate specification 4. The resulting estimates closely resemble those presented in Table 7 above and are available in Appendix B.

Second, as discussed in Section 3 we attempt to minimize any estimation bias due to the potential endogeneity of work limiting health issues. We therefore replace the work limiting health issues indicator variable with an indicator that reflects "only **new**" work limiting health issues since the last interview (i.e., HLWrkNew_t). This indicator only equals one if the individual had no work limiting health issue in the prior survey wave but now reports that her work ability is impaired by health. We argue that the lead of this

[33] More detailed regression tables for these alternative cutoffs are available upon request from the authors.

variable, HLWrkNew$_{t+1}$, is less likely to have a contemporaneous effect on the lead of promotions than our earlier unconditional indicator for work limiting health issues, HEALTH LIMITS WORK$_{t+1}$ in specification 1 because the newly occurring health issue (or its effect on productivity) may not yet have been observable by to the employer. If this variable is less likely to contemporaneously affect promotions, then the lagged model in expression 4 is less likely to be misspecified due to reverse causality. From the summary statistics in Table 3 we see that the frequency of work limiting health issues drops in half when we focus only on newly occurring health issues. Appendix C contains the relevant regression results table for specification 4. The results are very similar to our results in 7 which seems to indicate that most of the decrease in next periods promotions can be linked to newly occurring health issues as opposed to long-term, possibly chronic, issues. This may not be that surprising as the latter are to some extent already accounted for by the initial health conditions control variable.

Third, in order to address the potential endogeneity of work limiting health issues due to omitted variables (or still unresolved reverse causality) we implement an IV type estimator based on Arellano and Bond (1991). This estimator uses sufficiently lagged dependent and independent variables as instruments in a first differenced setting which also removes the unobserved individual heterogeneity, similar to a standard fixed effects within estimator. We provide a more detailed exposition of this estimator in Appendix D including estimation tables. Overall we can again confirm the magnitude and sign of the interaction coefficient estimate of work-limiting health issues with high local unemployment. However, due to first differencing we loose power and the estimates are less precise than estimates based on OLS or fixed effects (within) estimators discussed previously. An important test of overidentifying restrictions also rejects and the estimates are not statistically significant.

Fourth, our results hold for promotions that trigger a wage increase and for promotions in the main job only (referred to as JOB1 in NLSY). Results tables for these regressions are available in Appendix E.

Fifth, our results are robust with respect to using sample weights in the estimation. We provide a brief discussion of sample weights issues in Appendix F.

Sixth, we calculate propensity scores for having a work limiting health issue using a non-linear probability model. We use individual and households characteristics as explanatory variables and then trim the sample to exclude individuals with a propensity score of work limiting health issues below the 2.5^{th} percentile and above the 97.5^{th} percentile of the resulting propensity score distribution. This allows us to exclude individual/year observations with either very high probabilities or very low probabilities of having work limiting health issues which leads to a more homogeneous sample (in terms of covariates) across the two groups of individuals with and without work limiting health issues. Our results based on this trimmed sample are very similar to our main result. Detailed estimation tables are presented in Appendix G. While this method does not remove the possibility of unobserved observation bias, the fact that our results are robust to trimming, nevertheless strengthens our case.

Finally, our results are robust to replacing the indicator variable for high local level unemployment with a level variable of the county level unemployment rate as explanatory variable that is subsequently interacted with the health-issues indicator variable as shown in Appendix H. The interaction coefficient is still statistically significant and negative but with a much lower magnitude. Using the unemployment

rate assumes a uniform impact of a one-percentage-point increase on labor market outcomes, which is a limiting assumption due to potential non-linear effects. We favor the specification with indicator variables because they reveal the source of the effect which is driven by observations from counties with relatively high unemployment levels.

4.4 Pathways

In order to investigate what exactly drives our results, we next present regression results from slightly altered models.

4.4.1 Unemployment intensity

We first change the definition of what constitutes a county with high unemployment from a cumulative cutoff (i.e., greater than some threshold value) to bins with lower and upper bounds using six categories of county unemployment intensity: counties with very low unemployment rates of [0–4] percent, followed by (4–8], (8–12], (12–16], (16-20], and 20+ percent. The last category are counties with very high unemployment rates of more than 20 percent. From Table 8 we see that the effect of health issues on promotion probabilities seems to be driven by individuals from counties with unemployment rates of 12 percent and higher.

4.4.2 Same job promotions vs. promotion after job switch

In this section we distinguish between promotions at a job that the worker has been working in for some time and promotions that happened immediately after a worker switched to a new job. In order to accomplish this we generate a new promotion variable PROMOTION-SAME-JOB$_{i,c,t+1}$ that equals one if the person got promoted from period t to $t+1$ and her job tenure is **at least one year** for promotions prior to 1994 for which we have annual observations and **at least two years** for promotions after 1994 for which we have biennial observations. This ensures that the reported promotion in $t+1$ is a promotion in the same job.

We then similarly define a different promotion variable PROMOTION-NEW-JOB$_{i,c,t+1}$ that equals one if the person got promoted from period t to $t+1$ and her job tenure is **less than one year** for promotions prior to 1994 and **less than two years** for promotions after 1994. This ensures that the reported promotion in $t+1$ is a promotion in a new job that the worker must have switched to since the last interview. We then estimate specification 4 using these new promotion variables as dependent variables and report the results in Tables 9 and 10.

From Tables 9 we see that health limiting work issues have negative effects on the probability of future promotions, irrespective of whether the individual lives in areas with high unemployment. While the interaction term of work-limiting health issues and local high unemployment indicators are negative, they tend to be small and not statistically significant. Only if local area unemployment is really high, at UE>11 percent, will it become an amplifier of bad health and add to additionally decreasing the probability of promotion.

The situation is different for promotions in new jobs as shown in Table 10. The combination of health issues and high local level unemployment significantly lowers the probability of promotions across the dif-

ferent specifications. This is likely an indication of a lack of job mobility in the presence of health issues and local unemployment.

This is an interesting result that can be linked to the literature on job ladders. Haltiwanger, Hyatt and McEntarfer (2018) and Haltiwanger et al. (2018) show strong evidence of a procyclical firm wage ladder. During recessions job-to-job movements decline and associated wage increases (and possibly promotions) are not realized and while they point out strong movements of younger workers up the job ladder, they do not investigate the role of health.

4.4.3 County Stayers and County Movers

We next estimate the effect of health issues and poor economic conditions on subsamples of individuals that stay in the same county vs. individuals that move to a different county from period t to $t+1$. We use the same dependent variable definition as before and set an indicator $\text{PROMOTION}_{i,c,t+1}$ equal to one if the person got promoted from period t to $t+1$ and zero otherwise. However, we then estimate specification 4 separately using the two subsamples of stayers and movers. Tables 11 and 12 show the estimates based on promotions in $t+1$ for both subsamples.

Out of the 69,033 person/year observations in column (1) in Table 6, 62,432 are from individuals who still reside in the same county in period $t+1$ (see bottom of column (1) in Table 11) while 6,601 are from individuals that have moved to a different county (see bottom of column (1) in Table 12). Table 11 shows highly significant negative estimates for the interaction coefficients of health issues and high local unemployment rates at the 1 percent level across all unemployment cutoff levels and specifications for the sample only including county stayers. In contrast, Table 12 indicates that when individuals relocate to a different county, poor health no longer serves as a predictor for promotions, especially when residing in an area with high unemployment. None of the interaction coefficient estimates are statistically significant anymore, and in some cases, the signs have even changed. While the lack of statistical significance is a function of the smaller sample size, the change of the sign in many of the specifications hints at the fact that the negative effect of poor health on promotions is driven by individuals who do not (or cannot) move from an area with high unemployment.

We acknowledge that this result may be influenced by an unobserved factor unrelated to health, which our control variables might not capture. However, it is also plausible that this outcome is attributable to an unobserved health-related effect. For example, we lack information on the severity of the reported health issues. It is conceivable that individuals with more severe health issues may (i) be unable to relocate and (ii) face lower promotion prospects due to the seriousness of their health conditions. Consequently, health may adversely impact the stayers. Conversely, individuals with less severe health issues might find it easier to move to a different county, and their health condition is less likely to detrimentally affect their chances of promotion. As a result, health may lose its impact. Our data does not allow us to disentangle these alternate narratives, so we need to leave this issue for future research.

Finally, we can again relate this result to the larger literature on job ladder movements such as Haltiwanger et al. (2018), Haltiwanger, Hyatt and McEntarfer (2018) and Hahn, Hyatt and Janicki (2021). As stated earlier this research shows that job ladder movements are pro-cyclical and that aggregate changes in

earnings and wages are in general driven by job-stayers (as opposed to entrants from non-employment or employer-to-employer transitions). Our result hints at a strong conditional relationship of local economic conditions (possibly as results of or in addition to business cycle effects) with individuals' health as one of the drivers of career stagnation (i.e., lower promotion probabilities).

4.4.4 Age effects

Since more than half of the waves of available data cover individuals aged 37 and older (Figure 3b) when workers are typically well into their careers with lower frequencies of promotions, a discussion about how aging in our sample together with (i) when in the age cycle most promotions tend to occur and (ii) when and how the county unemployment rate varies over time, is in order.

To facilitate this discussion we show four key attributes of our data broken down by age in Figure 9. Panel 1 shows that, not surprisingly, the fraction of individuals reporting work limiting health issues increases with age. Also the fractions shown on the left of the graph are based on individual/year observations close to 1994 whereas fractions on the right of the graphs are from the same individuals still in the sample around 2014. From Panel 2 in Figure 9 we see that the fraction of promotions—these are "next period" promotions, which is our main dependent variable—is relatively high early on as individuals are still relatively young and start building their careers. The incidence of promotions by age subsequently drops as individuals grow older and move along their career paths. Panel 3 in Figure 9 shows the average county (of residence) unemployment levels and Panel 4 shows the frequency distribution of individual/year observations by age. From the last two panels it is clear that the "bulk" of the observations in our sample are of individuals aged 35–45 living in counties with relatively low unemployment levels of 5.2 percent. A much smaller number of observations stems from young individuals from the early sample waves with slightly higher average county level unemployment rates of around 6.5 percent. The remaining observations are from older individuals 44 and up with average county level unemployment of 7 percent and higher. This higher unemployment is likely caused by the 12/2007–6/2009 recession.

While our main results from Tables 6 and 7 do contain controls for age as well as year and county fixed effects, the fact that many observations of older individuals—who are more likely to have health issues due to biology and are less likely to get promoted due to standard career patterns—are from years with high unemployment levels, could bias our results. A relatively straightforward approach to reduce this potential source of bias is to break the sample by age and run separate analyses of younger individuals who live in times of lower unemployment (and experience higher frequencies of promotions) vs. older individuals who live in times of higher unemployment (and experience lower frequencies of promotions).

More specifically we split the sample at age 43, rerun the analysis of the core model for both sub-samples and present the results in Tables 13 and 14. The two tables show that the negative impact of the interaction of work-limiting health issues and high local unemployment levels that we saw earlier is predominantly driven by observations from the older sample. In other words, younger individuals do not seem to be affected by the "double-whammy" of poor health in combination with high local level unemployment. Several factors may account for this phenomenon. First, work-limiting health issues in young and older individuals may differ in a way that specifically impacts the promotion probability of older individuals. For instance, the

health problems of older individuals might be more severe, happen with higher frequency, and/or be more long-term, all of which pose a greater obstacle to promotion (e.g., chronic back pain with many days missed at work of an older worker compared to a temporary sports injury of a young worker).[34] Secondly, older individuals are generally less mobile, both in terms of job changes (e.g., Stijepic, 2021) and geographical relocation (e.g., Saks and Wozniak, 2011). Consequently, it is reasonable to assume that the simultaneous occurrence of high local-level unemployment and individual health issues has a more pronounced negative effect on them in terms of job promotions compared to their more mobile younger counterparts.

In order to further investigate whether the position along the career path of a worker (here measured by age group but it could also be grouped by years of tenure at current job) affects the strength of the double shock of recession plus health issues we next include age group interaction terms into specification 4 from above so that the model can be written as:

$$\begin{aligned}\text{PROMOTION}_{i,c,t+1} = \bar{\alpha}_i &+ \sum_{a\in\mathscr{A}} \delta_a \times \Big(\text{HEALTH LIMITS WORK}_{ict} \times \text{UE-HIGH}_{ct} \times 1_{[\text{AGE}_{ict}\in a]}\Big) \\ &+ \sum_{a\in\mathscr{A}} \Big\{\beta_{1,a} \times \Big(\text{HLWK}_{ict} \times 1_{[\text{AGE}_{ict}\in a]}\Big) + \beta_{2,a} \times \Big(\text{UE-Hi}_{ct} \times 1_{[\text{AGE}_{ict}\in a]}\Big) + \beta_{3,a} \times 1_{[\text{AGE}_{ict}\in a]}\Big\} \\ &+ \beta_4 \times (\text{HLWK}_{ict} \times \text{UE-Hi}_{ct}) + \beta_5 \times \text{HLWK}_{ict} + \beta_6 \times \text{UE-Hi}_{ct} \\ &+ \lambda X_{ict} + \eta_c + \tau_t + \varepsilon_{i,c,t+1}, \end{aligned} \tag{5}$$

where $\mathscr{A} \equiv \{35-39, 40-44, 45\text{–}49, 50-54, 55+\}$ is the set of age groups with everybody below 35 being the omitted base category. The coefficient δ_a of the interaction term $\text{HEALTH LIMITS WORK}_{ict} \times \text{UE-HIGH}_{ct} \times 1_{[\text{AGE}_{ict}\in a]}$ shows the relationship between living in an area with a high unemployment rate and the probability of promotion among individuals whose age falls within the age boundaries of age group a and who report having work limiting health issues.[35]

Table 15 shows that the coefficient estimates of the triple interaction term of health problems, high unemployment and the indicator for age group is negative though not always statistically significant. The negative effect of health issues on promotions is primarily driven by individuals between the ages of 35 and up. This is perhaps not that surprising as it simply confirms the pattern that we have already seen in Figure 7 and Tables 13 and 14. However, the negative effect of the double exposure to bad health and poor economic conditions seems to be strongest (in magnitude, not overall frequency) for individuals who are on the upward trajectory of their career path as opposed to individuals at the top or towards the end of their career lifecycle, where promotions become rare in general. Note that this does not contradict the finding in Tables 13 and 14 that the bulk of the negative effect stems from older workers in our sample as they simply exhibit more variation in the health issues variable.

[34] For instance, labor force statistics based on the Current Population Survey (CPS) in 2022 indicate that the work absence rate due to illness or injury of workers 55 and older is higher than that of younger workers between 25–54 (Bureau of Labor Statistics, 2022).

[35] HLWK is used as abbreviation for HEALTH LIMITS WORK.

4.4.5 Gender and race effects

We next investigate the potential role of gender and race in connection with health dependent promotion probabilities. From column 3 in Table 6 we see that being female decreases the probability of getting promoted in the next period by roughly 1.3 percent in the large sample that includes observations from the years 1987–1989 where individuals are between 22–32 years old. However, starting from column 4 onward, where we add additional control variables and the sample is reduced to the years 1994–2016 where individuals are between 29–59 years old, the effect of gender on the promotion probability disappears. This suggests that any negative promotion effects seem primarily driven by young working women in their twenties. How much of this is driven by pregnancies is an open question. We are not able to use controls for pregnancy directly as this variable is only available in select years.

In order to refine our econometric specification we next add interaction terms to investigate whether poor health and bad local economic conditions primarily affect women. The econometric model can be written as

$$\begin{aligned}\text{PROMOTION}_{i,c,t+1} = \alpha + \delta \times \Big(\text{HEALTH LIMITS WORK}_{ict} \times \text{UE-HIGH}_{ct} \times 1_{[\text{FEMALE}_{ic}=1]}\Big) \\ + \beta_1 \times \Big(\text{HLWK}_{ict} \times 1_{[\text{FEMALE}_{ic}=1]}\Big) + \beta_2 \times \Big(\text{UE-Hi}_{ct} \times 1_{[\text{FEMALE}_{ic}=1]}\Big) + \beta_3 \times 1_{[\text{FEMALE}_{ic}=1]} \\ + \beta_4 \times (\text{HLWK}_{ict} \times \text{UE-Hi}_{ct}) + \beta_5 \times \text{HLWK}_{ict} + \beta_6 \times \text{UE-Hi}_{ct} \\ + \lambda X_{ict} + \eta_c + \tau_t + \varepsilon_{i,c,t+1}, \qquad (6)\end{aligned}$$

where we drop individual fixed effects from the specification. From Table 16 we can see that while the triple interaction term is positive, it is not statistically significant at the usual levels. This suggests that conditional on living in an area with high unemployment (in Table 16 the cutoff is a 9 percent local unemployment rate) and having a work limiting health issue does not affect females differently from men in similar circumstances (i.e., living in similar area with a work limiting health issue).[36]

We next pivot to the question race specific effects on promotions. From Table 6, column 3 we see that the race indicator variables for Black and Hispanic are positive. In addition, the indicator variable for Black is statistically significant in both the large and small sample as can be seen from columns (4)–(10). The indicator variable for Hispanic is statistically significant in the smaller sample from column (4) onward. This suggests that conditional upon working, the probability of getting promoted over the next period is higher for individuals identifying as either Black or Hispanic. Following our earlier approach we next interact the race indicator variable (for being black) with indicators for living in an area with high unemployment and an indicator for having a work limiting health problem similar to expression 6 but replacing the female indicator with an indicator for being black. Table 17 shows that the triple interaction term is positive but not statistically significant and neither are the remaining race interaction coefficients. One caveat we would like to mention is that the 1,643 members of the non-Black/non-Histpanic sample were not eligible anymore starting with 1990. Removing such a sizable group of mostly white low income workers from the survey is likely to impact the estimate of the race interaction coefficient in nontrivial ways.

[36] The effects with alternate cutoff levels of 7, 8, 10, and 11 percent are very similar and are available from the authors upon request.

4.5 Persistence of work limiting health issues on promotions

We next investigate the long term effects of work limiting health issues on the probability of promotions. In order to accomplish this we change the dependent variable in specification 4 from PROMOTION$_{i,c,t+1}$ to PROMOTION$_{i,c,t+2}$ and PROMOTION$_{i,c,t+3}$, respectively. Note, that prior to 1994 the subscript $t+1$ refers to next year while beginning with 1994 it refers to the next two years. Similarly $t+2$ refers to the following two years prior to 1994 and the following four years starting in 1994 while $t+3$ refers to the following three years prior to 1994 and the following six years post 1994.[37]

Tables 18 and 19 show the results of these estimates. From Table 18 we see that conditional upon living in a county with high unemployment a work limiting health issue still decreases the probability of being promoted in period t+2, that is within year 1–2 (prior to 1994) or year 2–4 (past 1994) in the future. This result is primarily driven by individuals who live in counties with very high unemployment levels, i.e., larger than 11 percent. If we estimate the model using an even longer horizon (t+3), we still find significant negative effects of work limiting health problems on the probability of receiving a promotion between the years 2–3 (prior to 1994) or the years 4–6 (past 1994) in the future. It is interesting to note that work limiting health issues together with living in high unemployment areas show stronger negative effects 4–6 years in the future as compared to 2–4 years.

A natural question to ask is whether the impact among the individuals with poor health could be driven by a location lock-in effect. As we have already discussed in the section about movers and non-movers, most of the negative effects of health on promotions can be attributed to individuals who do not leave their county from period t to $t+1$. Maybe individuals in poor health have a harder time moving from a county with high unemployment, so that the observed long-term effect has more to do with selection into an environment or area with poor economic conditions as opposed to career discrimination against people with work limiting health issues. In order to assess this question further we create two new indicator variables UE-HIGH>X$_{i,c,t+\tau}$ and UE-HIGH-FIX-C>X$_{i,c,t+\tau}$. The indicator UE-HIGH>X$_{i,c,t+\tau}$ equals one if an individual in period $t+\tau$ still lives in a county with equally high unemployment rate—greater than X where X equals either 7,8,9,10, or 11 percent—than the individual's county in period t. The indicator thus flags locations with similar economic conditions but it does not necessarily flag the same county. The second indicator variable UE-HIGH-FIX-C>X$_{i,c,t+\tau}$ equals one if an individual still lives in the **same county** (i.e., FC indicates a Fixed County) in period $t+\tau$ and if this county still has **the same** (high) **level of unemployment** (greater than X) that it had in period t.

Table 20 shows the frequency counts of individuals transitioning from counties with low/high unemployment in period t to counties with low or high unemployment in period $t+\tau$. For instance, the cross tabulation of UE-HIGH>11$_{i,c,t}$ (shown as UE>11.0) and UE-HIGH>11$_{i,c,t+\tau}$ (shown as UE(t+1)>11.0) in the bottom panel where high unemployment is defined as unemployment exceeding 11 percent shows that 2,725 person/year observations (out of a total sample size of 68,981) stem from individuals who live in a county with unemployment higher than 11 percent in period t and still live in a county with unemployment exceeding 11 percent in $t+1$. Similarly, 976 observations stem from individuals who lived in a county with unemployment

[37] Due to sample attrition from forming the lead indicators, the results stop being statistically significant at $t+4$ and starting with $t+5$ onward the results become very noisy.

exceeding 11 percent in period t but do not live in a county with 11 or higher unemployment in t+1. This could be because either they left their county, or their county's labor market recovered and has a lower than 11 percent unemployment rate in t+1. The cross tabulation of UE-HIGH>X$_{i,c,t}$ (shown as UE>11.0) and UE-HIGH-FIX-C>X$_{i,c,t+\tau}$ (shown simply as Fix County) shows that 1,863 person/year observations (out of a total sample size of 68,826[38]) stem from individuals who live in a county with unemployment higher than 11 percent in period t and still live in the **same county** with the **same high unemployment rate** in $t+1$. Similarly, 1,835 observations are from individuals who switched to a different county with lower unemployment or stayed in their county but their counties unemployment rate is now lower than 11 percent. Moving to the last two cross-tabulations on the right of the bottom panel, wee that 905 observations are from individuals who still live in counties with high unemployment rates in $t+3$ (6 years out for observations past 1994) and 844 observations are from individuals who still live in the same county with the same high unemployment rate in $t+3$.

We interpret these figures as follows. In period $t+1$ 2,725 (out of 3,701) individual/year observations are from individuals that are still stuck in counties with similarly high unemployment. Of those 2,725 individual/year observations, 1,863 are from individuals that still live in the very same county while 862 ($=2,725-1,863$) are from individuals that moved to a different county but the unemployment rate is still high in that county as well.[39] These numbers indicate a high persistence of the exposure to adverse local economic effects. The picture somewhat changes when we focus on two periods out in t+3, where out of 2,957 person/year observations only 905 are still from counties with similarly high unemployment.[40] Out of those 905 observations, 844 are from individuals that have not left their county and 61 ($=905-844$) are from individuals that have left their county but still find themselves in a county with equally high unemployment. A different way of summarizing this information is to say that one period out less than a third (976 out of 3,701) were able to switch to counties with lower unemployment, whereas three periods out about two thirds are able to make the jump (2,052 our of 2,957). In addition, the vast majority that were able to move to counties with lower unemployment did so by leaving their original county.

In order to assess the statistical significance of this effect as well as to highlight the role of health on these transition frequencies we next estimate the following model:

$$\begin{aligned}\text{UE-HIGH-FIX-C>X}_{i,c,t+\tau} = \alpha_i &+ \delta \times (\text{HEALTH LIMITS WORK}_{ict} \times \text{UE-HIGH>X}_{ct}) \\ &+ \beta_1 \times \text{HEALTH LIMITS WORK}_{ict} + \beta_2 \times \text{UE-HIGH>X}_{ct} \\ &+ \lambda X_{ict} + \eta_c + \tau_t + \varepsilon_{i,c,t+\tau}, \end{aligned} \tag{7}$$

where X is an unemployment rate of either 7, 8, 9, 10, or 11 percent and report the results for $\tau=1$ in Table 21, $\tau=2$ in Table 22 and $\tau=3$ in Table 23.

[38] We lose a few observations because some individuals have missing county specifiers in some year.

[39] They may have simply moved to a neighboring county that is as afflicted by high unemployment as their home county in t. However, this is speculative as we do not have the geolocation data for the counties in our data.

[40] The total count of individual/year observations from counties with high unemployment in period t has decreased from 3,701 to 2,957 when we cross-tabulate with variables 3 periods ahead. This is because our sample only includes individuals who report being employed. So some individuals do not report figures in period t+3 because they have either left the survey or because they have left the labor market.

First, from Table 21 we see that the coefficient estimate of the indicator variable for high unemployment is positive and statistically significant across all cutoff levels for high unemployment. This indicates the persistence of living in counties with high unemployment one period out in the future and is in line with the transition frequency results from Table 20 above. Interestingly, we do not find a consistent significant health effect on the probability to still live in areas with high unemployment after 2 years across all specifications once we control for individual characteristics.

Once we increase the lead period in the dependent variable to $t+2$ and $t+3$ which are essentially 4 or 6 years in the future (past 1994), we do not find a strong lock-in effect as individuals who live in areas with high unemployment, seem to be less likely to still live in the same county with the same level of high unemployment in future periods. As we discussed earlier, this does not necessarily mean that the individuals move away, it could simply mean that the county itself recovers and has lower levels of unemployment than in period t. Again, we do not find strong effects of health. While the interaction term of work limiting health issues and high unemployment are negative, they are small and not always statistically significant. Overall, we interpret this as suggestive evidence of no strong lock in effect of individuals with work limiting health conditions if enough time has passed.

It is interesting to again point out the significant negative estimate of the interaction of work limiting health issues and residing in counties with high unemployment on the probability of promotion in period $t+3$ in Table 19. Since we have just shown that individuals are able to move, and do so, especially with enough time given, the persistent negative effect of health on promotions (conditional on the individual residing in an area with high unemployment) can to a large extent be attributed to individuals who either cannot move or decide not to move from an area with very high unemployment of more than 11 percent.

5 Conclusion

We study the effects of health problems in combination with poor economic conditions at the county level on career advancement using a US panel data set that follows a cohort of people over multiple recessions from 1987 (ages 22–30) to 2014 (ages 49–57). We find that work limiting health issues only decrease the probability of promotions over the next period if a person lives in an area with high levels of unemployment. In addition, this effect is driven by individuals who do not or cannot move from an area with high unemployment. The effect most strongly impacts individuals between age 35–40 which is the age period for which we observe large increases in the promotion frequency but most frequently impacts individuals older than 43 as health issues become more prevalent.

If a health shock occurs during a critical stage in the career path, typically after the age of 35 according to our estimates, it can significantly impede career advancement. Among younger individuals below the age of 35, the occurrence of work-limiting health issues is relatively rare. Despite the high frequency of promotions in this age group, we do not observe a significant negative effect of health combined with local economic conditions on job promotions. Conversely, for older individuals, the situation is reversed. Although promotions are generally less frequent toward the end of their careers, the prevalence of health issues increases

significantly. Moreover, job mobility tends to decrease. This combination of factors results in a significant negative impact of health issues in conjunction with poor economic conditions, albeit to a lesser extent.

Moreover, the impact of work-limiting health issues on promotions is more pronounced for individuals residing in counties with relatively high unemployment rates, but does not appear to vary by gender or race. Additionally, the negative influence of work-limiting health issues on promotions, particularly for those living in high-unemployment areas, persists and remains measurable even after 6 years. Lastly, we are unable to identify an amplification effect of recession indicators on the adverse impact of work-limiting health issues on promotions. This limitation is largely attributed to the biennial frequency of our data, starting from 1994, which complicates direct measurement of business cycle effects.

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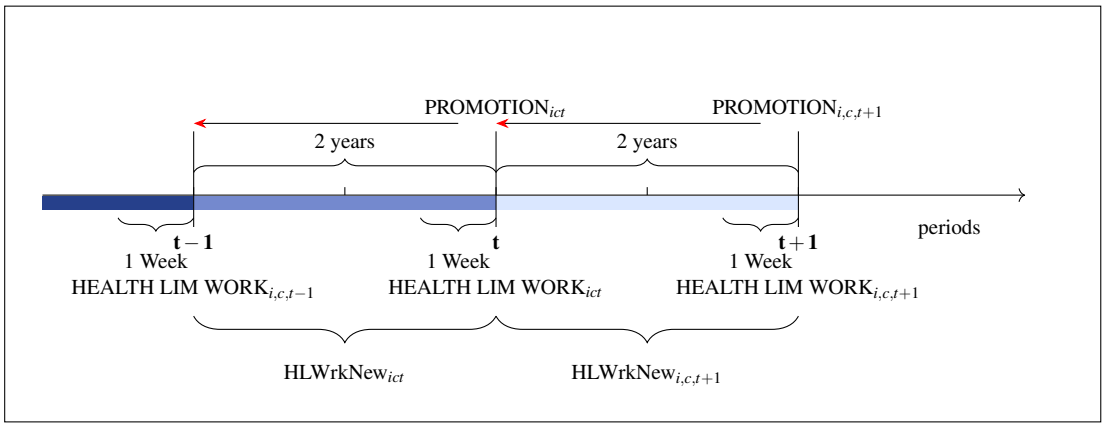
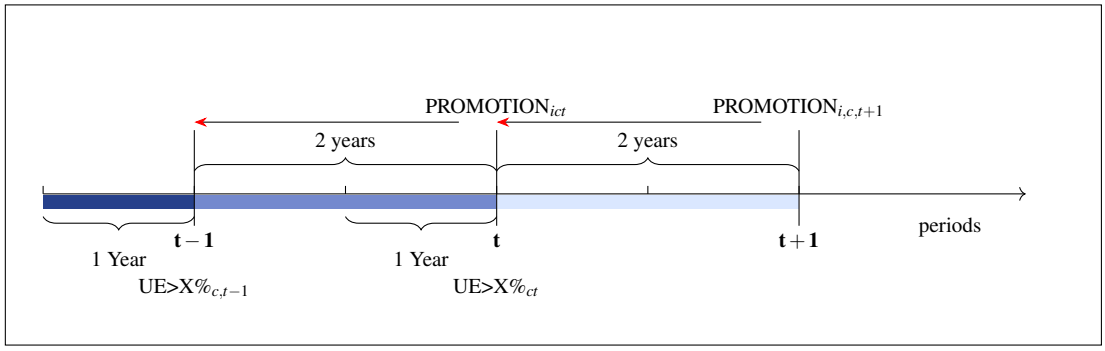
Figures



(a) **Timing of promotion and work limiting health issues indicators**



(b) **Timing of promotion and county level unemployment indicators**

Figure 1: **Variable timing starting with 1994 wave of NLSY79**

Notes: NLSY79 is available annually until 1994. Starting with wave 1996 the survey is conducted every other year. Our main sample includes the waves 1994–2014. Promotion information from wave 2016 is also used. The model period is therefore two years. The promotion variable equals one if the respondent has received a promotion since the last interview. **Panel (a)** Whether health limits work is asked in conjunction with whether the responded had a job last week and whether health would prevent the respondent from working at a job for pay. The variable HLWrkNew$_{ict}$ equals one if the respondent did not have a work limiting health problem at the time of the last interview in $t-1$ but reports having such a health issue in period t . **Panel (b)** County level unemployment is reported for the prior calendar year. Variable $UE > X\%_{ct}$ is an indicator variable. It equals one if the county c unemployment level exceeds $X\%$ in period t.

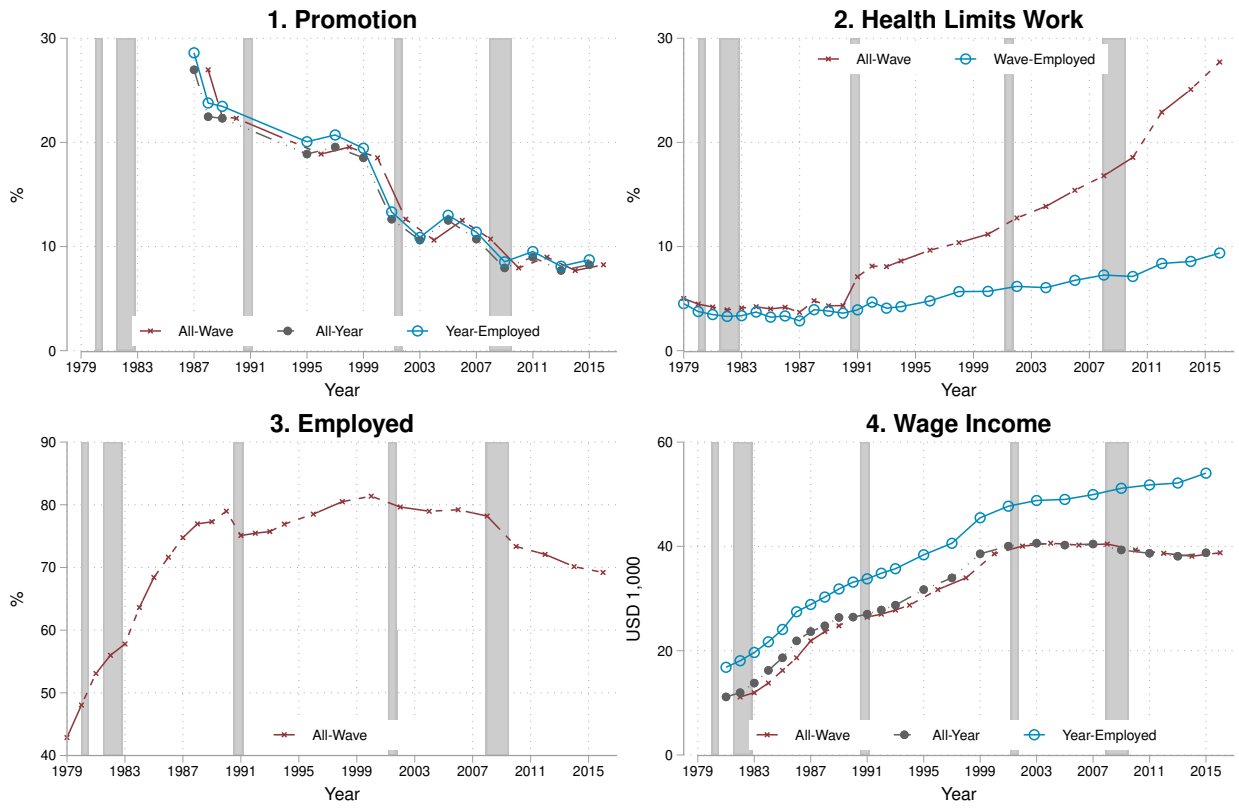
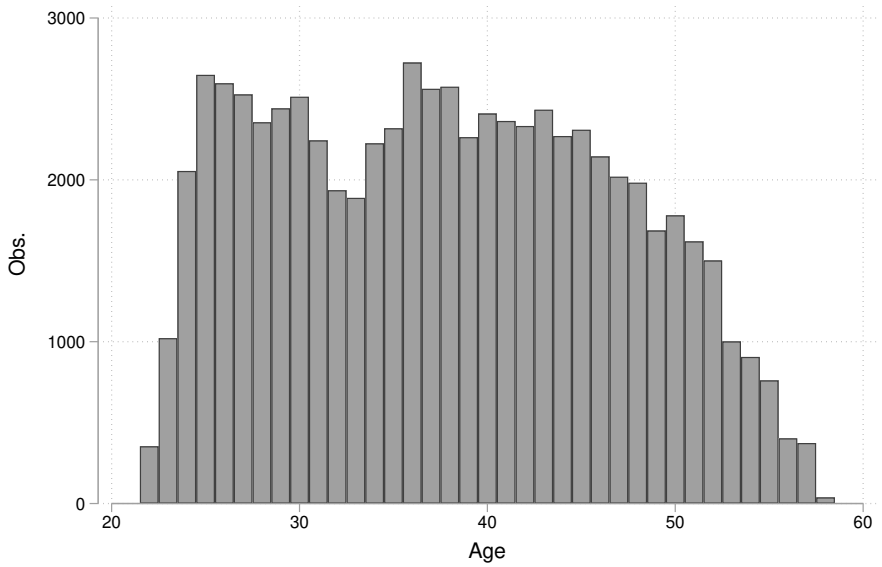
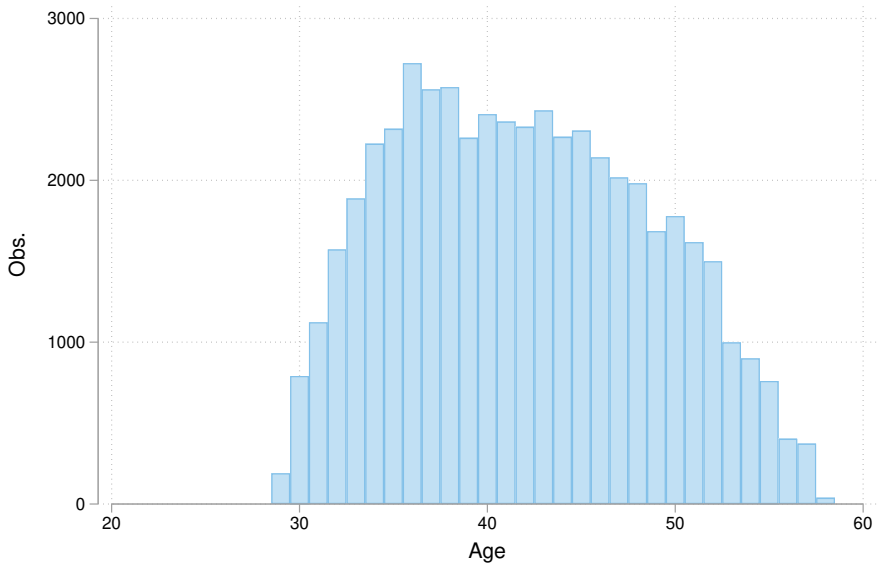


Figure 2: **Time trends**

Notes: Full sample with information from years not used in regression analysis including information from unemployed individuals. The blue circle lines summarize variables conditional on individuals being currently employed. Promotions and wages refer to the past calendar year. In order to line these variables up with the timing of recessions, we also plot them against the year that they cover. In the figure we indicate the observations based on when the wave was collected in "red" and observations based on what year they actually cover in "gray." In essence, the gray line is the red line shifted one year to the left. We can now see that after the adjustment wages and promotions (in gray) line up with the recession periods. Recessions are defined according to information from the NBER Business Cycle Dating Committee Announcements page at https://www.nber.org/research/business-cycle-dating/business-cycle-dating-committee-announcements: January 1980–July 1980, July 1981–November 1982, July 1990–March 1991, March 2001–November 2001, and December 2007–June 2009. We highlight recession years as gray columns. The variable PROMOTION is defined as having received a promotion in either job 1 through to 5 since the last interview, which up to 1994 covers the past year and beginning with 1996 covers the past two years. The promotion information is available annually for years 1988–1990 and every two years from 1996 onward. Data source is NLSY79 1979–2016, unweighted.



(a) Age Distribution in Sample: 1987--2014



(b) Age Distribution in Sample: 1994--2014

Figure 3: **Age distribution in the two main samples**

Notes: Sample 1987–2014 contains 69,603 observations, is used in regressions results columns (1)–(3) in Tables 5–15, and excludes waves 1990–1993 as PROMOTION_{t+1} is not available in those waves. Sample 1994–2014 contains 50,540 observations, information about job satisfaction and health plans, and is used in regression column (4).

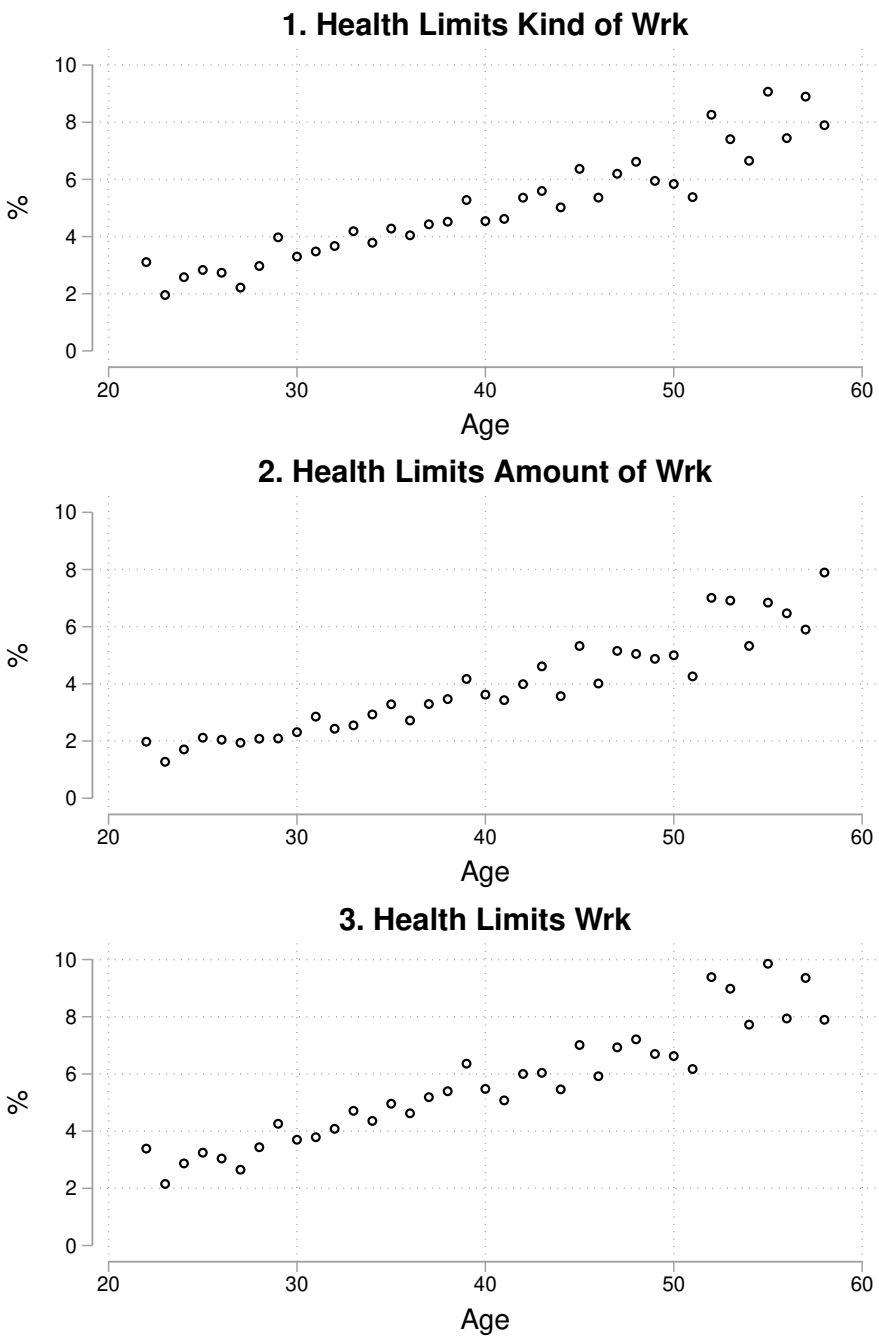


Figure 4: **Lifecycle profiles of work limiting health problems of currently employed workers**

Notes: NLSY79, observations from 1987–1989 and 1994–2014, unweighted.

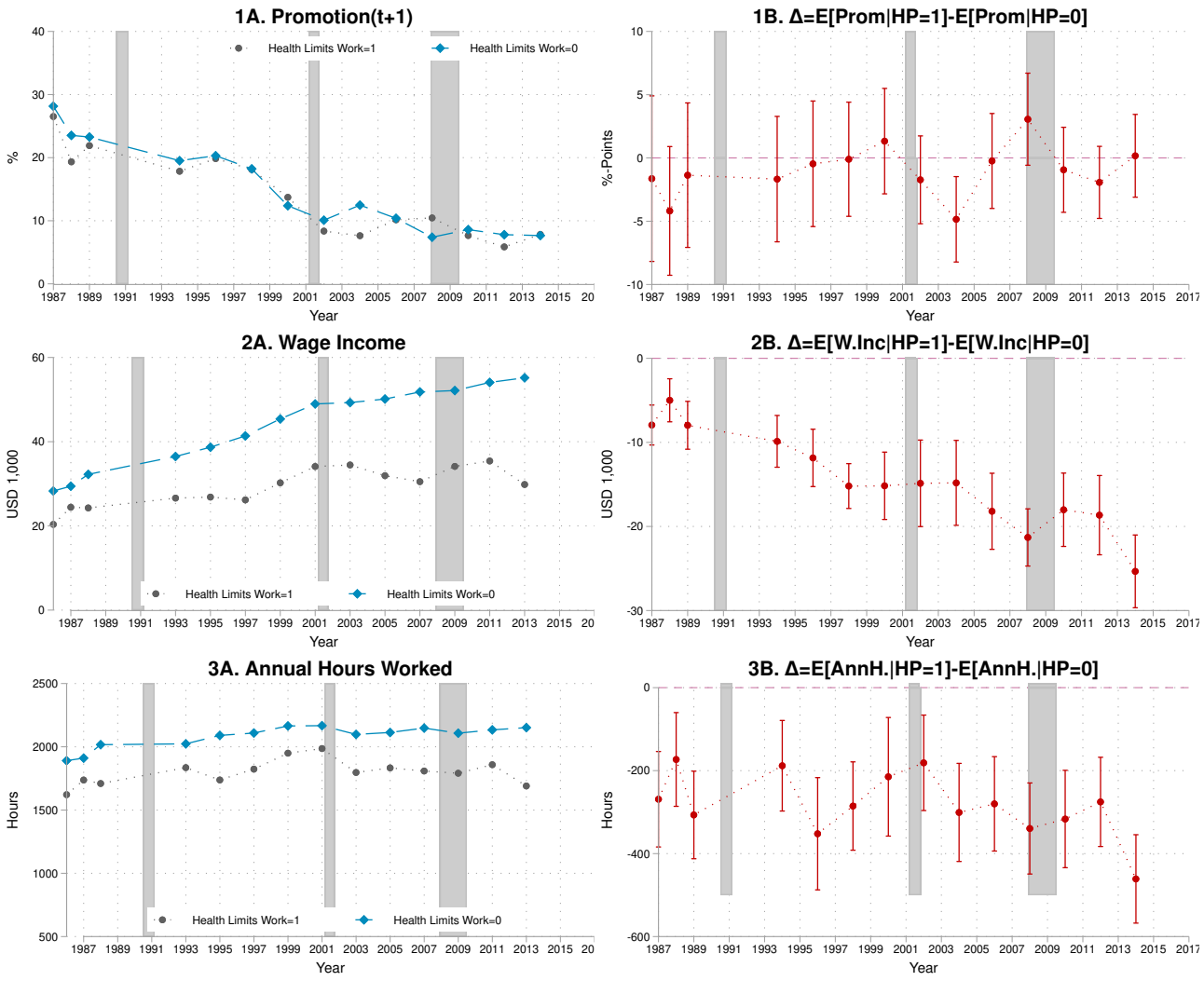


Figure 5: **Time trends by health type – base sample**

Notes: Base sample. Data source is NLSY79 1987–2016, unweighted.
The variable PROMOTION is defined as having received a promotion in either job 1 through to 5 since the last interview, which up to 1994 covers the past year and beginning with 1996 covers the past two years. PROMOTION(t+1) indicates whether an individual received a promotion over the next period (i.e., one year in waves up to 1994 and two years starting with wave 1996). The promotion information is available annually for years 1988–1990 and every two years from 1996 onward. Survey waves contain information from the prior year as many questions usually address the past calendar year. For example, a dot in the wage income graph for year 2009 was collected in wave 2010 but was asked retroactively about year 2009. We define two groups. The first reports having a limiting health problem in the prior period (t-1) and the second reports having no such health problem in the prior period. Recession periods are highlighted in gray.

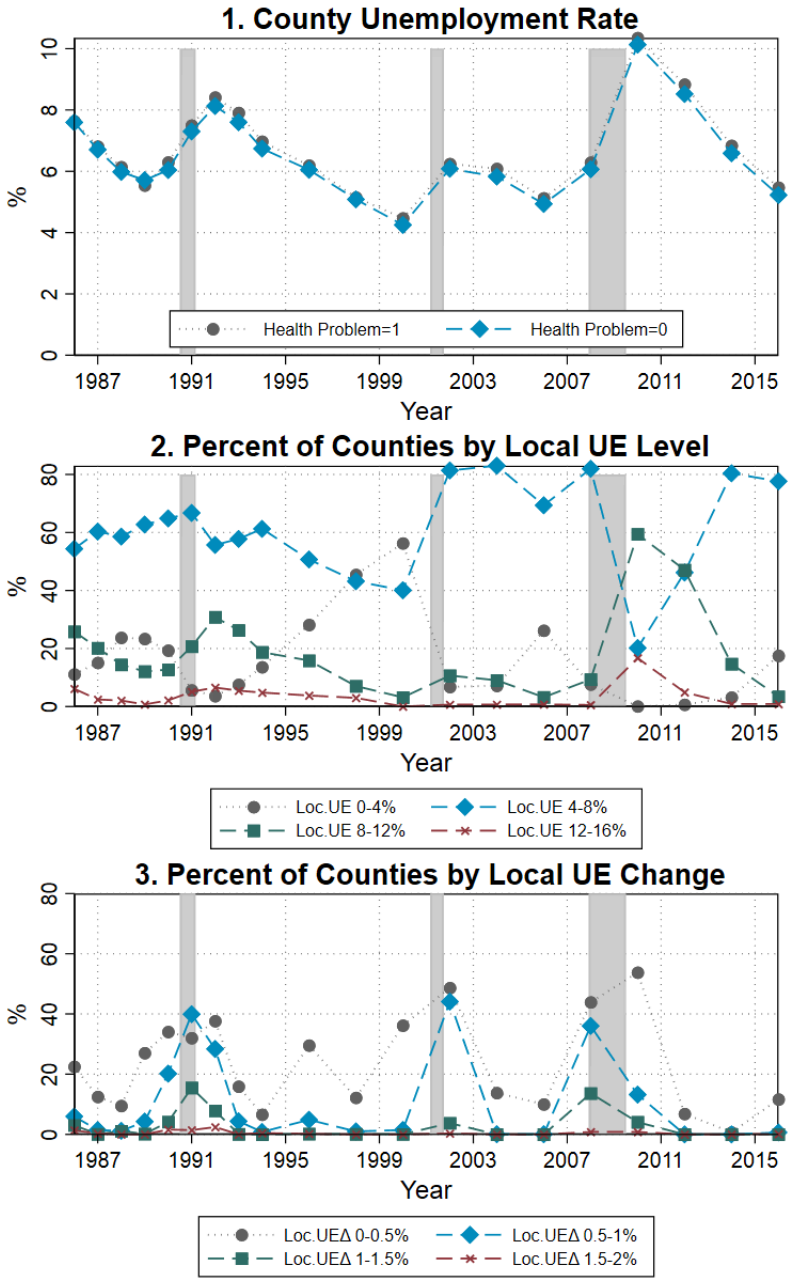


Figure 6: **Time trends of local area unemployment**

Notes: Panel 1 data source is county level unemployment data from the Bureau of Labor Statistics (https://www.bls.gov/lau/#cntyaa) which are available from 1979–2019. Panel 2 and 3 data source is NLSY79 1987–2016 and county level unemployment data, unweighted. Base sample used in regression analysis. Survey waves contain information from the prior year as many questions usually address the past 12 months. For example, a dot in the wage income graph for year 2009 was collected in wave 2010 but was asked retroactively about year 2009. This is true for all four variables depicted above.
In Panel 1 we define two groups. The first reports having a limiting health problem and the second reports having no such health problem. In Panel 2 we report the fraction of observations from counties with unemployment between 0–4 percent, 4–8 percent, 8–12 percent, or 12–16 percent. In Panel 3 we report the fraction of observations from counties with unemployment change rate (from the prior period local UE level) between 0–0.5 percent, 0.5–1 percent, 1–1.5 percent or 1.5–2 percent .

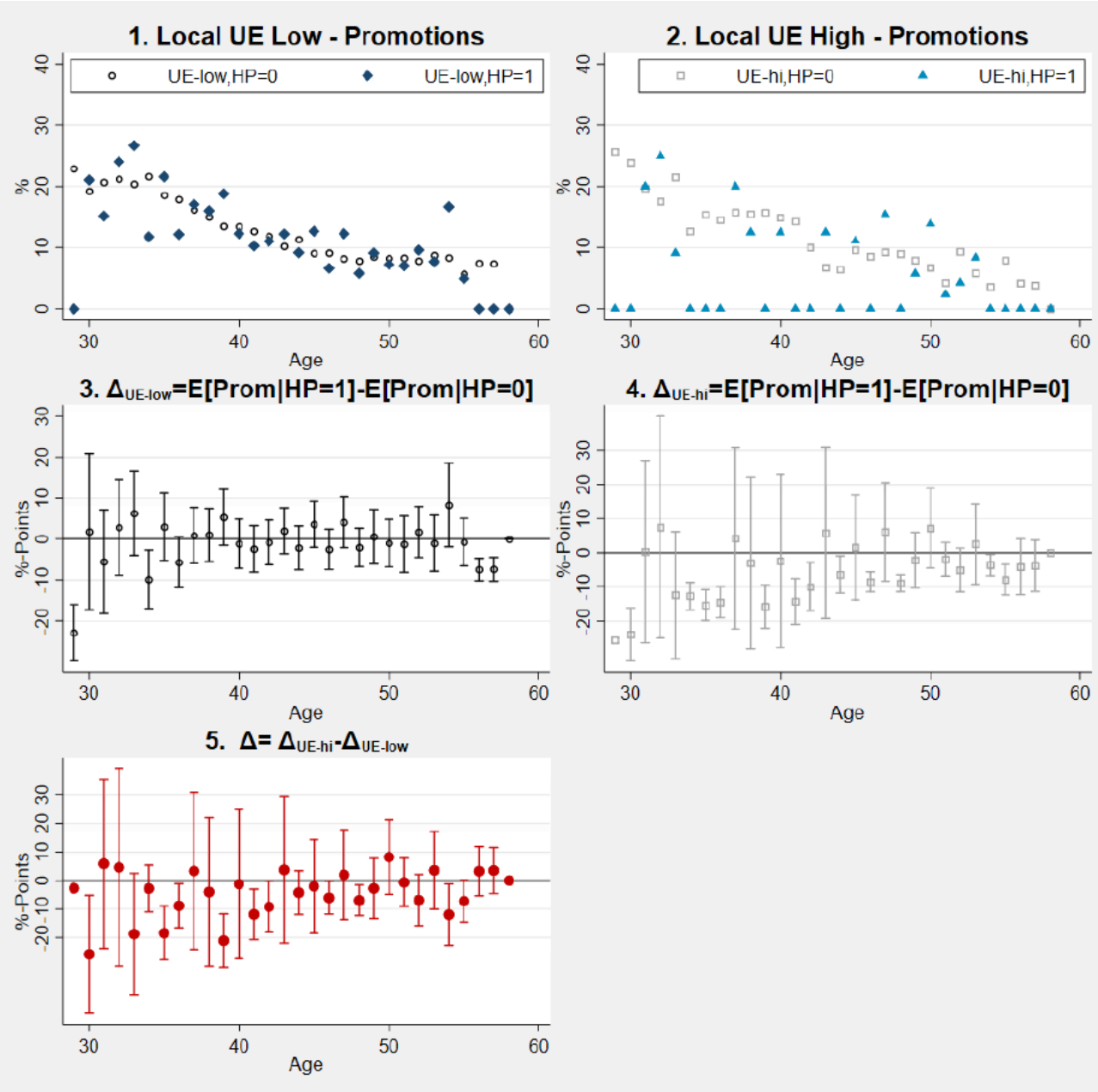
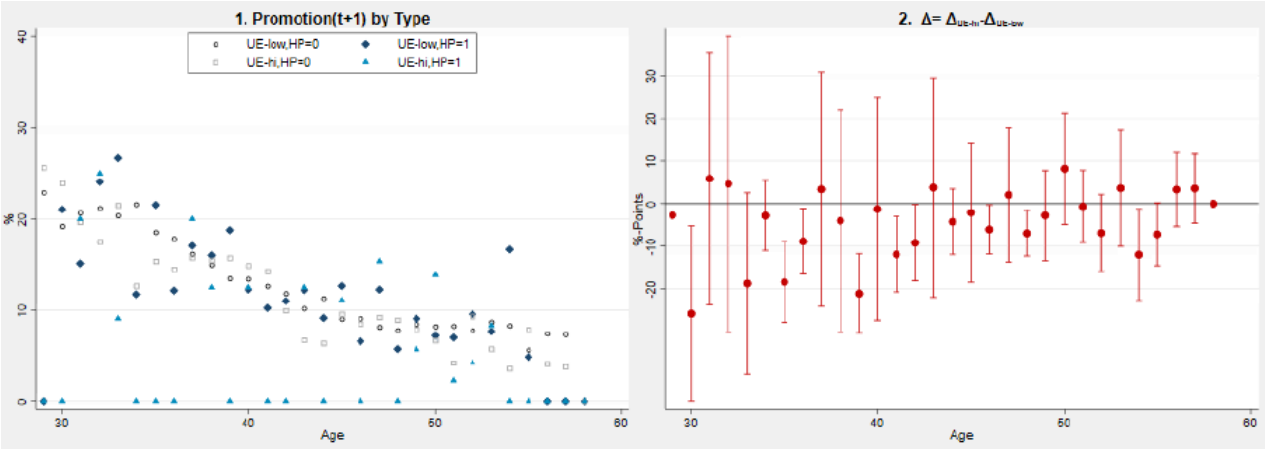
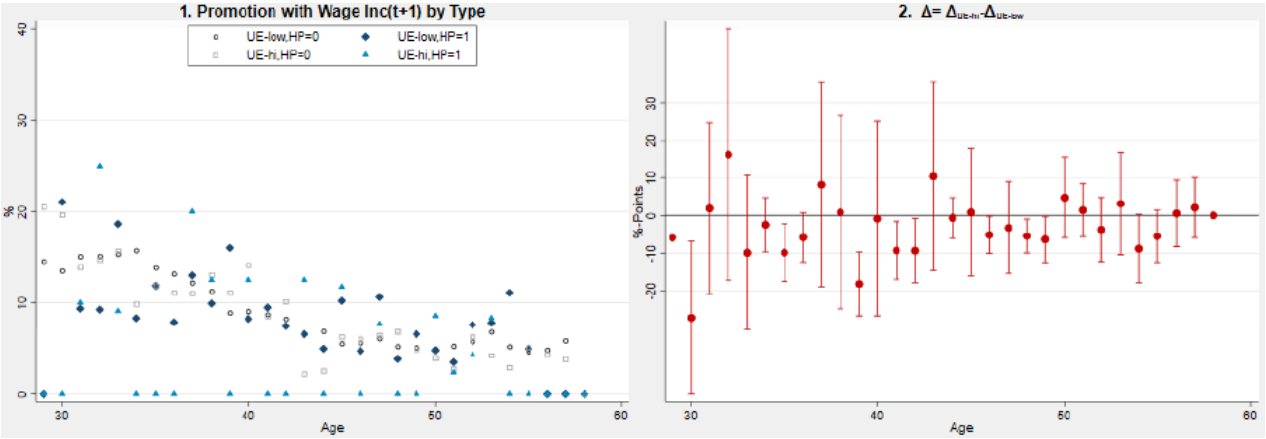


Figure 7: **Promotions (Jobs 1–5) by county unemployment and health types**

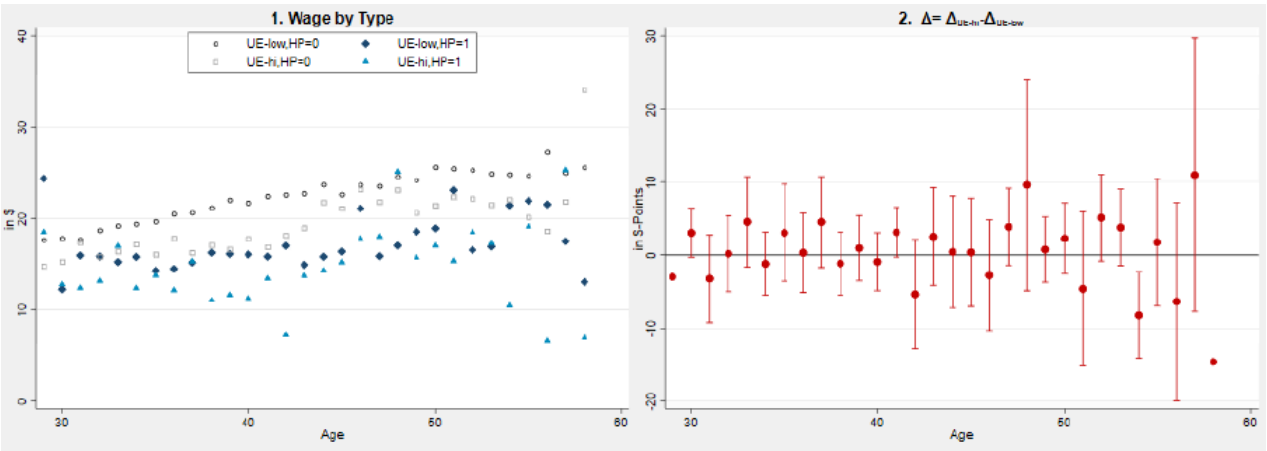
Notes: NLSY79, observations from 1994–2014, unweighted. The "lead" of promotion from wave 2016 is also used. We present four types of individual based age averages in the separate panels. They are: (1) Low county level unemployment rate ($\leq$9%), no work limiting health problem. (2) Low county level UE with work limiting health problem. (3) High county level UE rate ($>$ 9%), no work limiting health problem, and (4) High county level UE with work limiting health problem.



(a) Promotions(t+1)



(b) Promotions(t+1) with wage increase



(c) Hourly Wages

Figure 8: **Lifecycle wages by county unemployment and health type**

Notes: NLSY79, observations from 1994–2014, unweighted. The "lead" of promotion from wave 2016 is also used. We present four types of individual based age averages in the separate panels. They are: (1) Low county level unemployment rate ($\leq$9%), no work limiting health problem. (2) Low county level UE with work limiting health problem. (3) High county level UE rate ($>$ 9%), no work limiting health problem, and (4) High county level UE with work limiting health problem.

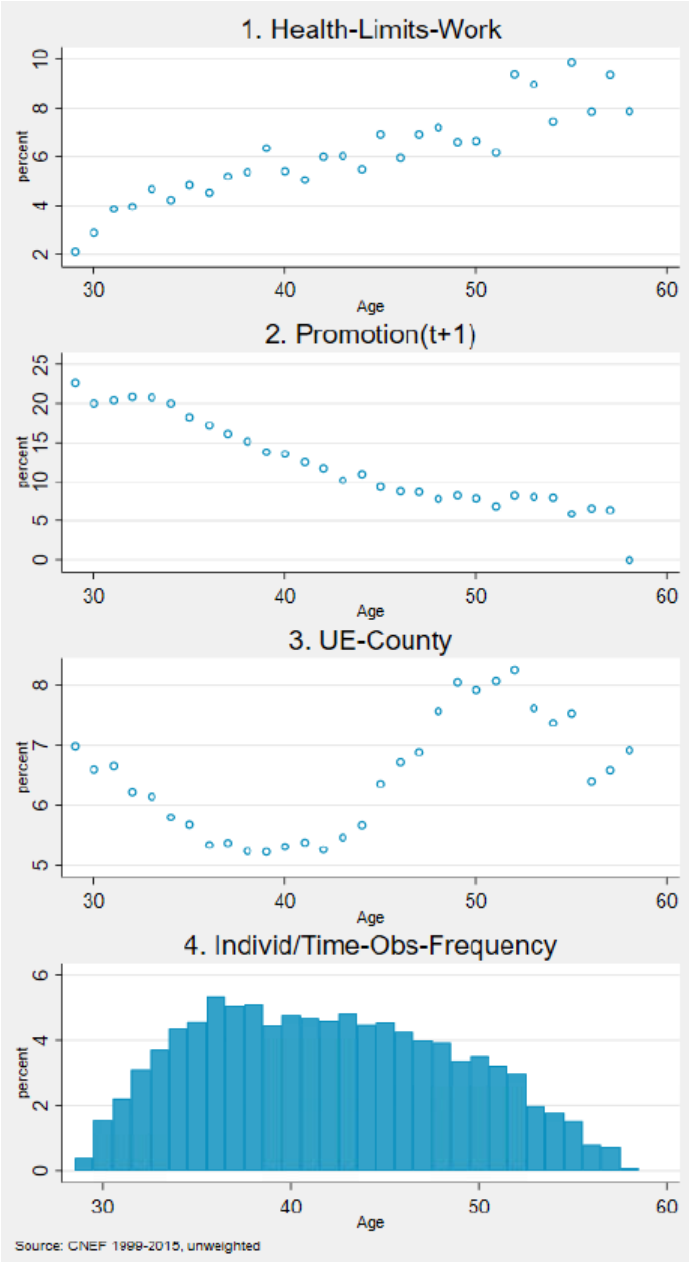


Figure 9: **Age profiles**

Notes: Sample NLSY 1994–2014 of working individuals between 29–57 years old (i.e., this sample is typically represented in column 4 in the regression tables and the number of individual/time observations is 50,256)**. Panel 1** shows the fraction of individuals with work limiting health problems by age. **Panel 2** shows the incidence of "promotions in the following period" by age. **Panel 3** shows average county level unemployment rates by age. The data source for county level unemployment is the Bureau of Labor Statistics (https://www.bls.gov/lau/#cntyaa). **Panel 4** shows the frequency distribution of the individual/year observations by age.

Tables

Table 1: **NLSY79 data availability**

Wave-year age, health	**Obs-year* wage, income**	**Age range**	**Promo. info available?**	**Prom(t+1) available?**	**Recession wave?**	**Sample$^{\Delta}$ 1987–2014 Age: 22–57**	**Sample$^{\Delta\Delta}$ 1994–2014 Age: 29–57**
1979	1978	14–22	Yes ($\leq$ 79)	No	No	N/A	N/A
1980	1979	15–23	No	No	1/80–7/80	N/A	N/A
1981	1980	16–24	No	No	7/81–11/82	N/A	N/A
1982	1981	17–25	No	No	7/81–11/82	N/A	N/A
1983	1982	18–26	No	No	No	N/A	N/A
1984	1983	19–27	No	No	No	N/A	N/A
1985	1984	20–28	No	No	No	N/A	N/A
1986	1985	21–29	No	No	No	N/A	N/A
1987	1986	**22–30**	No	**Yes (87–88)**	No	**6,450**	**0**
1988	1987	**23–31**	Yes (87–88)	**Yes (88–89)**	No	**6,474**	**0**
1989	1988	**24–32**	Yes (88–89)	**Yes (89–90)**	No	**6,094**	**0**
1990	1989	25–33	Yes (89–90)	No	7/90–3/91	N/A	N/A
1991	1990	26–34	No	No	7/90–3/91	N/A	N/A
1992	1991	27–35	No	No	No	N/A	N/A
1993	1992	28–36	No	No	No	N/A	N/A
1994	1993	**29–37**	No	**Yes (94–96)**	No	**5,734**	**5,732**
1996	1995	**31–39**	Yes (94–96)	**Yes (96–98)**	No	**5,486**	**5,485**
1998	1997	**33–41**	Yes (96–98)	**Yes (98–00)**	No	**5,308**	**5,305**
2000	1999	**35–43**	Yes (98–00)	**Yes (00–02)**	No	**4,983**	**4,980**
					3/01–11/01		
2002	2001	**37–45**	Yes (00–02)	**Yes (02–04)**	No	**4,573**	**4,573**
2004	2003	**39–47**	Yes (02–04)	**Yes (04–06)**	No	**4,428**	**4,418**
2006	2005	**41–49**	Yes (04–06)	**Yes (06–08)**	No	**4,414**	**4,409**
					12/07–6/09		
2008	2007	**43–51**	Yes (06–08)	**Yes (08–10)**	**12/07–6/09**	**4,238**	**4,235**
					12/07–6/09		
2010	2009	**45–53**	Yes (08–10)	**Yes (10–12)**	No	**3,901**	**3,897**
2012	2011	**47–55**	Yes (10–12)	**Yes (12–14)**	No	**3,857**	**3,852**
2014	2013	**49–57**	Yes (12–14)	**Yes (14–16)**	No	**3,663**	**3,654**
2016	2015	51–59	Yes (14–16)	No	No	N/A	N/A
						Total: **69,603**	**50,540**
						w/ county: **69,033**	**50,313**

Notes: Observations from waves in bold print are used in the analysis. The dependent variable is PROMOTION(t+1) in JOB 1–5. It is only available in certain years. We use promotion information from wave 1990 and 2016 when regressing PROMOTION(t+1) in models 3–6. We have indicated this by underlining those two waves. No other information is used from waves 1990 and 2016. Recessions are defined according to information from the NBER Business Cycle Dating Committee Announcements page at https://www.nber.org/research/business-cycle-dating/business-cycle-dating-committee-announcements We highlight recession years as gray rows.

* Survey waves contain information from the prior year for some of the variables (e.g., questions about wage and income address the past 12 months).

Δ We report the sample size of regression specification (3) from Table 5. After merging county level information we lose a few observations as some individual entries miss the county id entry.

$\Delta\Delta$ The reduced sample is the sample size of regression specification (4) from Table 5. It consists of observations from 1994 onward for which we have more detailed information about firm characteristics.

Table 2: **Summary statistics**

Variable	Mean	Std. Dev.	Min.	Max.	N
Received Promo(t+1) Job1-5	0.16	0.37	0	1	69603
Received Promo Job 1-5	0.17	0.37	0	1	56442
Promotion w/ Wage Inc.	0.1	0.31	0	1	49114
Received Promo Job 1	0.15	0.36	0	1	55165
Promo Possible W-in 2 Yrs Job 1-5	0.59	0.49	0	1	40820
Satisfaction at Job 1	1.63	0.68	1	4	69550
Satisfied at Job	0.92	0.27	0	1	69603
Health Prevents Wrk	0.01	0.12	0	1	4829
Health Limits Kind of Wrk	0.05	0.21	0	1	69492
Health Limits Amount of Wrk	0.04	0.18	0	1	69465
Health Limits Wrk	0.05	0.22	0	1	69603
Initial Health	0.04	0.14	0	1	69603
Body Mass Index	27.6	5.75	7.60	89.86	60993
BMI $\geq$ 30	0.28	0.45	0	1	60993
Age of individual	37.87	8.93	22	58	69603
Married	0.56	0.5	0	1	69603
Female	0.49	0.5	0	1	69603
Black	0.28	0.45	0	1	69603
Hispanic	0.17	0.38	0	1	69603
AFQT score percentile	44.54	28.83	0	100	69603
Years of Education	13.33	2.42	1	20	69603
No High School Degree	0.09	0.29	0	1	69603
College	0.23	0.42	0	1	69603
Family Size	3	1.55	1	16	69603
Nr. of New Children from (t-1)	0.06	0.25	0	3	69603
Resides in Urban Area	0.77	0.42	0	1	69603
Employed Job1-5	1	0	1	1	69603
Employed(t+1) Job1-5	0.92	0.28	0	1	69603
Hourly Wage-Job 1 (2010 US$)	20.06	17.53	0	382.6	69152
Wage/Hour Job1-5 (USD)	20.04	17.56	0	382.6	69603
Wage Income (1,000 US$)	41.33	38.56	0	341.09	67760
Net Fam. Inc. (USD 1,000)	72.75	96.17	0	1860.04	60337
Tenure years job 1-5	6.56	6.99	0.02	40.38	69603
Union member job 1-5	0.21	0.41	0	1	50180
Has Health Insurance Plan	0.87	0.34	0	1	56654
Employees Job1 (in 1,000)	1.03	7.21	0	100	65974
Employer Job1 Has Mult. Loc.	0.39	0.49	0	1	66809
Recession-v1	0.28	0.45	0	1	69603
Recession-v2	0.22	0.41	0	1	69603
Recession-v3	0.06	0.24	0	1	69603
Ind: Agriculture	0.01	0.12	0	1	69109
Ind: Mining	0	0.07	0	1	69109
Ind: Construction	0.02	0.15	0	1	69109
Ind: Manufact. Non-Durables	0.07	0.26	0	1	69109
Ind: Manufact. Durables	0.09	0.29	0	1	69109
Ind: Transport,Communication	0.08	0.27	0	1	69109
Ind: Wholesale Durables	0.01	0.11	0	1	69109
Ind: Wholesale Non-Durables	0.01	0.1	0	1	69109
Ind: Retail	0.12	0.33	0	1	69109
Ind: Finance,Insurance	0.04	0.2	0	1	69109
Ind: Business,Repair	0.04	0.21	0	1	69109
Ind: Personal Services	0.03	0.16	0	1	69109
Ind: Entertainment,Recreation	0.02	0.13	0	1	69109
Ind: Professional Services	0.27	0.44	0	1	69109
Ind: Public Administration	0.07	0.26	0	1	69109
Ind: Other	0.1	0.3	0	1	69109
Occ: Manager,Executive	0.07	0.25	0	1	69214
Occ: Math, Sciences	0.07	0.25	0	1	69214
Occ: Healthcare	0.05	0.22	0	1	69214
Occ: Teacher	0.05	0.21	0	1	69214
Occ: Social Sciences	0.01	0.1	0	1	69214
Occ: Social Work/Clergy	0.01	0.1	0	1	69214
Occ: Law	0	0.03	0	1	69214
Occ: Artist,Entertainment,Sports	0.01	0.11	0	1	69214
Occ: Technicians,Support	0.06	0.23	0	1	69214
Occ: Sales	0.09	0.28	0	1	69214
Occ: Admin	0.16	0.37	0	1	69214
Occ: Service	0.09	0.28	0	1	69214
Occ: Farm,Forrestry,Fishing	0.02	0.14	0	1	69214
Occ: Precision Production/Repair	0.08	0.26	0	1	69214
Occ: Operator,fabricators	0.12	0.33	0	1	69214
Occ: Military	0	0.02	0	1	69214
Occ: Other	0.13	0.34	0	1	69214

Notes: Data source is NLSY79, observations from 1987–1989 and 1994–2014, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used. This is the sample before the merging of county level unemployment.

Table 3: **Summary statistics by county unemployment and health status**

	(1) Sample 1987–2014	(2) Sample 1994–2014	(3) HLWrk =0	(4) HLWrk =1	(5) UE>7	(6) HLWrk +UE>7	(7) UE>8	(8) HLWrk +UE>8	(9) UE>9	(10) HLWrk +UE>9	(11) UE>10	(12) HLWrk +UE>10	(13) UE>11	(14) HLWrk +UE>11
Promotion(t+1) Job1-5	0.16	0.13	0.13	0.12	0.11	0.09	0.11	0.08	0.11	0.06	0.11	0.06	0.11	0.04
Promotion(t+1) Same Job 1-5	0.12	0.10	0.10	0.07	0.08	0.05	0.08	0.05	0.08	0.05	0.08	0.04	0.08	0.02
Promotion(t+1) New Job 1-5	0.04	0.03	0.03	0.04	0.02	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.03	0.02
Received Promo Job 1-5	0.17	0.14	0.14	0.13	0.10	0.08	0.10	0.08	0.10	0.08	0.10	0.08	0.11	0.07
Promotion w/ Wage Inc.	0.10	0.09	0.09	0.08	0.06	0.05	0.06	0.05	0.06	0.04	0.06	0.05	0.06	0.03
Promotion(t-1)	0.17	0.15	0.15	0.14	0.11	0.11	0.11	0.10	0.11	0.11	0.11	0.10	0.11	0.08
Received Promo Job 1	0.15	0.13	0.13	0.11	0.10	0.07	0.10	0.07	0.09	0.06	0.09	0.07	0.10	0.06
Promo Possible W-in 2 Yrs Job1	0.57	0.57	0.57	0.52	0.53	0.45	0.52	0.44	0.51	0.40	0.51	0.38	0.50	0.34
Satisfaction at Job 1	1.63	1.61	1.61	1.71	1.61	1.76	1.60	1.75	1.60	1.73	1.58	1.70	1.56	1.72
Satisfied at Job	0.92	0.93	0.93	0.89	0.93	0.87	0.93	0.87	0.93	0.88	0.94	0.89	0.94	0.87
Health Prevents Wrk	0.01	0.01	0.00	0.26	0.02	0.33	0.02	0.38	0.02	0.36	0.01	0.25	0.02	0.40
Health Limits Kind of Wrk	0.05	0.05	0.00	0.90	0.06	0.90	0.06	0.90	0.06	0.90	0.05	0.90	0.05	0.93
Health Limits Amount of Wrk	0.04	0.04	0.00	0.70	0.05	0.73	0.05	0.75	0.05	0.76	0.05	0.77	0.04	0.79
Health Limits Wrk	0.05	0.06	0.00	1.00	0.06	1.00	0.06	1.00	0.06	1.00	0.06	1.00	0.05	1.00
New Health Lim.Wrk.	0.03	0.03	0.00	0.52	0.03	0.51	0.03	0.50	0.03	0.49	0.03	0.49	0.03	0.51
Initial Health	0.04	0.04	0.03	0.13	0.04	0.11	0.04	0.11	0.04	0.11	0.04	0.12	0.04	0.09
Body Mass Index	27.60	28.28	28.20	29.65	28.98	30.73	29.06	30.73	29.20	30.96	29.19	30.68	29.12	31.53
BMI > 30	0.28	0.32	0.31	0.41	0.36	0.48	0.37	0.47	0.38	0.50	0.37	0.47	0.37	0.53
Age	37.93	42.03	41.94	43.45	44.48	46.63	44.31	46.48	44.29	46.47	44.26	45.90	43.58	45.11
Married	0.56	0.60	0.60	0.52	0.58	0.53	0.58	0.53	0.58	0.53	0.60	0.57	0.62	0.60
Female	0.49	0.50	0.50	0.61	0.52	0.61	0.52	0.59	0.52	0.61	0.52	0.57	0.52	0.54
Black	0.28	0.29	0.29	0.30	0.30	0.30	0.28	0.28	0.26	0.27	0.21	0.23	0.18	0.21
Hispanic	0.17	0.18	0.18	0.15	0.27	0.20	0.30	0.23	0.34	0.28	0.39	0.33	0.44	0.38
AFQT score percentile	44.57	44.36	44.66	39.63	40.25	38.32	39.18	37.98	38.25	36.53	37.80	35.35	36.32	32.01
Years of Education	13.33	13.46	13.49	13.09	13.31	13.11	13.23	13.05	13.14	12.94	13.10	12.80	13.00	12.60
College	0.23	0.24	0.25	0.18	0.21	0.17	0.20	0.17	0.18	0.16	0.18	0.15	0.16	0.13
Family Size	3.00	3.05	3.07	2.77	3.01	2.75	3.04	2.77	3.05	2.77	3.11	2.84	3.18	2.94
Nr. of New Children from (t-1)	0.06	0.05	0.05	0.03	0.03	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04
Resides in Urban Area	0.77	0.76	0.76	0.74	0.75	0.72	0.74	0.71	0.72	0.69	0.72	0.69	0.70	0.68
Employed Job1-5	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Employed(t+1) Job1-5	0.92	0.92	0.93	0.81	0.91	0.78	0.91	0.77	0.90	0.76	0.90	0.73	0.90	0.73
Hourly Wage-Job 1 (2010 US$)	20.06	21.56	21.85	16.77	20.68	16.44	20.28	16.54	19.76	16.42	19.68	16.03	18.97	14.73
Wage/Hour Job1-5 (USD)	20.05	21.55	21.85	16.72	20.67	16.42	20.26	16.48	19.75	16.39	19.66	16.02	18.94	14.68
Wage Income (1,000 US$)	41.45	45.86	46.77	31.00	43.28	29.56	41.96	28.40	40.52	27.59	39.99	25.71	38.29	24.34
Net Fam. Inc. (USD 1,000)	72.77	76.73	77.76	59.69	71.80	54.96	70.05	53.26	66.51	53.30	65.80	52.28	63.91	45.98
Tenure in Years Job 1	6.60	7.97	8.03	7.00	9.00	7.95	8.93	7.96	8.87	7.89	8.89	7.67	8.67	7.15
Union member Job 1	0.21	0.18	0.19	0.16	0.22	0.19	0.22	0.19	0.22	0.20	0.22	0.20	0.22	0.20
Has Health Insurance Plan	0.87	0.87	0.88	0.82	0.86	0.79	0.85	0.77	0.84	0.75	0.85	0.74	0.84	0.70
Employees Job1 (in 1,000)	1.03	1.19	1.17	1.50	1.11	0.86	1.15	0.86	1.11	0.81	1.05	0.98	1.05	0.93
Employer Job1 Has Mult. Loc.	0.37	0.28	0.28	0.23	0.18	0.12	0.20	0.14	0.20	0.14	0.20	0.16	0.24	0.20
Observations	69033	50313	47339	2974	14597	917	10178	636	6871	442	4663	287	2899	158

Notes: UE>7 refers to individuals living in counties with an unemployment rate of 7 percent or higher, UE>8 refers to individuals living in counties with an unemployment rate of 8 percent or higher, etc. Data source is NLSY79, observations from 1987–1989 and 1994–2014, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used. From column (3) onward we use waves from 1994–2014.

Table 4: **Promotions and wage increases**

	Received Promo(t+1) Job1-5					
	No		Yes		Total	
	No.	%	No.	%	No.	%
Wage(t+1) Increase						
No	25,730	44.5%	3,523	31.5%	29,253	42.4%
Yes	32,073	55.5%	7,648	68.5%	39,721	57.6%
Total	57,803	100.0%	11,171	100.0%	68,974	100.0%
Wage(t+1) Increase Category						
No increase	25,730	44.5%	3,523	31.5%	29,253	42.4%
0% - 25%	22,690	39.3%	4,887	43.8%	27,577	40.0%
25% - 50%	4,698	8.1%	1,546	13.8%	6,244	9.1%
50% - 75%	1,618	2.8%	549	4.9%	2,167	3.1%
75% - 100%	827	1.4%	241	2.2%	1,068	1.5%
100% - 125%	472	0.8%	120	1.1%	592	0.9%
125% - 150%	308	0.5%	60	0.5%	368	0.5%
150% - 175%	174	0.3%	38	0.3%	212	0.3%
175% - 200%	137	0.2%	30	0.3%	167	0.2%
$>$ 200%	1,143	2.0%	176	1.6%	1,319	1.9%
Total	57,797	100.0%	11,170	100.0%	68,967	100.0%
Health Prevents Wrk						
No	3,919	98.5%	843	99.1%	4,762	98.6%
Yes	59	1.5%	8	0.9%	67	1.4%
Total	3,978	100.0%	851	100.0%	4,829	100.0%
Health Limits Kind of Wrk						
No	55,498	95.3%	10,794	96.1%	66,292	95.4%
Yes	2,763	4.7%	437	3.9%	3,200	4.6%
Total	58,261	100.0%	11,231	100.0%	69,492	100.0%
Health Limits Amount of Wrk						
No	56,088	96.3%	10,933	97.4%	67,021	96.5%
Yes	2,153	3.7%	291	2.6%	2,444	3.5%
Total	58,241	100.0%	11,224	100.0%	69,465	100.0%
Health Limits Wrk						
No	55,224	94.6%	10,757	95.7%	65,981	94.8%
Yes	3,136	5.4%	486	4.3%	3,622	5.2%
Total	58,360	100.0%	11,243	100.0%	69,603	100.0%
Satisfied at Job						
No	4,657	8.0%	849	7.6%	5,506	7.9%
Yes	53,703	92.0%	10,394	92.4%	64,097	92.1%
Total	58,360	100.0%	11,243	100.0%	69,603	100.0%
BMI >= 30						
No	37,127	71.6%	7,006	76.6%	44,133	72.4%
Yes	14,721	28.4%	2,139	23.4%	16,860	27.6%
Total	51,848	100.0%	9,145	100.0%	60,993	100.0%

Note: Data source is NLSY79, observations from 1988–1990 and 1996–2016, unweighted. The variable PROMOTION refers to PROMOTION in JOB 1–5. Wage increases are calculated as $w_t > w_{t-1}$ for $t < 1996$ and $w_t > w_{t-2}$ for $t \geq 1996$. We report the sample size of regression **specification (3)** from Table 5 but due to not all working individuals reporting wages in $t+1$ we lose a few observations so that the sample size decreases from 69,603 person/year observations to 68,974.

Table 5: **Work limiting health problems and promotions in (t+1)**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Health Limits Work	-0.028***	-0.010	-0.009	-0.008	-0.006	-0.005	-0.002	-0.003	0.003	-0.006
	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.011)
UE Rate (County)	-0.006***	-0.003***	-0.003***	-0.002*	-0.002*	-0.003*	-0.002	-0.002	-0.002	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Age of individual			-0.024***		-0.004	-0.004	-0.005	-0.005	-0.007	0.007
			(0.003)		(0.005)	(0.006)	(0.005)	(0.005)	(0.006)	(0.008)
Married			0.007*		0.014***	0.012***	0.011**	0.010**	0.013***	0.012*
			(0.004)		(0.004)	(0.005)	(0.004)	(0.004)	(0.005)	(0.007)
Female			-0.013***		-0.002	-0.002	-0.002	-0.004	-0.002	0.002
			(0.004)		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.006)
Black			0.010*		0.018***	0.018***	0.017***	0.016***	0.019***	0.004
			(0.006)		(0.006)	(0.007)	(0.006)	(0.006)	(0.006)	(0.009)
Hispanic			0.011		0.024***	0.025***	0.023***	0.023***	0.025***	0.032***
			(0.007)		(0.008)	(0.008)	(0.007)	(0.007)	(0.008)	(0.011)
AFQT score percentile			0.001***		0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
			(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
No High School Degree			-0.032***		-0.031***	-0.024***	-0.020***	-0.018***	-0.018***	-0.020**
			(0.006)		(0.006)	(0.007)	(0.006)	(0.006)	(0.007)	(0.010)
College			0.008		0.005	0.004	0.005	0.009	0.008	0.016*
			(0.005)		(0.005)	(0.006)	(0.005)	(0.005)	(0.006)	(0.008)
Resides in Urban Area			-0.001		-0.003	-0.005	-0.006	-0.007	-0.005	-0.008
			(0.005)		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.009)
Family Size			-0.002*		-0.002*	-0.003*	-0.002	-0.002	-0.002	-0.002
			(0.001)		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Nr. of New Children from (t-1)			-0.010*		-0.007	-0.008	-0.004	-0.004	-0.003	-0.007
			(0.006)		(0.007)	(0.008)	(0.008)	(0.008)	(0.009)	(0.012)
Tenure years job 1-5			-0.002***		-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***
			(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Wage/Hour Job1-5 (USD)			-0.000		0.000	-0.000	-0.000	-0.000*	-0.000*	-0.000
			(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Satisfaction at Job 1						-0.012***	-0.007***	-0.008***	-0.007***	-0.010**
						(0.003)	(0.002)	(0.003)	(0.003)	(0.004)
Has Health Insurance Plan						0.014***	0.009*	0.006	0.003	-0.004
						(0.006)	(0.005)	(0.005)	(0.006)	(0.008)
Employer Job1 Has Mult. Loc.						0.046***	0.036***	0.034***	0.036***	0.012
						(0.006)	(0.006)	(0.006)	(0.007)	(0.010)
Employees Job1 (in 1,000)						0.000	0.000	0.000	0.000	-0.000
						(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Union member job 1-5						-0.024***	-0.017***	-0.012**	-0.013**	-0.012
						(0.005)	(0.005)	(0.005)	(0.005)	(0.008)
Received Promo Job 1-5							0.134***	0.129***	0.128***	0.116***
							(0.006)	(0.006)	(0.007)	(0.008)
Observations	69021	69021	69021	50301	50301	44662	41426	41118	37886	22629
R^2	0.002	0.073	0.079	0.068	0.072	0.079	0.097	0.101	0.105	0.117
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994-2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is PROMOTION$_{i,c,t+1}$ in JOB 1–5. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 is also used.

Table 6: **High local level unemployment and promotions in (t+1)**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.021	-0.014	-0.017	-0.032**	-0.035**	-0.033*	-0.033*	-0.032*	-0.026	-0.026
	(0.016)	(0.015)	(0.015)	(0.015)	(0.015)	(0.017)	(0.017)	(0.017)	(0.021)	(0.032)
Health Limits Work	-0.025***	-0.008	-0.007	-0.004	-0.001	-0.000	0.002	0.002	0.007	-0.003
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.009)	(0.012)
UE>9.0	-0.029***	-0.008	-0.008	-0.001	-0.000	-0.002	0.004	0.004	0.005	-0.001
	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.011)
Age of individual			-0.024***		-0.004	-0.004	-0.005	-0.005	-0.007	0.007
			(0.003)		(0.005)	(0.006)	(0.005)	(0.005)	(0.006)	(0.008)
Married			0.007*		0.014***	0.012***	0.011**	0.010**	0.013***	0.012*
			(0.004)		(0.004)	(0.005)	(0.004)	(0.004)	(0.005)	(0.007)
Female			-0.013***		-0.002	-0.002	-0.002	-0.004	-0.002	0.002
			(0.004)		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.006)
Black			0.010*		0.018***	0.018***	0.017***	0.016***	0.019***	0.004
			(0.006)		(0.006)	(0.007)	(0.006)	(0.006)	(0.006)	(0.009)
Hispanic			0.011		0.024***	0.025***	0.023***	0.023***	0.026***	0.032***
			(0.007)		(0.008)	(0.008)	(0.007)	(0.007)	(0.008)	(0.011)
AFQT score percentile			0.001***		0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
			(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
No High School Degree			-0.032***		-0.031***	-0.024***	-0.021***	-0.018***	-0.018***	-0.021**
			(0.006)		(0.006)	(0.007)	(0.006)	(0.006)	(0.007)	(0.010)
College			0.008		0.004	0.003	0.005	0.009	0.007	0.015*
			(0.005)		(0.005)	(0.006)	(0.005)	(0.005)	(0.006)	(0.008)
Resides in Urban Area			-0.002		-0.003	-0.005	-0.006	-0.007	-0.005	-0.008
			(0.005)		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.009)
Family Size			-0.002*		-0.002*	-0.003*	-0.002	-0.002	-0.002	-0.002
			(0.001)		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Nr. of New Children from (t-1)			-0.010*		-0.007	-0.007	-0.004	-0.004	-0.003	-0.007
			(0.006)		(0.007)	(0.008)	(0.008)	(0.008)	(0.009)	(0.012)
Tenure years job 1-5			-0.002***		-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***
			(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Wage/Hour Job1-5 (USD)			-0.000		0.000	-0.000	-0.000	-0.000*	-0.000*	-0.000
			(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Satisfaction at Job 1						-0.012***	-0.007***	-0.008***	-0.007***	-0.010**
						(0.003)	(0.002)	(0.003)	(0.003)	(0.004)
Has Health Insurance Plan						0.014**	0.009*	0.006	0.003	-0.004
						(0.006)	(0.005)	(0.006)	(0.006)	(0.008)
Employer Job1 Has Mult. Loc.						0.046***	0.036***	0.034***	0.036***	0.013
						(0.006)	(0.006)	(0.006)	(0.007)	(0.010)
Employees Job1 (in 1,000)						0.000	0.000	0.000	0.000	-0.000
						(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Union member job 1-5						-0.024***	-0.017***	-0.012**	-0.013**	-0.012*
						(0.005)	(0.005)	(0.005)	(0.005)	(0.008)
Received Promo Job 1-5							0.134***	0.129***	0.129***	0.116***
							(0.006)	(0.006)	(0.007)	(0.008)
Observations	69033	69033	69033	50313	50313	44674	41438	41130	37895	22636
R^2	0.001	0.073	0.079	0.068	0.072	0.079	0.097	0.101	0.105	0.117
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is $\text{PROMOTION}_{i,c,t+1}$ in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE > 9 equals one if the person/year observation is from a county with an unemployment rate larger than 9 percent. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 is also used.

Table 7: **Local level unemployment intensity and promotions in (t+1)**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	-0.004	0.006	0.003	-0.010	-0.013	-0.017	-0.022*	-0.020	-0.019	-0.029
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.014)	(0.013)	(0.013)	(0.016)	(0.022)
Health Limits Work	-0.027***	-0.012	-0.010	-0.005	-0.003	0.000	0.004	0.003	0.009	0.001
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.010)	(0.013)
UE>7.0	-0.030***	-0.002	-0.001	0.003	0.002	0.004	0.010*	0.010*	0.010*	0.013
	(0.003)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.009)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	-0.010	-0.001	-0.004	-0.017	-0.019	-0.023	-0.023	-0.021	-0.023	-0.017
	(0.014)	(0.014)	(0.014)	(0.013)	(0.013)	(0.015)	(0.015)	(0.015)	(0.018)	(0.027)
Health Limits Work	-0.026***	-0.010	-0.008	-0.005	-0.002	-0.000	0.002	0.001	0.008	-0.004
	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.012)
UE>8.0	-0.031***	-0.010**	-0.010*	-0.002	-0.002	-0.002	0.004	0.003	0.004	-0.000
	(0.004)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.010)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.021	-0.014	-0.017	-0.032**	-0.035**	-0.033*	-0.033*	-0.032*	-0.026	-0.026
	(0.016)	(0.015)	(0.015)	(0.015)	(0.015)	(0.017)	(0.017)	(0.017)	(0.021)	(0.032)
Health Limits Work	-0.025***	-0.008	-0.007	-0.004	-0.001	-0.000	0.002	0.002	0.007	-0.003
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.009)	(0.012)
UE>9.0	-0.029***	-0.008	-0.008	-0.001	-0.000	-0.002	0.004	0.004	0.005	-0.001
	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.011)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.028	-0.023	-0.025	-0.041**	-0.043***	-0.044**	-0.048***	-0.048***	-0.047**	-0.040
	(0.018)	(0.017)	(0.017)	(0.017)	(0.016)	(0.019)	(0.018)	(0.018)	(0.022)	(0.036)
Health Limits Work	-0.026***	-0.008	-0.007	-0.004	-0.002	-0.001	0.002	0.001	0.007	-0.004
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.007)	(0.008)	(0.009)	(0.011)
UE>10.0	-0.029***	-0.009	-0.008	-0.000	0.000	-0.002	0.002	0.003	0.000	0.002
	(0.005)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.013)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.036	-0.035	-0.036	-0.063***	-0.065***	-0.066***	-0.073***	-0.076***	-0.079***	-0.104**
	(0.023)	(0.023)	(0.023)	(0.020)	(0.020)	(0.023)	(0.021)	(0.021)	(0.027)	(0.041)
Health Limits Work	-0.027***	-0.008	-0.007	-0.005	-0.003	-0.001	0.001	0.001	0.007	-0.003
	(0.007)	(0.007)	(0.006)	(0.007)	(0.007)	(0.008)	(0.007)	(0.007)	(0.008)	(0.011)
UE>11.0	-0.025***	0.000	0.001	0.001	0.001	0.002	0.002	0.002	-0.002	0.009
	(0.006)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.008)	(0.009)	(0.009)	(0.014)
Observations	69033	69033	69033	50313	50313	44674	41438	41130	37895	22636
R^2	0.001	0.073	0.079	0.068	0.072	0.079	0.098	0.101	0.106	0.117
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is PROMOTION$_{i,c,t+1}$ in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

Table 8: **Alternative definition for local level unemployment using bins**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE:4-8.0	-0.009	-0.001	-0.001	-0.006	-0.005	-0.014	-0.018	-0.015	-0.002	-0.034
	(0.017)	(0.017)	(0.017)	(0.019)	(0.019)	(0.021)	(0.021)	(0.021)	(0.023)	(0.032)
HLWrk × UE:8-12.0	-0.009	0.007	0.003	-0.012	-0.014	-0.025	-0.028	-0.023	-0.013	-0.024
	(0.020)	(0.020)	(0.020)	(0.021)	(0.021)	(0.024)	(0.024)	(0.024)	(0.027)	(0.039)
HLWrk × UE:12-16.0	-0.097***	-0.078***	-0.078***	-0.090***	-0.092***	-0.114***	-0.101***	-0.102***	-0.110***	-0.171***
	(0.022)	(0.024)	(0.024)	(0.024)	(0.024)	(0.025)	(0.026)	(0.026)	(0.030)	(0.043)
HLWrk × UE:16-20.0	0.131	0.106	0.104	0.004	0.003	0.026	-0.075**	-0.074**	-0.069	0.000
	(0.121)	(0.116)	(0.116)	(0.111)	(0.107)	(0.110)	(0.034)	(0.035)	(0.045)	(.)
HLWrk × UE:20+	0.091	0.078	0.077	0.126	0.129	0.234	0.109	0.086	0.188	0.000
	(0.146)	(0.137)	(0.139)	(0.147)	(0.150)	(0.188)	(0.171)	(0.172)	(0.235)	(.)
UE:4-8.0	-0.028***	-0.006	-0.006	-0.007	-0.006	-0.006	-0.006	-0.006	-0.005	-0.003
	(0.004)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.010)
UE:8-12.0	-0.050***	-0.017**	-0.016**	-0.010	-0.010	-0.009	-0.004	-0.004	-0.003	-0.005
	(0.005)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.014)
UE:12-16.0	-0.055***	-0.026**	-0.025**	-0.016	-0.015	-0.016	-0.016	-0.016	-0.014	-0.019
	(0.009)	(0.012)	(0.012)	(0.013)	(0.013)	(0.014)	(0.014)	(0.014)	(0.015)	(0.023)
UE:16-20.0	-0.071***	-0.088***	-0.087***	-0.068***	-0.069***	-0.070***	-0.066***	-0.065***	-0.068**	-0.110**
	(0.017)	(0.023)	(0.023)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.027)	(0.043)
UE:20+	-0.062***	-0.079***	-0.077***	-0.043	-0.040	-0.045	-0.039	-0.037	-0.033	-0.029
	(0.019)	(0.028)	(0.027)	(0.031)	(0.031)	(0.034)	(0.033)	(0.033)	(0.035)	(0.062)
Health Limits Work	-0.018	-0.008	-0.007	-0.000	0.002	0.011	0.016	0.013	0.009	0.022
	(0.015)	(0.016)	(0.016)	(0.018)	(0.018)	(0.019)	(0.019)	(0.019)	(0.021)	(0.029)
Observations	69021	69021	69021	50301	50301	44662	41426	41118	37886	22629
R^2	0.002	0.073	0.079	0.069	0.073	0.079	0.098	0.101	0.106	0.117
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is PROMOTION$_{i,c,t+1}$ in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE:X1-X2 refers to a person/year observation from a county with an unemployment rate larger than X1 but less than or equal to X2 percent. The omitted base category are observations from low unemployment counties below 4 percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

Table 9: **Local level unemployment and promotions in (t+1) in same old job**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	0.003	0.009	0.006	-0.003	-0.005	-0.005	-0.008	-0.006	-0.008	-0.017
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.012)	(0.012)	(0.012)	(0.014)	(0.019)
Health Limits Work	-0.038***	-0.026***	-0.022***	-0.022***	-0.017**	-0.012	-0.008	-0.009	-0.003	-0.018
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.009)	(0.011)
UE>7.0	-0.022***	0.002	0.002	0.008	0.007	0.010*	0.014***	0.014***	0.015***	0.019**
	(0.003)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.008)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	-0.008	-0.002	-0.005	-0.011	-0.013	-0.012	-0.013	-0.012	-0.019	-0.005
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.013)	(0.013)	(0.013)	(0.015)	(0.023)
Health Limits Work	-0.035***	-0.023***	-0.019***	-0.020***	-0.016**	-0.011	-0.008	-0.009	-0.001	-0.021**
	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.011)
UE>8.0	-0.023***	-0.004	-0.004	0.005	0.005	0.005	0.008	0.008	0.009	0.009
	(0.003)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.009)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.010	-0.005	-0.008	-0.012	-0.014	-0.015	-0.015	-0.015	-0.019	-0.001
	(0.013)	(0.013)	(0.013)	(0.012)	(0.012)	(0.014)	(0.014)	(0.014)	(0.017)	(0.027)
Health Limits Work	-0.036***	-0.023***	-0.019***	-0.021***	-0.016***	-0.012*	-0.008	-0.009	-0.003	-0.022**
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.008)	(0.010)
UE>9.0	-0.022***	-0.002	-0.002	0.006	0.006	0.005	0.007	0.007	0.009	0.004
	(0.004)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.010)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.018	-0.016	-0.017	-0.019	-0.021	-0.021	-0.025*	-0.025	-0.033*	-0.003
	(0.014)	(0.014)	(0.014)	(0.014)	(0.013)	(0.015)	(0.015)	(0.015)	(0.019)	(0.033)
Health Limits Work	-0.036***	-0.022***	-0.019***	-0.021***	-0.016***	-0.012*	-0.008	-0.009	-0.002	-0.022**
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.008)	(0.010)
UE>10.0	-0.024***	-0.008	-0.008	0.000	0.000	-0.003	0.001	0.001	0.000	0.002
	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.012)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.023	-0.022	-0.023	-0.039***	-0.040***	-0.036**	-0.040**	-0.042**	-0.052**	-0.037
	(0.019)	(0.019)	(0.018)	(0.015)	(0.015)	(0.018)	(0.017)	(0.017)	(0.022)	(0.041)
Health Limits Work	-0.036***	-0.023***	-0.019***	-0.021***	-0.016***	-0.012*	-0.009	-0.009	-0.003	-0.021**
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.006)	(0.006)	(0.008)	(0.010)
UE>11.0	-0.023***	-0.003	-0.003	-0.003	-0.003	-0.004	-0.004	-0.004	-0.004	-0.001
	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.013)
Observations	69033	69033	69033	50313	50313	44674	41438	41130	37895	22636
R^2	0.001	0.053	0.058	0.050	0.054	0.061	0.077	0.081	0.084	0.097
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is PROMOTION-SAME-$J_{i,c,t+1}$ in JOB 1–5. The variable is only defined for workers who still live in the same county in $t+1$. The indicator variable HLWrk equals one if the person reports having a work limiting health issue in a specific year. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

Table 10: **Local level unemployment and promotions in (t+1) in new job**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	-0.007	-0.002	-0.004	-0.007	-0.008	-0.013*	-0.014**	-0.013*	-0.011	-0.012
	(0.007)	(0.007)	(0.007)	(0.008)	(0.007)	(0.008)	(0.007)	(0.007)	(0.008)	(0.013)
Health Limits Work	0.011**	0.015***	0.012***	0.016***	0.014***	0.013**	0.012**	0.012**	0.011**	0.019**
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.008)
UE>7.0	-0.008***	-0.004	-0.003	-0.005**	-0.005*	-0.006**	-0.004	-0.004*	-0.005*	-0.006
	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	-0.003	0.002	0.001	-0.005	-0.006	-0.010	-0.010	-0.009	-0.004	-0.011
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.008)	(0.008)	(0.009)	(0.015)
Health Limits Work	0.009**	0.014***	0.011***	0.015***	0.013***	0.011**	0.010**	0.010**	0.009*	0.018**
	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.007)
UE>8.0	-0.008***	-0.007**	-0.006**	-0.007***	-0.007***	-0.007**	-0.004	-0.004	-0.005*	-0.009**
	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.011	-0.009	-0.009	-0.020**	-0.021**	-0.018**	-0.017*	-0.017*	-0.007	-0.025
	(0.009)	(0.009)	(0.009)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.011)	(0.017)
Health Limits Work	0.011**	0.015***	0.012***	0.017***	0.015***	0.012**	0.011**	0.011**	0.009*	0.019***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.004)	(0.004)	(0.005)	(0.007)
UE>9.0	-0.007***	-0.007**	-0.006**	-0.006**	-0.006**	-0.007**	-0.003	-0.003	-0.004	-0.005
	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.005)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.010	-0.008	-0.008	-0.022**	-0.023**	-0.023**	-0.022**	-0.023**	-0.014	-0.037**
	(0.011)	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.012)	(0.016)
Health Limits Work	0.010**	0.015***	0.012***	0.016***	0.014***	0.011**	0.010**	0.010**	0.009**	0.018***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.007)
UE>10.0	-0.005*	-0.001	-0.001	-0.001	-0.000	0.001	0.002	0.002	-0.000	0.000
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.005)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.013	-0.013	-0.013	-0.024*	-0.025*	-0.030**	-0.033***	-0.034***	-0.027*	-0.067***
	(0.014)	(0.015)	(0.015)	(0.014)	(0.014)	(0.014)	(0.012)	(0.012)	(0.015)	(0.012)
Health Limits Work	0.010**	0.015***	0.012***	0.015***	0.013***	0.010**	0.010**	0.010**	0.009**	0.018***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.006)
UE>11.0	-0.002	0.004	0.004	0.004	0.004	0.006	0.006	0.006	0.003	0.009
	(0.003)	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.007)
Observations	69033	69033	69033	50313	50313	44674	41438	41130	37895	22636
R^2	0.000	0.054	0.060	0.062	0.068	0.075	0.082	0.085	0.092	0.109
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is PROMOTION-NEW-JOB$_{i,c,t+1}$ in JOB 1–5. The variable is only defined for workers who moved to a different county in $t+1$. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

Table 11: **Local level unemployment and promotions in (t+1) of county stayers**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	-0.007	0.003	-0.000	-0.013	-0.015	-0.021	-0.027**	-0.024*	-0.023	-0.038*
	(0.013)	(0.012)	(0.012)	(0.013)	(0.013)	(0.014)	(0.014)	(0.014)	(0.016)	(0.023)
Health Limits Work	-0.024***	-0.009	-0.007	-0.004	-0.001	0.004	0.008	0.007	0.010	0.005
	(0.008)	(0.008)	(0.008)	(0.009)	(0.008)	(0.009)	(0.009)	(0.009)	(0.010)	(0.013)
UE>7.0	-0.031***	-0.002	-0.001	0.002	0.001	0.003	0.010	0.010	0.009	0.012
	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.009)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	-0.015	-0.003	-0.006	-0.018	-0.020	-0.026*	-0.028*	-0.026*	-0.027	-0.020
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)	(0.018)	(0.027)
Health Limits Work	-0.023***	-0.007	-0.006	-0.004	-0.001	0.003	0.006	0.005	0.009	-0.001
	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.012)
UE>8.0	-0.032***	-0.013**	-0.012**	-0.004	-0.004	-0.004	0.002	0.002	0.003	-0.005
	(0.004)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.010)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.024	-0.015	-0.018	-0.035**	-0.037**	-0.040**	-0.042***	-0.041**	-0.036*	-0.039
	(0.016)	(0.015)	(0.015)	(0.015)	(0.015)	(0.017)	(0.016)	(0.017)	(0.020)	(0.031)
Health Limits Work	-0.023***	-0.006	-0.004	-0.002	0.000	0.003	0.006	0.006	0.009	-0.001
	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.012)
UE>9.0	-0.031***	-0.013**	-0.013**	-0.005	-0.005	-0.005	0.003	0.003	0.004	-0.004
	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.008)	(0.011)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.034*	-0.027	-0.028	-0.043**	-0.045***	-0.049***	-0.056***	-0.055***	-0.056***	-0.057*
	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.018)	(0.017)	(0.018)	(0.021)	(0.034)
Health Limits Work	-0.023***	-0.006	-0.004	-0.003	-0.001	0.002	0.005	0.005	0.008	-0.001
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.009)	(0.012)
UE>10.0	-0.029***	-0.010	-0.010	-0.002	-0.002	-0.004	0.002	0.002	-0.000	0.004
	(0.005)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.013)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.029	-0.027	-0.028	-0.053**	-0.056**	-0.058**	-0.067***	-0.069***	-0.067**	-0.097**
	(0.024)	(0.024)	(0.025)	(0.022)	(0.022)	(0.024)	(0.022)	(0.022)	(0.028)	(0.042)
Health Limits Work	-0.025***	-0.007	-0.006	-0.005	-0.002	0.000	0.003	0.003	0.007	-0.001
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.007)	(0.007)	(0.008)	(0.011)
UE>11.0	-0.025***	0.000	0.001	0.000	0.001	0.001	0.001	0.001	-0.002	0.011
	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.015)
Observations	62432	62432	62432	46006	46006	40973	38144	37850	35117	20677
R^2	0.001	0.071	0.077	0.066	0.070	0.076	0.094	0.098	0.101	0.113
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is $\text{PROMOTION}_{i,c,t+1}$ in JOB 1–5. This sample only includes observations of individuals that **remained in the same county** from period t to $t+1$. The indicator variable HLWrk equals one if the person reports having a work limiting health issue in a specific year. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

Table 12: **Local level unemployment and promotions in (t+1) of county movers**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	0.022	0.040	0.039	0.019	0.014	-0.013	0.014	-0.004	0.021	0.001
	(0.049)	(0.055)	(0.055)	(0.062)	(0.062)	(0.065)	(0.068)	(0.069)	(0.095)	(0.112)
Health Limits Work	-0.051**	-0.026	-0.023	-0.020	-0.016	-0.023	-0.033	-0.032	-0.014	-0.053
	(0.025)	(0.028)	(0.029)	(0.034)	(0.035)	(0.037)	(0.039)	(0.039)	(0.052)	(0.065)
UE>7.0	-0.012	-0.011	-0.012	-0.009	-0.012	-0.015	-0.027	-0.017	-0.023	0.002
	(0.012)	(0.020)	(0.020)	(0.023)	(0.023)	(0.026)	(0.027)	(0.028)	(0.033)	(0.049)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	0.031	0.029	0.030	-0.004	-0.009	0.007	0.029	0.015	0.024	-0.043
	(0.055)	(0.060)	(0.060)	(0.067)	(0.067)	(0.073)	(0.078)	(0.078)	(0.109)	(0.135)
Health Limits Work	-0.051**	-0.022	-0.019	-0.014	-0.011	-0.029	-0.035	-0.037	-0.014	-0.045
	(0.023)	(0.027)	(0.027)	(0.032)	(0.033)	(0.035)	(0.037)	(0.037)	(0.049)	(0.061)
UE>8.0	-0.010	0.010	0.006	0.010	0.004	-0.003	-0.006	-0.011	-0.004	0.024
	(0.014)	(0.024)	(0.024)	(0.028)	(0.028)	(0.032)	(0.033)	(0.033)	(0.039)	(0.058)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	0.004	0.017	0.023	0.004	-0.001	0.046	0.067	0.058	0.094	0.069
	(0.065)	(0.070)	(0.069)	(0.077)	(0.076)	(0.085)	(0.089)	(0.089)	(0.124)	(0.147)
Health Limits Work	-0.046**	-0.019	-0.016	-0.016	-0.013	-0.033	-0.038	-0.042	-0.022	-0.061
	(0.023)	(0.026)	(0.026)	(0.031)	(0.031)	(0.034)	(0.035)	(0.036)	(0.047)	(0.058)
UE>9.0	-0.000	0.036	0.036	0.042	0.043	0.016	-0.009	-0.008	0.004	-0.001
	(0.017)	(0.028)	(0.028)	(0.032)	(0.032)	(0.035)	(0.036)	(0.036)	(0.043)	(0.064)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	0.032	0.064	0.063	0.015	0.011	0.043	0.064	0.048	0.101	0.302
	(0.080)	(0.079)	(0.077)	(0.086)	(0.085)	(0.098)	(0.103)	(0.103)	(0.143)	(0.221)
Health Limits Work	-0.048**	-0.021	-0.017	-0.016	-0.013	-0.031	-0.035	-0.038	-0.016	-0.071
	(0.022)	(0.025)	(0.026)	(0.030)	(0.031)	(0.033)	(0.034)	(0.035)	(0.046)	(0.055)
UE>10.0	-0.012	-0.003	-0.001	-0.009	-0.006	-0.011	-0.025	-0.025	-0.011	-0.028
	(0.020)	(0.031)	(0.031)	(0.037)	(0.037)	(0.041)	(0.042)	(0.042)	(0.049)	(0.074)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.109*	-0.031	-0.027	-0.066	-0.064	-0.056	-0.020	-0.031	-0.007	0.043
	(0.061)	(0.063)	(0.062)	(0.069)	(0.072)	(0.086)	(0.081)	(0.086)	(0.120)	(0.194)
Health Limits Work	-0.039*	-0.015	-0.012	-0.011	-0.008	-0.024	-0.028	-0.032	-0.009	-0.053
	(0.022)	(0.025)	(0.026)	(0.030)	(0.030)	(0.033)	(0.034)	(0.035)	(0.046)	(0.055)
UE>11.0	-0.012	0.006	0.009	-0.019	-0.016	-0.020	-0.038	-0.036	-0.039	-0.047
	(0.026)	(0.038)	(0.038)	(0.047)	(0.046)	(0.051)	(0.050)	(0.051)	(0.058)	(0.089)
Observations	6601	6601	6601	4307	4307	3701	3294	3280	2778	1959
R^2	0.001	0.222	0.230	0.284	0.293	0.328	0.359	0.372	0.396	0.445
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is $\text{PROMOTION}_{i,c,t+1}$ in JOB 1–5. This sample only includes observations of individuals who **moved to a new county** from period t to $t+1$. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

Table 13: **Age 29–43: Local level unemployment intensity and promotions in (t+1)**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	0.017	0.026	0.025	-0.022	-0.024	-0.021	-0.025	-0.024	-0.037	-0.054
	(0.023)	(0.022)	(0.022)	(0.025)	(0.025)	(0.029)	(0.030)	(0.031)	(0.034)	(0.045)
Health Limits Work	-0.026***	-0.017*	-0.018*	-0.007	-0.008	-0.008	-0.005	-0.005	0.002	-0.000
	(0.010)	(0.010)	(0.010)	(0.011)	(0.011)	(0.012)	(0.012)	(0.012)	(0.014)	(0.017)
UE>7.0	-0.003	-0.002	-0.001	0.003	0.003	0.006	0.016	0.015	0.013	0.013
	(0.005)	(0.007)	(0.007)	(0.008)	(0.008)	(0.009)	(0.010)	(0.010)	(0.011)	(0.016)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	0.007	0.012	0.012	-0.035	-0.036	-0.029	-0.018	-0.016	-0.035	-0.034
	(0.027)	(0.026)	(0.026)	(0.029)	(0.028)	(0.034)	(0.037)	(0.038)	(0.042)	(0.055)
Health Limits Work	-0.024**	-0.014	-0.015	-0.007	-0.008	-0.008	-0.007	-0.007	0.001	-0.004
	(0.010)	(0.010)	(0.009)	(0.011)	(0.011)	(0.012)	(0.012)	(0.012)	(0.013)	(0.017)
UE>8.0	-0.009	-0.014*	-0.013*	-0.009	-0.009	-0.006	0.004	0.003	-0.001	-0.011
	(0.006)	(0.008)	(0.008)	(0.010)	(0.010)	(0.011)	(0.013)	(0.013)	(0.013)	(0.020)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.008	-0.007	-0.005	-0.071**	-0.072**	-0.060	-0.041	-0.042	-0.049	-0.029
	(0.032)	(0.032)	(0.031)	(0.032)	(0.032)	(0.040)	(0.043)	(0.044)	(0.051)	(0.067)
Health Limits Work	-0.022**	-0.011	-0.013	-0.005	-0.006	-0.007	-0.006	-0.006	0.000	-0.006
	(0.009)	(0.009)	(0.009)	(0.011)	(0.011)	(0.012)	(0.012)	(0.012)	(0.013)	(0.017)
UE>9.0	-0.003	-0.008	-0.008	0.003	0.003	-0.001	0.017	0.018	0.019	-0.002
	(0.007)	(0.010)	(0.010)	(0.013)	(0.013)	(0.014)	(0.017)	(0.017)	(0.018)	(0.028)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.009	-0.008	-0.003	-0.069*	-0.068*	-0.052	-0.049	-0.050	-0.064	-0.020
	(0.037)	(0.037)	(0.036)	(0.038)	(0.038)	(0.045)	(0.049)	(0.050)	(0.058)	(0.079)
Health Limits Work	-0.023**	-0.012	-0.013	-0.007	-0.008	-0.008	-0.006	-0.006	0.000	-0.006
	(0.009)	(0.009)	(0.009)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.013)	(0.017)
UE>10.0	-0.005	-0.009	-0.009	0.004	0.004	-0.000	0.017	0.015	0.012	-0.000
	(0.008)	(0.011)	(0.011)	(0.015)	(0.015)	(0.017)	(0.019)	(0.019)	(0.020)	(0.030)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.001	-0.009	-0.002	-0.083*	-0.081*	-0.053	-0.062	-0.066	-0.056	-0.050
	(0.048)	(0.050)	(0.049)	(0.049)	(0.049)	(0.059)	(0.059)	(0.060)	(0.072)	(0.103)
Health Limits Work	-0.023**	-0.012	-0.014	-0.008	-0.009	-0.009	-0.006	-0.007	-0.001	-0.006
	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.011)	(0.011)	(0.011)	(0.013)	(0.016)
UE>11.0	-0.001	0.013	0.012	0.005	0.005	0.003	0.004	0.004	0.002	0.020
	(0.010)	(0.014)	(0.014)	(0.018)	(0.018)	(0.019)	(0.021)	(0.021)	(0.023)	(0.033)
Observations	48215	48215	48215	29495	29495	25497	22340	22266	20624	13073
R^2	0.000	0.066	0.074	0.076	0.081	0.091	0.110	0.115	0.120	0.131
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is PROMOTION$_{i,c,t+1}$ in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6 (in the current version of the paper). Columns (1)–(3) use data from 1987–2014 and columns (4)–(10) use data from 1994–2014. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

Table 14: **Age 43–57: Local level unemployment intensity and promotions in (t+1)**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	-0.012	-0.020	-0.022	-0.020	-0.022	-0.028*	-0.030*	-0.026	-0.022	-0.034
	(0.014)	(0.015)	(0.015)	(0.015)	(0.015)	(0.016)	(0.016)	(0.016)	(0.019)	(0.028)
Health Limits Work	0.003	0.007	0.012	0.007	0.012	0.017	0.018	0.016	0.020	0.017
	(0.010)	(0.011)	(0.011)	(0.011)	(0.011)	(0.012)	(0.011)	(0.011)	(0.013)	(0.019)
UE>7.0	-0.010**	0.005	0.005	0.005	0.005	0.007	0.008	0.008	0.008	0.013
	(0.004)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.012)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	-0.014	-0.022	-0.024	-0.022	-0.024	-0.026	-0.026	-0.025	-0.021	-0.012
	(0.015)	(0.016)	(0.016)	(0.016)	(0.016)	(0.017)	(0.017)	(0.018)	(0.021)	(0.034)
Health Limits Work	0.002	0.005	0.009	0.005	0.009	0.013	0.013	0.012	0.017	0.006
	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)	(0.011)	(0.010)	(0.010)	(0.012)	(0.017)
UE>8.0	-0.011**	0.001	0.002	0.001	0.002	0.000	0.000	-0.000	0.001	0.003
	(0.004)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.012)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.022	-0.026	-0.029*	-0.026	-0.029*	-0.031	-0.033*	-0.031	-0.021	-0.027
	(0.016)	(0.017)	(0.017)	(0.017)	(0.017)	(0.019)	(0.019)	(0.019)	(0.024)	(0.040)
Health Limits Work	0.003	0.004	0.008	0.004	0.008	0.012	0.012	0.012	0.015	0.008
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.011)	(0.016)
UE>9.0	-0.013***	-0.002	-0.001	-0.002	-0.001	-0.001	-0.001	-0.001	-0.002	0.003
	(0.005)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.013)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.035**	-0.038**	-0.041**	-0.038**	-0.041**	-0.044**	-0.047**	-0.047**	-0.040*	-0.050
	(0.016)	(0.017)	(0.017)	(0.017)	(0.017)	(0.019)	(0.018)	(0.019)	(0.024)	(0.040)
Health Limits Work	0.002	0.004	0.007	0.004	0.007	0.011	0.011	0.011	0.016	0.009
	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.009)	(0.009)	(0.011)	(0.015)
UE>10.0	-0.012**	-0.005	-0.004	-0.005	-0.004	-0.007	-0.007	-0.006	-0.010	0.003
	(0.006)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.015)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.055***	-0.056***	-0.059***	-0.056***	-0.059***	-0.069***	-0.071***	-0.071***	-0.076***	-0.096**
	(0.016)	(0.020)	(0.020)	(0.020)	(0.020)	(0.021)	(0.020)	(0.020)	(0.026)	(0.045)
Health Limits Work	0.001	0.002	0.006	0.002	0.006	0.009	0.010	0.010	0.015	0.008
	(0.008)	(0.009)	(0.008)	(0.009)	(0.008)	(0.009)	(0.009)	(0.009)	(0.010)	(0.015)
UE>11.0	-0.015**	-0.008	-0.007	-0.008	-0.007	-0.009	-0.007	-0.009	-0.014	-0.008
	(0.007)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)	(0.017)
Observations	23250	23250	23250	23250	23250	21424	21336	21091	19359	10743
R^2	0.000	0.079	0.084	0.079	0.084	0.087	0.105	0.111	0.115	0.145
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is PROMOTION$_{i,c,t+1}$ in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6 (in the current version of the paper). Columns (1)–(3) use data from 1987–2014 and columns (4)–(10) use data from 1994–2014. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

Table 15: **Age effects on promotions**

	(1)	(2)	(3)	(4)	(5)
HLWrk × UE>9.0	0.035	0.039	0.035	-0.059	-0.058
	(0.046)	(0.046)	(0.045)	(0.059)	(0.059)
Health Limits Work	-0.028*	-0.024	-0.022	-0.019	-0.017
	(0.015)	(0.014)	(0.014)	(0.025)	(0.025)
UE>9.0	-0.027***	-0.015	-0.014	-0.003	-0.003
	(0.009)	(0.010)	(0.010)	(0.014)	(0.014)
Hlwk × UE-Hi>9 × Age_35_39	-0.131**	-0.138**	-0.129**	-0.039	-0.038
	(0.059)	(0.061)	(0.060)	(0.072)	(0.071)
Hlwk × Age_35_39	0.036*	0.031	0.029	0.024	0.024
	(0.021)	(0.021)	(0.021)	(0.029)	(0.029)
UE-Hi>9 × Age_35_39	0.018	0.006	0.005	-0.004	-0.003
	(0.015)	(0.015)	(0.015)	(0.018)	(0.018)
Age 35-39	-0.079***	-0.022***	-0.018**	-0.020**	-0.018**
	(0.005)	(0.008)	(0.008)	(0.008)	(0.008)
Hlwk × UE-Hi>9 × Age_40_44	-0.062	-0.062	-0.061	0.039	0.035
	(0.070)	(0.069)	(0.068)	(0.080)	(0.079)
Hlwk × Age_40_44	0.019	0.010	0.008	0.005	0.004
	(0.020)	(0.020)	(0.019)	(0.028)	(0.028)
UE-Hi>9 × Age_40_44	0.017	0.011	0.009	0.005	0.005
	(0.017)	(0.018)	(0.018)	(0.020)	(0.020)
Age 40-44	-0.122***	-0.028***	-0.020**	-0.028***	-0.023**
	(0.005)	(0.010)	(0.010)	(0.011)	(0.011)
Hlwk × UE-Hi>9 × Age_45_49	-0.075	-0.087	-0.087	0.005	0.000
	(0.053)	(0.053)	(0.053)	(0.065)	(0.065)
Hlwk × Age_45_49	0.038*	0.028	0.026	0.028	0.026
	(0.020)	(0.020)	(0.020)	(0.029)	(0.029)
UE-Hi>9 × Age_45_49	0.029**	0.017	0.016	0.012	0.012
	(0.011)	(0.013)	(0.013)	(0.016)	(0.016)
Age 45-49	-0.155***	-0.050***	-0.039***	-0.051***	-0.044***
	(0.005)	(0.013)	(0.013)	(0.013)	(0.013)
Hlwk × UE-Hi>9 × Age_50_54	-0.051	-0.058	-0.056	0.043	0.041
	(0.053)	(0.053)	(0.052)	(0.064)	(0.064)
Hlwk × Age_50_54	0.042*	0.040*	0.036*	0.035	0.032
	(0.022)	(0.022)	(0.022)	(0.029)	(0.029)
UE-Hi>9 × Age_50_54	0.008	0.007	0.006	-0.002	-0.001
	(0.011)	(0.012)	(0.012)	(0.016)	(0.016)
Age 50-54	-0.159***	-0.058***	-0.044***	-0.059***	-0.049***
	(0.005)	(0.015)	(0.015)	(0.015)	(0.015)
Hlwk × UE-Hi>9 × Age_55plus	-0.063	-0.050	-0.055	0.072	0.062
	(0.051)	(0.056)	(0.056)	(0.066)	(0.066)
Hlwk × Age_55plus	-0.012	-0.016	-0.022	-0.019	-0.023
	(0.021)	(0.023)	(0.023)	(0.031)	(0.031)
UE-Hi>9 × Age_55plus	0.030	0.019	0.022	0.012	0.015
	(0.021)	(0.023)	(0.022)	(0.025)	(0.024)
Age 55+	-0.177***	-0.075***	-0.057***	-0.076***	-0.064***
	(0.008)	(0.018)	(0.018)	(0.018)	(0.018)
Observations	69033	69033	69033	50313	50313
R^2	0.032	0.073	0.077	0.069	0.073
County FE	No	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes
Sample 1994-2014	No	No	No	Yes	Yes
Firm Characteristics	No	No	No	No	Yes
Ind+Occ FE	No	No	No	No	No
Employed(t+1)=1	No	No	No	No	No
Promo.Possible(t)=1	No	No	No	No	No

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is PROMOTION$_{i,c,t+1}$ in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The indicator variable AGE_X1_X2 equals one if the person/year observation is from an individual whose age falls within the half open interval (X1,X2]. The omitted **base category** are workers under the age 35. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(5) use data from 1994–2014 where individuals are between age 29–57. Columns (6)–(10) are dropped because data of individuals in the first age group is not available. Firm level information for younger workers is only sporadically available. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

Table 16: **Gender effects on promotions**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Hlwk × UE-Hi>9 × Female	0.021	0.019	0.012	0.018	0.017	0.031	0.027	0.032	0.038	0.080
	(0.032)	(0.031)	(0.031)	(0.029)	(0.029)	(0.033)	(0.033)	(0.034)	(0.040)	(0.061)
Hlwk × Female	-0.003	-0.005	-0.007	-0.012	-0.014	-0.023	-0.014	-0.015	-0.007	-0.032
	(0.015)	(0.014)	(0.014)	(0.015)	(0.015)	(0.017)	(0.016)	(0.016)	(0.018)	(0.024)
UE-Hi>9 × Female	0.018*	0.017*	0.015*	0.014	0.012	0.013	0.017*	0.018*	0.019*	0.028*
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.015)
Female	-0.018***	-0.013***	-0.015***	-0.002	-0.003	-0.003	-0.004	-0.006	-0.004	-0.000
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.004)	(0.005)	(0.005)	(0.007)
HLWrk × UE>9.0	-0.036	-0.028	-0.026	-0.044**	-0.046**	-0.053**	-0.050**	-0.053**	-0.051*	-0.079*
	(0.025)	(0.024)	(0.024)	(0.022)	(0.022)	(0.024)	(0.024)	(0.024)	(0.028)	(0.041)
Health Limits Work	-0.021*	-0.004	-0.002	0.004	0.008	0.014	0.011	0.011	0.011	0.016
	(0.012)	(0.011)	(0.011)	(0.012)	(0.012)	(0.013)	(0.012)	(0.012)	(0.014)	(0.019)
UE>9.0	-0.038***	-0.017**	-0.016**	-0.008	-0.007	-0.008	-0.004	-0.005	-0.005	-0.015
	(0.006)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.013)
Observations	69033	69033	69033	50313	50313	44674	41438	41130	37895	22636
R^2	0.002	0.073	0.079	0.068	0.072	0.079	0.098	0.101	0.106	0.117
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994-2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is PROMOTION$_{i,c,t+1}$ in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE > 9 equals one if the person/year observation is from a county with an unemployment rate larger than 9 percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 2004–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

Table 17: **Race effects on promotions**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Hlwk × UE-Hi>9 × Black	0.026	0.029	0.037	0.035	0.037	0.048	0.044	0.053	0.058	0.069
	(0.032)	(0.032)	(0.032)	(0.031)	(0.031)	(0.038)	(0.037)	(0.038)	(0.047)	(0.066)
Hlwk × Black	-0.022	-0.017	-0.020	-0.027*	-0.029*	-0.026	-0.023	-0.022	-0.027	-0.022
	(0.015)	(0.015)	(0.015)	(0.016)	(0.016)	(0.017)	(0.016)	(0.017)	(0.019)	(0.024)
UE-Hi>9 × Black	-0.023**	-0.001	-0.002	-0.002	-0.003	-0.003	-0.012	-0.012	-0.016	-0.001
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.011)	(0.016)
Black	-0.011**	-0.005	0.011*	-0.001	0.019***	0.020***	0.019***	0.019***	0.021***	0.005
	(0.004)	(0.005)	(0.006)	(0.006)	(0.007)	(0.007)	(0.006)	(0.006)	(0.007)	(0.009)
HLWrk × UE>9.0	-0.028	-0.023	-0.027	-0.043**	-0.046***	-0.047**	-0.045**	-0.047**	-0.043*	-0.051
	(0.019)	(0.018)	(0.018)	(0.018)	(0.018)	(0.020)	(0.020)	(0.020)	(0.024)	(0.041)
Health Limits Work	-0.018**	-0.002	-0.000	0.005	0.008	0.008	0.009	0.008	0.015	0.004
	(0.009)	(0.008)	(0.008)	(0.009)	(0.009)	(0.010)	(0.009)	(0.009)	(0.010)	(0.014)
UE>9.0	-0.024***	-0.008	-0.007	0.000	0.001	-0.000	0.008	0.008	0.010	-0.000
	(0.005)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.013)
Observations	69033	69033	69033	50313	50313	44674	41438	41130	37895	22636
R^2	0.001	0.073	0.079	0.068	0.073	0.079	0.098	0.101	0.106	0.117
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994-2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is PROMOTION$_{i,c,t+1}$ in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE > 9 equals one if the person/year observation is from a county with an unemployment rate larger than 9 percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

Table 18: **Long term effects on promotions (t+2)**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	-0.030**	-0.025*	-0.028*	-0.027*	-0.030**	-0.031*	-0.029*	-0.027	-0.024	-0.032
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.016)	(0.016)	(0.016)	(0.017)	(0.029)
Health Limits Work	-0.005	0.005	0.009	0.003	0.007	0.007	0.011	0.010	0.009	0.005
	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.011)	(0.011)	(0.010)	(0.011)	(0.016)
UE>7.0	-0.018***	-0.001	-0.001	-0.002	-0.003	0.002	0.005	0.004	0.002	0.012
	(0.004)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.010)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	-0.014	-0.007	-0.011	-0.013	-0.014	-0.010	-0.011	-0.009	-0.003	-0.010
	(0.016)	(0.016)	(0.016)	(0.017)	(0.018)	(0.019)	(0.019)	(0.019)	(0.020)	(0.036)
Health Limits Work	-0.011	-0.000	0.004	0.000	-0.001	0.000	0.005	0.004	0.003	-0.001
	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.015)
UE>8.0	-0.018***	-0.004	-0.004	0.002	0.004	0.007	0.012*	0.011	0.010	0.021**
	(0.004)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.010)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.025	-0.021	-0.023	-0.023	-0.024	-0.024	-0.026	-0.025	-0.018	-0.022
	(0.018)	(0.018)	(0.018)	(0.019)	(0.021)	(0.020)	(0.020)	(0.020)	(0.021)	(0.039)
Health Limits Work	-0.010	0.001	0.005	0.001	-0.000	0.002	0.007	0.006	0.004	-0.000
	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.010)	(0.009)	(0.009)	(0.010)	(0.014)
UE>9.0	-0.019***	-0.002	-0.002	0.008	0.010	0.008	0.011	0.010	0.011	0.015
	(0.005)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.011)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.011	-0.008	-0.010	-0.015	-0.017	-0.018	-0.026	-0.025	-0.012	-0.011
	(0.023)	(0.022)	(0.022)	(0.022)	(0.024)	(0.023)	(0.023)	(0.023)	(0.025)	(0.044)
Health Limits Work	-0.013	-0.001	0.002	-0.001	-0.002	0.000	0.005	0.005	0.003	-0.002
	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.014)
UE>10.0	-0.018***	-0.002	-0.001	0.005	0.007	0.002	0.008	0.009	0.008	0.002
	(0.006)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.013)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.054**	-0.054**	-0.054**	-0.064***	-0.070***	-0.065***	-0.080***	-0.081***	-0.073***	-0.096**
	(0.023)	(0.022)	(0.023)	(0.021)	(0.021)	(0.023)	(0.018)	(0.019)	(0.020)	(0.040)
Health Limits Work	-0.011	0.001	0.004	0.001	-0.000	0.002	0.007	0.006	0.005	0.001
	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.013)
UE>11.0	-0.018***	0.000	0.000	0.014	0.012	0.013	0.013	0.014	0.014	0.023
	(0.007)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.015)
Observations	52995	52995	52995	41617	39260	37038	34231	34009	32533	19004
R^2	0.000	0.070	0.075	0.071	0.073	0.073	0.074	0.076	0.078	0.097
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is PROMOTION$_{i,c,t+2}$ in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

Table 19: **Long term effects on promotions (t+3)**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	-0.018	-0.014	-0.017	-0.012	-0.014	-0.026	-0.019	-0.015	-0.023	-0.030
	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.019)	(0.019)	(0.019)	(0.033)
Health Limits Work	-0.010	0.003	0.007	0.003	0.008	0.005	0.002	0.001	0.004	0.020
	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.011)	(0.015)
UE>7.0	-0.005	0.001	0.001	0.001	0.000	0.003	0.007	0.006	0.005	0.005
	(0.004)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.010)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	-0.023	-0.019	-0.022	-0.025	-0.027	-0.038*	-0.026	-0.023	-0.035*	-0.047
	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.021)	(0.022)	(0.021)	(0.037)
Health Limits Work	-0.010	0.002	0.007	0.004	0.009	0.005	0.002	0.001	0.005	0.020
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)	(0.015)
UE>8.0	-0.001	0.010	0.011	0.011	0.011	0.015**	0.014*	0.013*	0.013*	0.010
	(0.004)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.012)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.032	-0.035*	-0.037*	-0.037*	-0.038*	-0.051**	-0.036*	-0.033	-0.038	-0.062
	(0.021)	(0.021)	(0.021)	(0.020)	(0.020)	(0.020)	(0.021)	(0.022)	(0.023)	(0.038)
Health Limits Work	-0.010	0.004	0.007	0.004	0.009	0.004	0.002	0.001	0.003	0.019
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.014)
UE>9.0	-0.001	0.014*	0.014*	0.015**	0.016**	0.019**	0.019**	0.017**	0.019**	0.015
	(0.005)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.014)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.036	-0.040	-0.041*	-0.039*	-0.041*	-0.057**	-0.043*	-0.038	-0.032	-0.041
	(0.024)	(0.025)	(0.024)	(0.023)	(0.023)	(0.023)	(0.025)	(0.025)	(0.029)	(0.047)
Health Limits Work	-0.011	0.003	0.006	0.003	0.008	0.003	0.001	0.000	0.002	0.017
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.014)
UE>10.0	-0.003	0.015*	0.016*	0.017**	0.018**	0.023**	0.021**	0.019**	0.022**	0.017
	(0.006)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.014)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.048*	-0.052*	-0.054*	-0.063**	-0.066**	-0.068**	-0.056*	-0.052	-0.047	-0.037
	(0.027)	(0.028)	(0.029)	(0.026)	(0.026)	(0.028)	(0.030)	(0.032)	(0.036)	(0.072)
Health Limits Work	-0.012	0.002	0.006	0.003	0.008	0.002	0.000	-0.000	0.001	0.015
	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.014)
UE>11.0	-0.002	0.016*	0.017*	0.015	0.015	0.020**	0.019*	0.020*	0.021**	0.033**
	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)	(0.016)
Observations	41110	41110	41110	35854	35854	31782	29139	28962	27553	16439
R^2	0.000	0.072	0.075	0.066	0.069	0.073	0.072	0.074	0.076	0.092
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is $\text{PROMOTION}_{i,c,t+3}$ in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

Table 20: **Transition frequencies of individuals living in counties with similar high unemployment**

	UE(t+1)>7.0			Fix County			UE(t+2)>7.0			Fix County			UE(t+3)>7.0			Fix County		
	No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total
UE>7.0																		
No	45,827	4,053	49,880	44,836	4,920	49,756	35,278	9,280	44,558	36,650	7,908	44,558	30,593	11,421	42,014	32,702	9,312	42,014
Yes	3,991	15,110	19,101	7,633	11,437	19,070	9,553	7,531	17,084	10,122	6,962	17,084	7,259	6,650	13,909	7,888	6,021	13,909
Total	49,818	19,163	68,981	52,469	16,357	68,826	44,831	16,811	61,642	46,772	14,870	61,642	37,852	18,071	55,923	40,590	15,333	55,923

	UE(t+1)>8.0			Fix County			UE(t+2)>8.0			Fix County			UE(t+3)>8.0			Fix County		
	No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total
UE>8.0																		
No	52,146	3,427	55,573	51,584	3,855	55,439	42,591	6,827	49,418	43,588	5,830	49,418	37,774	8,131	45,905	39,247	6,658	45,905
Yes	3,397	10,011	13,408	5,930	7,457	13,387	7,624	4,600	12,224	7,922	4,302	12,224	6,085	3,933	10,018	6,400	3,618	10,018
Total	55,543	13,438	68,981	57,514	11,312	68,826	50,215	11,427	61,642	51,510	10,132	61,642	43,859	12,064	55,923	45,647	10,276	55,923

	UE(t+1)>9.0			Fix County			UE(t+2)>9.0			Fix County			UE(t+3)>9.0			Fix County		
	No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total
UE>9.0																		
No	57,396	2,646	60,042	56,959	2,940	59,899	48,529	4,854	53,383	49,244	4,139	53,383	43,302	5,793	49,095	44,321	4,774	49,095
Yes	2,112	6,827	8,939	4,260	4,667	8,927	5,350	2,909	8,259	5,507	2,752	8,259	4,394	2,434	6,828	4,567	2,261	6,828
Total	59,508	9,473	68,981	61,219	7,607	68,826	53,879	7,763	61,642	54,751	6,891	61,642	47,696	8,227	55,923	48,888	7,035	55,923

	UE(t+1)>10.0			Fix County			UE(t+2)>10.0			Fix County			UE(t+3)>10.0			Fix County		
	No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total
UE>10.0																		
No	60,971	1,892	62,863	60,621	2,096	62,717	52,716	3,249	55,965	53,183	2,782	55,965	47,404	3,692	51,096	48,071	3,025	51,096
Yes	1,799	4,319	6,118	2,968	3,141	6,109	3,685	1,992	5,677	3,780	1,897	5,677	3,159	1,668	4,827	3,265	1,562	4,827
Total	62,770	6,211	68,981	63,589	5,237	68,826	56,401	5,241	61,642	56,963	4,679	61,642	50,563	5,360	55,923	51,336	4,587	55,923

	UE(t+1)>11.0			Fix County			UE(t+2)>11.0			Fix County			UE(t+3)>11.0			Fix County		
	No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total
UE>11.0																		
No	64,044	1,236	65,280	63,734	1,394	65,128	56,102	2,130	58,232	56,408	1,824	58,232	50,375	2,591	52,966	50,796	2,170	52,966
Yes	976	2,725	3,701	1,835	1,863	3,698	2,254	1,156	3,410	2,310	1,100	3,410	2,052	905	2,957	2,113	844	2,957
Total	65,020	3,961	68,981	65,569	3,257	68,826	58,356	3,286	61,642	58,718	2,924	61,642	52,427	3,496	55,923	52,909	3,014	55,923

Notes: The indicator variable UE-HIGH>$X_{i,s,t+\tau}$ equals one if the individuals lives in a county with similar high unemployment in period $t+\tau$. The **Fix County** sections show the results of variable UE-HIGH-FIX-C>$X_{i,s,t+\tau}$ which is an indicator variable equal to one if the individuals still lives in the same county and the county still has the same high unemployment in period $t+\tau$. Data source is NLSY79, observations from 1987–1989 and 1994–2014, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

Table 21: **Determinants of living in same county with high unemployment in (t+1)**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	-0.038**	-0.024*	-0.023*	-0.007	-0.007	-0.009	-0.001	-0.003	0.003	-0.005
	(0.017)	(0.014)	(0.014)	(0.014)	(0.014)	(0.015)	(0.016)	(0.016)	(0.017)	(0.025)
Health Limits Work	0.013**	-0.002	-0.000	-0.006	-0.003	-0.004	-0.007	-0.007	-0.007	-0.008
	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.008)
UE>7.0	0.503***	0.218***	0.218***	0.118***	0.118***	0.093***	0.047***	0.047***	0.047***	0.044***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.009)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	-0.068***	-0.036**	-0.036**	-0.022	-0.022	-0.032	-0.027	-0.029	-0.022	0.012
	(0.020)	(0.016)	(0.016)	(0.018)	(0.018)	(0.019)	(0.020)	(0.020)	(0.023)	(0.031)
Health Limits Work	0.014***	0.002	0.003	0.001	0.003	0.002	-0.000	-0.001	-0.001	-0.004
	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.007)
UE>8.0	0.491***	0.242***	0.242***	0.152***	0.152***	0.128***	0.083***	0.083***	0.083***	0.075***
	(0.006)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.009)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.097***	-0.048**	-0.048**	-0.034	-0.034	-0.043*	-0.060**	-0.062***	-0.046*	-0.041
	(0.024)	(0.020)	(0.020)	(0.021)	(0.021)	(0.023)	(0.023)	(0.024)	(0.027)	(0.039)
Health Limits Work	0.013***	0.005	0.005	0.005	0.005	0.004	0.003	0.002	0.001	-0.007
	(0.004)	(0.003)	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.006)
UE>9.0	0.479***	0.227***	0.227***	0.153***	0.153***	0.145***	0.123***	0.123***	0.122***	0.130***
	(0.007)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.010)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.060**	-0.012	-0.012	0.005	0.006	0.019	0.006	0.002	0.043	0.033
	(0.029)	(0.024)	(0.024)	(0.026)	(0.026)	(0.029)	(0.028)	(0.028)	(0.035)	(0.050)
Health Limits Work	0.005	0.000	0.001	0.001	0.001	-0.001	-0.003	-0.003	-0.004	-0.013***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.004)	(0.004)	(0.005)
UE>10.0	0.484***	0.244***	0.244***	0.164***	0.163***	0.142***	0.104***	0.105***	0.107***	0.110***
	(0.009)	(0.008)	(0.008)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.011)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.069*	-0.010	-0.010	0.007	0.007	0.032	0.023	0.012	0.058	0.013
	(0.040)	(0.031)	(0.031)	(0.034)	(0.034)	(0.037)	(0.037)	(0.037)	(0.043)	(0.067)
Health Limits Work	0.004	0.003	0.003	0.004	0.004	0.002	-0.001	-0.000	0.001	-0.008**
	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
UE>11.0	0.486***	0.235***	0.235***	0.163***	0.162***	0.142***	0.107***	0.107***	0.104***	0.099***
	(0.012)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.014)
Observations	68826	68826	68826	50193	50193	44562	41331	41023	37811	22572
R^2	0.263	0.472	0.472	0.461	0.461	0.457	0.459	0.461	0.467	0.467
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is UE-HIGH-FC>X$_{i,c,t+1}$. This variable equals one if the individual still **lives in the same county** in period $t+1$ and **if this county is still a county with a high unemployment** rate greater than X percent. The dependent variable is different in each panel. In the first panel $X = 7$ percent, in the second panel $X = 8$ percent, and in the last panel $X = 11$ percent. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The explanatory variable $UE > X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

Table 22: **Determinants of living in same county with high unemployment in (t+2)**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	-0.068***	-0.018	-0.017	0.001	0.002	-0.002	-0.009	-0.011	-0.002	-0.009
	(0.022)	(0.014)	(0.014)	(0.014)	(0.014)	(0.015)	(0.015)	(0.016)	(0.017)	(0.025)
Health Limits Work	0.036***	0.009	0.011*	0.004	0.006	0.007	0.006	0.005	0.006	0.011
	(0.010)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.011)
UE>7.0	0.234***	0.008	0.008	-0.104***	-0.104***	-0.117***	-0.138***	-0.137***	-0.138***	-0.136***
	(0.007)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.008)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	-0.089***	-0.028**	-0.027*	-0.012	-0.011	-0.008	-0.021	-0.020	-0.013	-0.043*
	(0.022)	(0.014)	(0.014)	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)	(0.017)	(0.023)
Health Limits Work	0.031***	0.014***	0.016***	0.012**	0.014**	0.017***	0.017**	0.016**	0.013*	0.014
	(0.008)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.009)
UE>8.0	0.239***	0.017***	0.017***	-0.076***	-0.076***	-0.092***	-0.115***	-0.115***	-0.115***	-0.103***
	(0.008)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.007)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.103***	-0.027*	-0.027*	-0.013	-0.012	-0.007	-0.019	-0.021	-0.018	-0.026
	(0.026)	(0.016)	(0.016)	(0.016)	(0.016)	(0.018)	(0.016)	(0.016)	(0.019)	(0.027)
Health Limits Work	0.022***	0.010**	0.011**	0.009*	0.010**	0.013**	0.010*	0.009	0.009	-0.000
	(0.006)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.008)
UE>9.0	0.261***	0.020***	0.020***	-0.075***	-0.076***	-0.096***	-0.135***	-0.135***	-0.138***	-0.133***
	(0.010)	(0.006)	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.008)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.096***	-0.031	-0.031	-0.001	-0.001	0.001	-0.012	-0.011	-0.018	-0.019
	(0.030)	(0.020)	(0.020)	(0.020)	(0.020)	(0.022)	(0.019)	(0.019)	(0.024)	(0.025)
Health Limits Work	0.004	-0.003	-0.003	-0.004	-0.003	-0.003	-0.005	-0.006	-0.003	-0.010
	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.007)
UE>10.0	0.289***	0.023***	0.023***	-0.083***	-0.083***	-0.104***	-0.149***	-0.148***	-0.149***	-0.142***
	(0.011)	(0.008)	(0.008)	(0.006)	(0.006)	(0.006)	(0.005)	(0.005)	(0.005)	(0.008)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.107***	-0.042	-0.042	-0.018	-0.017	-0.001	0.004	0.005	-0.010	-0.049
	(0.037)	(0.026)	(0.026)	(0.028)	(0.028)	(0.031)	(0.031)	(0.032)	(0.039)	(0.034)
Health Limits Work	-0.004	-0.006**	-0.006**	-0.006**	-0.006**	-0.007*	-0.007**	-0.007**	-0.005	-0.011**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.004)	(0.004)	(0.005)
UE>11.0	0.296***	-0.027***	-0.027***	-0.090***	-0.090***	-0.119***	-0.157***	-0.157***	-0.158***	-0.151***
	(0.015)	(0.008)	(0.008)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.010)
Observations	61642	61642	61642	44338	44338	39261	36250	36012	33260	20000
R^2	0.099	0.427	0.428	0.433	0.433	0.438	0.446	0.447	0.453	0.440
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is UE-HIGH-FC>X$_{i,c,t+2}$. This variable equals one if the individual still **lives in the same county** in period $t+2$ and if this **county is still a county with a high unemployment** rate greater than X percent. The dependent variable is different in each panel. In the first panel $X = 7$ percent, in the second panel $X = 8$ percent, and in the last panel $X = 11$ percent. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The explanatory variable $UE > X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

Table 23: **Determinants of living in same county with high unemployment in (t+3)**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	-0.058**	-0.010	-0.009	0.006	0.007	0.010	0.001	0.003	0.008	0.007
	(0.024)	(0.016)	(0.016)	(0.017)	(0.017)	(0.019)	(0.020)	(0.020)	(0.023)	(0.028)
Health Limits Work	0.019*	0.005	0.007	0.001	0.002	0.006	0.007	0.007	0.013	-0.005
	(0.010)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.009)	(0.011)
UE>7.0	0.214***	0.022***	0.021***	-0.047***	-0.048***	-0.036***	-0.024***	-0.026***	-0.026***	-0.026**
	(0.007)	(0.006)	(0.006)	(0.007)	(0.007)	(0.008)	(0.009)	(0.009)	(0.009)	(0.012)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	-0.082***	-0.034*	-0.034*	-0.020	-0.019	-0.019	-0.018	-0.019	-0.012	-0.001
	(0.027)	(0.018)	(0.018)	(0.017)	(0.017)	(0.020)	(0.021)	(0.021)	(0.024)	(0.027)
Health Limits Work	0.018**	0.009	0.011*	0.008	0.010	0.012*	0.012*	0.013*	0.018**	0.005
	(0.008)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.008)	(0.010)
UE>8.0	0.220***	-0.009	-0.010	-0.084***	-0.085***	-0.079***	-0.078***	-0.078***	-0.076***	-0.088***
	(0.009)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.008)	(0.008)	(0.008)	(0.011)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.095***	-0.038**	-0.038**	-0.009	-0.009	-0.009	-0.005	-0.008	0.002	0.022
	(0.031)	(0.019)	(0.019)	(0.018)	(0.018)	(0.021)	(0.023)	(0.023)	(0.024)	(0.031)
Health Limits Work	0.018**	0.012**	0.013**	0.007	0.008	0.007	0.006	0.006	0.008	0.001
	(0.007)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.007)	(0.008)
UE>9.0	0.239***	-0.015**	-0.016**	-0.101***	-0.101***	-0.103***	-0.111***	-0.111***	-0.116***	-0.101***
	(0.010)	(0.007)	(0.007)	(0.005)	(0.005)	(0.006)	(0.007)	(0.007)	(0.007)	(0.010)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.092***	-0.038	-0.039	0.002	0.002	-0.008	-0.005	-0.010	0.002	-0.010
	(0.035)	(0.024)	(0.024)	(0.019)	(0.019)	(0.024)	(0.025)	(0.024)	(0.029)	(0.034)
Health Limits Work	0.004	0.001	0.001	-0.001	-0.000	-0.002	-0.003	-0.003	-0.001	-0.003
	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.006)	(0.007)
UE>10.0	0.269***	-0.004	-0.004	-0.135***	-0.135***	-0.135***	-0.144***	-0.144***	-0.147***	-0.146***
	(0.012)	(0.009)	(0.009)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.009)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.092**	-0.012	-0.012	0.014	0.013	0.002	0.008	0.009	-0.019	0.010
	(0.039)	(0.029)	(0.029)	(0.024)	(0.024)	(0.030)	(0.031)	(0.032)	(0.039)	(0.054)
Health Limits Work	0.001	0.001	0.001	0.001	0.001	-0.001	-0.001	-0.002	0.000	0.000
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)
UE>11.0	0.249***	-0.106***	-0.106***	-0.187***	-0.187***	-0.189***	-0.190***	-0.191***	-0.193***	-0.178***
	(0.016)	(0.011)	(0.011)	(0.007)	(0.007)	(0.008)	(0.007)	(0.007)	(0.008)	(0.011)
Observations	55923	55923	55923	39625	39625	34946	32098	31904	29495	17962
R^2	0.059	0.406	0.407	0.431	0.431	0.442	0.448	0.449	0.454	0.451
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is UE-HIGH-FIX-C>X$_{i,c,t+3}$. This variable equals one if the individual still **lives in the same county** in period $t+3$ and if this county is **still a county with a high unemployment** rate greater than X percent. The dependent variable is different in each panel. In the first panel $X = 7$ percent, in the second panel $X = 8$ percent, and in the last panel $X = 11$ percent. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The explanatory variable $UE > X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

A Alternative definitions of employment and wages

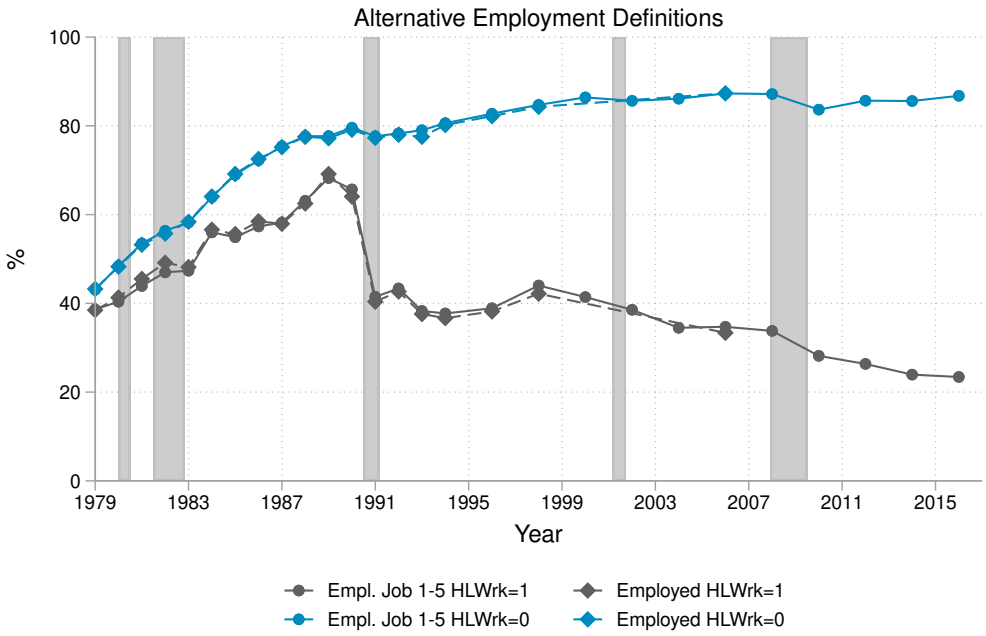


Figure A.1: **Time Trend – Two Definitions of Employment**

Notes: NLSY79 reports a calculated employment variable for some years. Alternatively, we can formulate an employment variable from the five variables: Working Job 1, Working Job2, ..., Working Job 5. The advantage of the second definition is that it is available for all years. As we can see in the picture the two definitions are almost identical. We show employment figures for individuals with and without a work limiting health problem. We therefore use the employment information based on Job 1–5 variables.
Data source is NLSY79 1979–2016, population weighted.

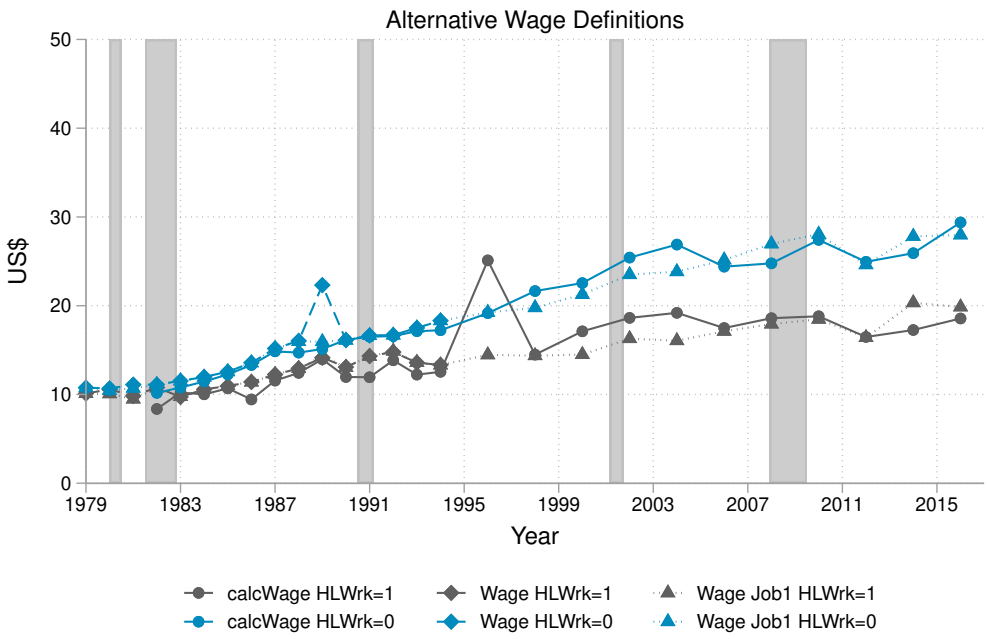


Figure A.2: **Time trend – Alternative wage definitions**

Notes: We report three different wages. The first definition of hourly wage is reported directly but only available up to year 1994. The second wage definition implies dividing annual wage income by annual hours worked. Both variables are available for all years. The third wage definition takes the directly reported annual wage from Job 1 (information on Job 1–5 is reported). Job 1 is the primary job.
Data source is NLSY79 1979–2016, population weighted.

B Fixed effects (within) estimation results

In this section we present fixed effects panel estimation results where the individual fixed effects are averaged out. The estimates are very similar to the results in Table 7.

Table B.1: **Fixed effects (within) estimator**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	-0.011	-0.008	-0.003	-0.013	-0.015	-0.023	-0.026*	-0.028*	-0.013	-0.049*
	(0.013)	(0.014)	(0.013)	(0.014)	(0.014)	(0.015)	(0.015)	(0.016)	(0.018)	(0.026)
Health Limits Work	-0.035***	-0.037***	-0.013	-0.004	-0.005	-0.000	0.002	0.002	-0.003	0.007
	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.011)	(0.011)	(0.011)	(0.013)	(0.018)
UE>7.0	-0.020***	-0.022***	0.000	0.002	0.002	0.004	0.007	0.006	0.007	0.010
	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.010)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	-0.009	-0.009	-0.003	-0.020	-0.021	-0.031*	-0.029*	-0.032*	-0.020	-0.029
	(0.014)	(0.015)	(0.014)	(0.014)	(0.015)	(0.016)	(0.016)	(0.017)	(0.020)	(0.032)
Health Limits Work	-0.037***	-0.038***	-0.013	-0.004	-0.005	-0.001	-0.001	0.000	-0.003	-0.001
	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.012)	(0.017)
UE>8.0	-0.022***	-0.023***	-0.010*	-0.003	-0.003	-0.001	0.001	0.000	-0.001	-0.004
	(0.004)	(0.004)	(0.005)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.011)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.020	-0.023	-0.017	-0.033**	-0.034**	-0.039**	-0.034*	-0.037**	-0.029	-0.043
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.018)	(0.018)	(0.018)	(0.022)	(0.036)
Health Limits Work	-0.036***	-0.037***	-0.012	-0.003	-0.004	-0.002	-0.002	-0.001	-0.003	-0.001
	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.011)	(0.016)
UE>9.0	-0.021***	-0.021***	-0.008	-0.002	-0.002	-0.001	0.001	0.001	-0.000	-0.001
	(0.005)	(0.005)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.013)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.021	-0.026	-0.023	-0.047**	-0.047**	-0.054***	-0.052**	-0.054***	-0.048**	-0.052
	(0.020)	(0.019)	(0.019)	(0.019)	(0.019)	(0.020)	(0.020)	(0.021)	(0.024)	(0.041)
Health Limits Work	-0.037***	-0.038***	-0.012	-0.003	-0.005	-0.002	-0.002	-0.002	-0.003	-0.002
	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.011)	(0.016)
UE>10.0	-0.019***	-0.019***	-0.007	-0.000	-0.000	-0.000	0.001	0.001	-0.001	0.006
	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.009)	(0.014)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.018	-0.017	-0.021	-0.051**	-0.051**	-0.043*	-0.041*	-0.044*	-0.043	-0.064
	(0.027)	(0.027)	(0.026)	(0.024)	(0.024)	(0.025)	(0.023)	(0.024)	(0.028)	(0.053)
Health Limits Work	-0.038***	-0.039***	-0.013*	-0.005	-0.007	-0.005	-0.005	-0.004	-0.005	-0.003
	(0.008)	(0.008)	(0.007)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.011)	(0.016)
UE>11.0	-0.010	-0.008	0.003	0.003	0.003	0.004	-0.001	-0.001	-0.005	0.004
	(0.007)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.016)
Observations	69033	69033	69033	50313	50313	44674	41438	41130	37895	22636
R^2	0.000	0.037	0.074	0.066	0.067	0.072	0.074	0.077	0.079	0.107
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is $\text{PROMOTION}_{i,c,t+1}$ in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

C Focus on new work limiting health issues

In this section we investigate alternative definitions for work limiting health problems. Specifically, we are interested in the effects of a work limiting health problem that has occurred for the first time. We therefore define variable HLWrkNew equal to one, if the person reports having a work limiting health problem in period t, but reported NOT having a work limiting health problem in period $t-1$. This either refers to last year pre 1996 and the last two years post 1996. Table C.1 shows the results of estimating specification 4 where we use HLWrkNew instead of HLWrk. We see that the magnitude of the estimate of the interaction term is very similar to the estimates in Table 7.

Table C.1: **Promotions in (t+1) and new work limiting health issues since last interview**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrkNew × UE>7.0	-0.008	0.008	0.006	-0.013	-0.014	-0.017	-0.021	-0.019	-0.024	-0.035
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.018)	(0.018)	(0.018)	(0.021)	(0.029)
New Health Lim.Wrk.	-0.026***	-0.018*	-0.014	-0.005	-0.002	-0.000	0.002	0.003	0.011	0.001
	(0.009)	(0.009)	(0.009)	(0.011)	(0.011)	(0.011)	(0.011)	(0.012)	(0.013)	(0.017)
UE>7.0	-0.030***	-0.002	-0.001	0.002	0.002	0.003	0.009*	0.009*	0.010	0.012
	(0.003)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.009)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrkNew × UE>8.0	-0.002	0.012	0.012	-0.007	-0.007	-0.018	-0.018	-0.016	-0.024	-0.002
	(0.018)	(0.018)	(0.018)	(0.019)	(0.018)	(0.020)	(0.020)	(0.021)	(0.024)	(0.037)
New Health Lim.Wrk.	-0.029***	-0.018**	-0.015*	-0.007	-0.005	-0.002	-0.000	-0.000	0.009	-0.008
	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.011)	(0.011)	(0.012)	(0.016)
UE>8.0	-0.031***	-0.011**	-0.011**	-0.003	-0.003	-0.002	0.003	0.003	0.003	-0.001
	(0.004)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.010)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrkNew × UE>9.0	-0.028	-0.015	-0.015	-0.037*	-0.037*	-0.033	-0.038*	-0.040*	-0.036	-0.034
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.022)	(0.022)	(0.022)	(0.027)	(0.041)
New Health Lim.Wrk.	-0.025***	-0.014	-0.011	-0.004	-0.001	-0.001	0.001	0.002	0.009	-0.005
	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.012)	(0.015)
UE>9.0	-0.030***	-0.009	-0.009	-0.002	-0.002	-0.003	0.003	0.003	0.005	-0.002
	(0.004)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.011)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrkNew × UE>10.0	-0.021	-0.014	-0.011	-0.043**	-0.043**	-0.047*	-0.058**	-0.058**	-0.054*	-0.061
	(0.023)	(0.023)	(0.023)	(0.022)	(0.022)	(0.024)	(0.023)	(0.023)	(0.030)	(0.042)
New Health Lim.Wrk.	-0.028***	-0.014*	-0.012	-0.005	-0.002	-0.001	0.001	0.002	0.009	-0.004
	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.011)	(0.015)
UE>10.0	-0.030***	-0.010	-0.010	-0.002	-0.001	-0.003	0.001	0.001	-0.001	0.002
	(0.005)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.012)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrkNew × UE>11.0	-0.014	-0.011	-0.010	-0.037	-0.040	-0.048	-0.065**	-0.067**	-0.072*	-0.103**
	(0.031)	(0.031)	(0.031)	(0.030)	(0.029)	(0.032)	(0.028)	(0.029)	(0.039)	(0.045)
New Health Lim.Wrk.	-0.029***	-0.015*	-0.012	-0.007	-0.004	-0.003	-0.001	-0.000	0.007	-0.004
	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.011)	(0.015)
UE>11.0	-0.026***	-0.001	-0.001	-0.002	-0.001	-0.001	-0.001	-0.001	-0.004	0.007
	(0.006)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.014)
Observations	69033	69033	69033	50313	50313	44674	41438	41130	37895	22636
R^2	0.000	0.073	0.079	0.068	0.072	0.079	0.097	0.101	0.105	0.117
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is PROMOTION$_{i,c,t+1}$ in JOB 1–5. The indicator variable HLWrkNew equals one if the person reports having a work limiting health issue in this period but did not have a work limiting health issue in the prior period. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

D Instrumental variables panel estimator

In this section we briefly describe the panel estimator based on Arellano and Bond (1991). This estimator uses the panel structure of our data and allows for an autoregressive model with potentially endogenous covariates. The model is estimated in first differences using GMM which not only controls for individual unobserved heterogeneity as the individual fixed effects are differenced out but also allows for a consistent instrumental variables estimation approach where sufficiently lagged dependent variables can be used as instruments. The main idea of this instrumental variables estimator goes back to Anderson and Hsiao (1981) and suggests that variables with a sufficient lag do not correlate with the differenced error term and can therefore be used as instruments. More specifically we estimate

$$\begin{aligned}\Delta\text{PROMOTION}_{i,c,t+1} = \delta \times (\Delta\text{HEALTH LIMITS WRK}_{ict} \times \Delta\text{UE-HIGH}_{ct}) + \beta_1 \times \Delta\text{PROMOTION}_{ict} \\ + \beta_2 \times \Delta\text{HEALTH LIMITS WRK}_{ict} + \beta_3 \times \Delta\text{UE-HIGH}_{ct} + \lambda \Delta X_{ict} + \Delta\tau_t + \Delta\varepsilon_{i,c,t+1},\end{aligned} \tag{8}$$

where the unobservable individual effect $\bar{\alpha}_i$ is differenced out by the first differences estimator. We assume that health, promotion in year t, as well as county unemployment are potentially endogenous and use lagged dependent and independent variables as instruments.

Consistent estimation requires two conditions. First, the error terms need to be serially uncorrelated and second, the instrumental variables need to be exogenous so that appropriate moment conditions of the form $\mathbb{E}[\Delta\varepsilon_{i,c,t+1}|\text{PROMOTION}_{i,c,t-1}, X_{ict}] = 0$ can be set up. Both conditions can be tested. While we were able to find support for the first condition, the Sargan test of valid overidentifying restrictions (i.e., correctness of moment conditions) kept rejecting.[41] We therefore need to treat the following results with caution as the instrumentation strategy could be wrong.

Overall we find that the results presented earlier, especially in Tables 6 and 7 are confirmed. The magnitudes of the interaction terms are comparable. However, as the GMM estimator is based on first differences, we do lose sample size which makes the estimates less precise and we are therefore not able to establish statistical significance at the conventional levels.

[41] Compare Roodman (2009) and Cameron and Trivedi (2022) for a discussion of this estimator and related tests in the context of a popular statistics package.

Table D.1: **Panel IV Estimates**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.203*	-0.083	-0.081	-0.081	-0.079	-0.051	-0.051	-0.039	-0.039	-0.039
	(0.115)	(0.094)	(0.094)	(0.094)	(0.094)	(0.094)	(0.094)	(0.094)	(0.094)	(0.094)
Health Limits Work	0.056	0.042	0.044	0.032	0.035	0.148	0.148	0.109	0.109	0.109
	(0.159)	(0.141)	(0.140)	(0.141)	(0.140)	(0.145)	(0.145)	(0.145)	(0.145)	(0.145)
UE>9.0	0.042**	0.001	0.001	-0.000	0.001	0.001	0.001	-0.003	-0.003	-0.003
	(0.021)	(0.027)	(0.027)	(0.027)	(0.027)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)
L.HLWrk × UE>9.0	0.027	0.024	0.020	0.023	0.018	0.055	0.055	0.022	0.022	0.022
	(0.090)	(0.088)	(0.088)	(0.088)	(0.087)	(0.097)	(0.097)	(0.098)	(0.098)	(0.098)
L.Health Limits Work	0.360***	0.223**	0.224**	0.218*	0.219*	0.230**	0.230**	0.247**	0.247**	0.247**
	(0.130)	(0.114)	(0.113)	(0.113)	(0.112)	(0.117)	(0.117)	(0.118)	(0.118)	(0.118)
L.Promotion(t+1) Job1-5	0.145***	0.101***	0.100***	0.101***	0.101***	0.107***	0.107***	0.111***	0.111***	0.111***
	(0.012)	(0.011)	(0.011)	(0.011)	(0.011)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
L2.Promotion(t+1) Job1-5	0.040***	0.016*	0.016*	0.017*	0.017*	0.016*	0.016*	0.017*	0.017*	0.017*
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Age of individual			-0.016		-0.016	-0.017	-0.017	-0.019	-0.019	-0.019
			(0.019)		(0.019)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)
Married			0.009		0.009	0.015	0.015	0.016	0.016	0.016
			(0.014)		(0.014)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
No High School Degree			-0.036		-0.036	-0.054	-0.054	-0.050	-0.050	-0.050
			(0.070)		(0.070)	(0.088)	(0.088)	(0.088)	(0.088)	(0.088)
College			-0.084**		-0.084**	-0.067	-0.067	-0.059	-0.059	-0.059
			(0.040)		(0.040)	(0.047)	(0.047)	(0.047)	(0.047)	(0.047)
Resides in Urban Area			-0.003		-0.003	-0.006	-0.006	-0.005	-0.005	-0.005
			(0.011)		(0.011)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Family Size			0.003		0.003	0.004	0.004	0.005	0.005	0.005
			(0.004)		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Nr. of New Children from (t-1)			-0.009		-0.009	-0.005	-0.005	-0.006	-0.006	-0.006
			(0.013)		(0.013)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Tenure years job 1-5			-0.001		-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
			(0.001)		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Wage/Hour Job1-5 (USD)			-0.001***		-0.001***	-0.001**	-0.001**	-0.001**	-0.001**	-0.001**
			(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Satisfaction at Job 1						0.010**	0.010**	0.010**	0.010**	0.010**
						(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Has Health Insurance Plan						-0.037***	-0.037***	-0.036***	-0.036***	-0.036***
						(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Employer Job1 Has Mult. Loc.						0.010	0.010	0.007	0.007	0.007
						(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Employees Job1 (in 1,000)						-0.000	-0.000	-0.000	-0.000	-0.000
						(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Union member job 1-5						0.037**	0.037**	0.032**	0.032**	0.032**
						(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Observations	23779	23779	23779	23779	23779	21881	21881	21785	21785	21785
R^2										
County FE	No	No	No	No	No	No	No	No	No	No
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: Estimator based on Arellano and Bond (1991) and is estimated in first differences. The dependent variable is $\text{PROMOTION}_{i,c,t+1}$ in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The endogenous variables are: HLWrk, UE>X, and PROMOTION_{ict}. Instrumental variables are lagged dependent and independent variables up to a period lag of 3. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) is identical to (6) as promotion in period t is already part of the dynamic panel model. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

Table D.2: **Panel IV Estimates**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	-0.099	-0.013	-0.015	-0.012	-0.014	0.015	0.015	0.023	0.023	0.023
	(0.080)	(0.070)	(0.070)	(0.070)	(0.070)	(0.073)	(0.073)	(0.073)	(0.073)	(0.073)
Health Limits Work	-0.004	0.024	0.026	0.016	0.018	0.060	0.060	0.043	0.043	0.043
	(0.146)	(0.139)	(0.139)	(0.139)	(0.139)	(0.146)	(0.146)	(0.146)	(0.146)	(0.146)
UE>7.0	0.005	-0.032	-0.032	-0.033	-0.032	-0.028	-0.028	-0.026	-0.026	-0.026
	(0.015)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	-0.099	-0.031	-0.029	-0.030	-0.029	-0.004	-0.004	0.001	0.001	0.001
	(0.079)	(0.069)	(0.069)	(0.069)	(0.069)	(0.073)	(0.073)	(0.073)	(0.073)	(0.073)
Health Limits Work	0.006	0.021	0.019	0.016	0.014	0.087	0.087	0.059	0.059	0.059
	(0.131)	(0.121)	(0.121)	(0.121)	(0.121)	(0.135)	(0.135)	(0.134)	(0.134)	(0.134)
UE>8.0	0.020	0.011	0.012	0.011	0.012	0.013	0.013	0.012	0.012	0.012
	(0.016)	(0.026)	(0.026)	(0.026)	(0.026)	(0.027)	(0.027)	(0.026)	(0.026)	(0.026)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.203*	-0.083	-0.081	-0.081	-0.079	-0.051	-0.051	-0.039	-0.039	-0.039
	(0.115)	(0.094)	(0.094)	(0.094)	(0.094)	(0.094)	(0.094)	(0.094)	(0.094)	(0.094)
Health Limits Work	0.056	0.042	0.044	0.032	0.035	0.148	0.148	0.109	0.109	0.109
	(0.159)	(0.141)	(0.140)	(0.141)	(0.140)	(0.145)	(0.145)	(0.145)	(0.145)	(0.145)
UE>9.0	0.042**	0.001	0.001	-0.000	0.001	0.001	0.001	-0.003	-0.003	-0.003
	(0.021)	(0.027)	(0.027)	(0.027)	(0.027)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.167	-0.043	-0.038	-0.039	-0.034	-0.046	-0.046	-0.024	-0.024	-0.024
	(0.143)	(0.120)	(0.119)	(0.120)	(0.119)	(0.138)	(0.138)	(0.140)	(0.140)	(0.140)
Health Limits Work	0.080	0.048	0.048	0.037	0.038	0.141	0.141	0.092	0.092	0.092
	(0.171)	(0.152)	(0.151)	(0.152)	(0.151)	(0.173)	(0.173)	(0.173)	(0.173)	(0.173)
UE>10.0	0.040	0.001	0.001	0.000	0.000	-0.006	-0.006	-0.008	-0.008	-0.008
	(0.028)	(0.035)	(0.035)	(0.035)	(0.035)	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.189	-0.047	-0.046	-0.043	-0.041	-0.036	-0.036	-0.013	-0.013	-0.013
	(0.248)	(0.182)	(0.181)	(0.181)	(0.180)	(0.199)	(0.199)	(0.198)	(0.198)	(0.198)
Health Limits Work	0.041	0.021	0.022	0.011	0.012	0.086	0.086	0.042	0.042	0.042
	(0.165)	(0.148)	(0.147)	(0.148)	(0.148)	(0.156)	(0.156)	(0.156)	(0.156)	(0.156)
UE>11.0	0.083**	0.040	0.038	0.039	0.037	0.039	0.039	0.039	0.039	0.039
	(0.037)	(0.041)	(0.041)	(0.041)	(0.041)	(0.042)	(0.042)	(0.043)	(0.043)	(0.043)
Observations	23779	23779	23779	23779	23779	21881	21881	21785	21785	21785
R^2										
County FE	No	No	No	No	No	No	No	No	No	No
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

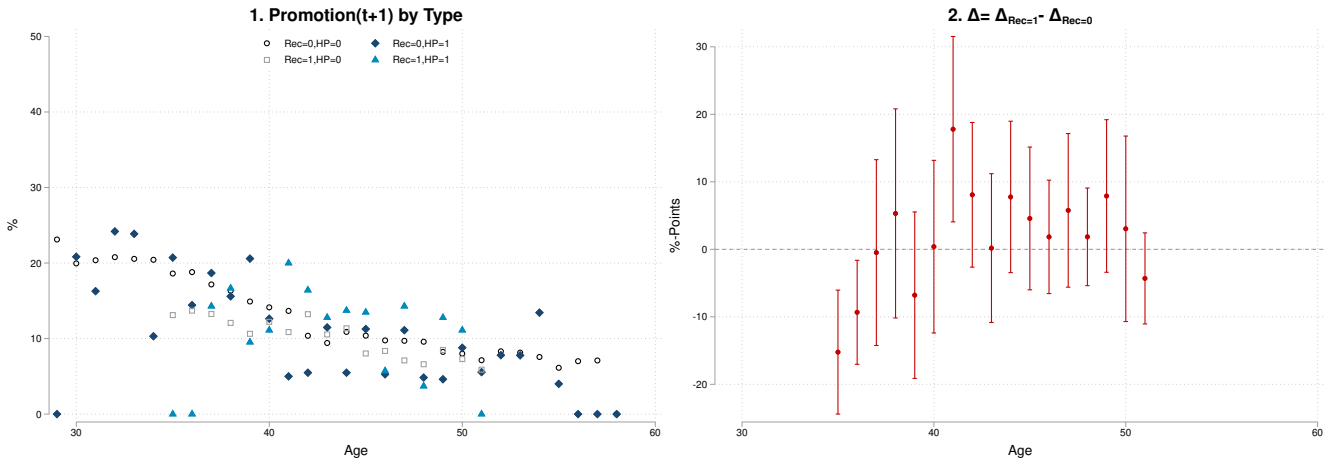
Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: Estimator based on Arellano and Bond (1991) and is estimated in first differences. The dependent variable is PROMOTION$_{i,c,t+1}$ in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The endogenous variables are: HLWrk, UE>X, and PROMOTION$_{ict}$. Instrumental variables are lagged dependent and independent variables up to a period lag of 3. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

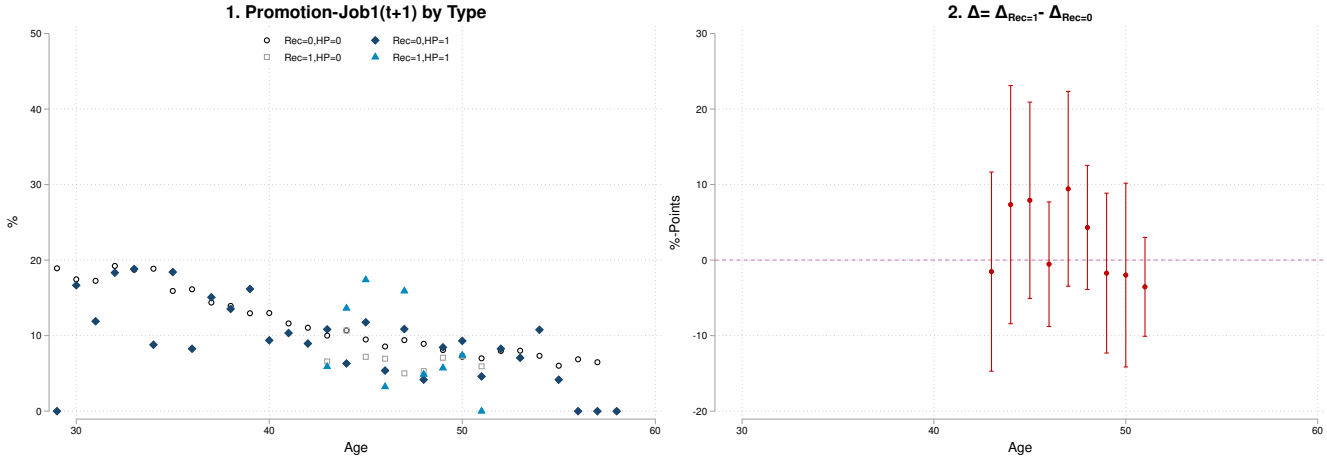
E Alternative definitions of promotion

E.1 Promotion in main job (Job 1) only

We first change the definition of what constitutes a promotion and limit it to the current main job, referred to as Job1, in NLSY79.



(a) Promotion(t+1) in Job 1–5



(b) Promotion(t+1) in Job 1 only

Figure E.1: **Lifecycle profiles of promotions in job 1–5 vs job 1 only by type**

Notes: NLSY79, observations from 1987–1989 and 1994–2014, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used. The four types are: No recession, no health problem;(2) No recession with health problem, (3) Recession, no health problem, and (4) Recession with health problem.

Table E.1: **Promotions in job 1 (current main job)**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	0.003	0.011	0.007	-0.003	-0.006	-0.012	-0.015	-0.013	-0.014	-0.024
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.013)	(0.013)	(0.013)	(0.015)	(0.022)
Health Limits Work	-0.031***	-0.018**	-0.015**	-0.011	-0.008	-0.004	0.001	-0.001	0.007	-0.005
	(0.008)	(0.007)	(0.007)	(0.008)	(0.008)	(0.009)	(0.008)	(0.009)	(0.010)	(0.013)
UE>7.0	-0.027***	-0.001	-0.001	0.003	0.002	0.005	0.009*	0.009*	0.009	0.014
	(0.003)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.009)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	-0.008	-0.001	-0.005	-0.013	-0.015	-0.020	-0.020	-0.018	-0.024	-0.016
	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.015)	(0.015)	(0.015)	(0.017)	(0.027)
Health Limits Work	-0.029***	-0.014**	-0.012*	-0.009	-0.006	-0.003	0.000	-0.001	0.008	-0.008
	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.012)
UE>8.0	-0.026***	-0.006	-0.006	0.002	0.002	0.003	0.007	0.007	0.007	0.006
	(0.004)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.010)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.021	-0.017	-0.020	-0.029**	-0.032**	-0.031*	-0.032**	-0.031*	-0.032*	-0.027
	(0.015)	(0.015)	(0.014)	(0.014)	(0.014)	(0.016)	(0.016)	(0.016)	(0.019)	(0.030)
Health Limits Work	-0.028***	-0.012*	-0.010	-0.007	-0.005	-0.003	0.001	0.000	0.007	-0.008
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.009)	(0.012)
UE>9.0	-0.024***	-0.002	-0.002	0.004	0.004	0.003	0.007	0.007	0.008	0.006
	(0.004)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.011)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.029*	-0.030*	-0.031*	-0.039**	-0.042***	-0.044**	-0.050***	-0.050***	-0.056***	-0.038
	(0.017)	(0.017)	(0.017)	(0.016)	(0.016)	(0.018)	(0.017)	(0.017)	(0.021)	(0.035)
Health Limits Work	-0.028***	-0.012*	-0.010	-0.008	-0.005	-0.003	0.001	0.000	0.008	-0.009
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.007)	(0.007)	(0.009)	(0.011)
UE>10.0	-0.024***	-0.005	-0.004	0.001	0.002	-0.001	0.003	0.003	0.002	0.006
	(0.005)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.012)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.036*	-0.040*	-0.041*	-0.060***	-0.062***	-0.064***	-0.074***	-0.077***	-0.086***	-0.079*
	(0.021)	(0.022)	(0.022)	(0.019)	(0.019)	(0.022)	(0.018)	(0.019)	(0.024)	(0.040)
Health Limits Work	-0.029***	-0.012*	-0.011*	-0.008	-0.006	-0.004	0.000	-0.001	0.007	-0.008
	(0.007)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.011)
UE>11.0	-0.024***	-0.002	-0.002	-0.000	0.000	-0.000	-0.001	-0.002	-0.003	0.003
	(0.006)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.014)
Observations	66715	66715	66715	48651	48651	43396	40196	39898	36785	22036
R^2	0.001	0.064	0.069	0.062	0.066	0.071	0.086	0.090	0.094	0.106
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is PROMOTION-JOB1$_{i,c,t+1}$ in JOB 1, which is the **current main job** at the time of the interview. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

E.2 Promotion with wage increase

In this section we show the results of our main specification 4 with a more narrow definition for promotion. We define as promoted anybody who reports a promotion **and** whose wage increased from period t to period $t+1$.

Table E.2: **Promotion with wage increase**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	-0.004	0.006	0.002	-0.008	-0.014	-0.013	-0.016	-0.013	-0.016	-0.020
	(0.010)	(0.010)	(0.010)	(0.011)	(0.012)	(0.012)	(0.012)	(0.012)	(0.014)	(0.019)
Health Limits Work	-0.021***	-0.012*	-0.011*	-0.004	-0.003	-0.002	0.000	-0.001	0.005	-0.005
	(0.006)	(0.006)	(0.006)	(0.007)	(0.008)	(0.008)	(0.007)	(0.007)	(0.009)	(0.011)
UE>7.0	-0.021***	0.000	0.000	0.005	0.005	0.006	0.012**	0.012**	0.013**	0.018**
	(0.003)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.008)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	-0.011	-0.002	-0.005	-0.016	-0.021*	-0.018	-0.014	-0.013	-0.017	-0.005
	(0.011)	(0.011)	(0.011)	(0.011)	(0.012)	(0.013)	(0.013)	(0.013)	(0.016)	(0.024)
Health Limits Work	-0.020***	-0.010	-0.010	-0.003	-0.002	-0.002	-0.002	-0.003	0.004	-0.010
	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.010)
UE>8.0	-0.022***	-0.008*	-0.008*	0.001	0.002	0.003	0.007	0.007	0.010*	0.009
	(0.003)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.009)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.014	-0.007	-0.009	-0.020	-0.019	-0.017	-0.013	-0.013	-0.014	-0.001
	(0.013)	(0.013)	(0.012)	(0.013)	(0.014)	(0.014)	(0.014)	(0.015)	(0.018)	(0.029)
Health Limits Work	-0.020***	-0.009	-0.009*	-0.004	-0.004	-0.003	-0.003	-0.004	0.002	-0.010
	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.010)
UE>9.0	-0.018***	-0.001	-0.001	0.007	0.008	0.005	0.009	0.010	0.011*	0.006
	(0.004)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.010)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.019	-0.012	-0.013	-0.025*	-0.023	-0.023	-0.023	-0.022	-0.027	-0.021
	(0.014)	(0.014)	(0.013)	(0.014)	(0.016)	(0.016)	(0.016)	(0.016)	(0.021)	(0.033)
Health Limits Work	-0.021***	-0.009	-0.010*	-0.004	-0.004	-0.004	-0.002	-0.003	0.003	-0.009
	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.006)	(0.006)	(0.008)	(0.010)
UE>10.0	-0.018***	-0.003	-0.003	0.005	0.005	0.004	0.008	0.008	0.008	0.006
	(0.004)	(0.006)	(0.005)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.011)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.040**	-0.035**	-0.035**	-0.042**	-0.039**	-0.035*	-0.034*	-0.036*	-0.041	-0.056
	(0.016)	(0.016)	(0.016)	(0.016)	(0.019)	(0.020)	(0.019)	(0.019)	(0.025)	(0.040)
Health Limits Work	-0.020***	-0.008	-0.009	-0.005	-0.005	-0.004	-0.003	-0.004	0.002	-0.009
	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.010)
UE>11.0	-0.014***	0.004	0.004	0.001	0.001	0.003	0.002	0.002	0.000	0.005
	(0.005)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.013)
Observations	68412	68412	68412	49810	46800	44291	41076	40772	37576	22453
R^2	0.000	0.056	0.064	0.064	0.068	0.070	0.082	0.086	0.090	0.101
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is PROMOTION$_{i,c,t+1}$ **with a wage increase** in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used.

F Weighted least squares

Weighting with sample weights can be problematic, especially if treatment effects are heterogeneous—which is the point we make in this paper. In this case the literature suggests to "investigate the heterogeneity" as opposed to trying to average it out via weighted least squares (WLS) which leads to inconsistent estimates that are difficult to interpret as discussed in Solon, Haider and Wooldridge (2015, p. 313–314).[42] The recommendation for practitioners is to present both OLS and WLS with robust standard errors (e.g., Angrist and Pischke (2009, p. 92–93)).

In Table F.1 below we present the WLS estimates of our main specification (expression 4) which allows for differentiating the effect of health by local area economic conditions. The main text contains the unweighted estimates in Table 6. The results are very similar with respect to both magnitude and standard errors of the coefficient estimates of interest. Similarly, Table F.2 shows results based on a weighted panel fixed effects estimator. We can again compare these results to the unweighted panel fixed effects estimates in Table B.1. Again, the estimates are very similar. We therefore conclude that our main results are robust to whether we use equally weighted estimates or weighted estimates.

[42] In this case OLS would of course also lead to inconsistent estimates "in different ways" and "neither dominates the other." Both points are made in Solon, Haider and Wooldridge (2015, p. 313).

Table F.1: **Local level unemployment intensity and promotions in (t+1) with WLS**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	-0.008	0.004	-0.000	-0.015	-0.017	-0.022	-0.024	-0.022	-0.023	-0.045*
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)	(0.017)	(0.025)
Health Limits Work	-0.018*	-0.004	-0.003	0.005	0.006	0.008	0.012	0.010	0.016	0.017
	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.011)	(0.015)
UE>7.0	-0.029***	-0.003	-0.003	0.002	0.001	0.003	0.008	0.008	0.008	0.014
	(0.004)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.011)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	-0.012	-0.002	-0.007	-0.019	-0.023	-0.027	-0.025	-0.024	-0.032	-0.035
	(0.016)	(0.016)	(0.016)	(0.015)	(0.015)	(0.017)	(0.017)	(0.017)	(0.020)	(0.031)
Health Limits Work	-0.018**	-0.002	-0.002	0.004	0.005	0.007	0.010	0.009	0.016	0.012
	(0.009)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.014)
UE>8.0	-0.030***	-0.012**	-0.012**	-0.005	-0.005	-0.003	0.001	0.000	0.001	-0.004
	(0.005)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.012)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.020	-0.012	-0.017	-0.033*	-0.036**	-0.037*	-0.033*	-0.032*	-0.028	-0.032
	(0.020)	(0.018)	(0.018)	(0.017)	(0.017)	(0.019)	(0.019)	(0.020)	(0.023)	(0.035)
Health Limits Work	-0.018**	-0.001	-0.001	0.005	0.005	0.007	0.009	0.008	0.013	0.010
	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.014)
UE>9.0	-0.026***	-0.006	-0.006	0.001	0.002	0.003	0.007	0.007	0.009	-0.001
	(0.005)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.009)	(0.014)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.021	-0.018	-0.022	-0.038*	-0.042**	-0.046**	-0.045**	-0.044*	-0.041	-0.024
	(0.024)	(0.022)	(0.022)	(0.020)	(0.020)	(0.022)	(0.023)	(0.023)	(0.028)	(0.049)
Health Limits Work	-0.019**	-0.001	-0.001	0.004	0.004	0.006	0.009	0.008	0.013	0.008
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.010)	(0.013)
UE>10.0	-0.025***	-0.012	-0.012	-0.002	-0.002	-0.001	0.000	0.000	-0.002	0.003
	(0.006)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.010)	(0.016)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.022	-0.015	-0.019	-0.062**	-0.066***	-0.081***	-0.083***	-0.085***	-0.092***	-0.125**
	(0.033)	(0.032)	(0.032)	(0.025)	(0.024)	(0.023)	(0.022)	(0.023)	(0.029)	(0.050)
Health Limits Work	-0.020**	-0.002	-0.002	0.003	0.003	0.005	0.008	0.008	0.013	0.010
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.008)	(0.008)	(0.010)	(0.013)
UE>11.0	-0.020**	-0.009	-0.009	-0.002	-0.002	0.002	0.003	0.004	0.001	0.017
	(0.008)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.011)	(0.011)	(0.011)	(0.018)
Observations	69033	69033	69033	50313	50313	44674	41438	41130	37895	22636
R^2	0.000	0.084	0.089	0.080	0.084	0.092	0.109	0.112	0.116	0.133
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is $\text{PROMOTION}_{i,c,t+1}$ in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, **weighted** using sample weights. The "lead" of promotion from waves 1990 and 2016 are also used.

Table F.2: **Fixed effects (within) estimator with WLS**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	-0.020	-0.015	-0.008	-0.027	-0.029*	-0.036**	-0.038**	-0.040**	-0.028	-0.089***
	(0.016)	(0.016)	(0.016)	(0.017)	(0.017)	(0.018)	(0.018)	(0.018)	(0.022)	(0.033)
Health Limits Work	-0.029***	-0.033***	-0.009	0.004	0.004	0.005	0.010	0.010	0.005	0.020
	(0.011)	(0.011)	(0.010)	(0.012)	(0.012)	(0.013)	(0.013)	(0.014)	(0.016)	(0.023)
UE>7.0	-0.022***	-0.023***	-0.000	0.002	0.002	0.005	0.007	0.006	0.004	0.019
	(0.005)	(0.005)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.013)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	-0.009	-0.011	-0.004	-0.027	-0.029*	-0.041**	-0.037*	-0.038*	-0.032	-0.058
	(0.018)	(0.018)	(0.017)	(0.017)	(0.018)	(0.018)	(0.019)	(0.020)	(0.023)	(0.041)
Health Limits Work	-0.033***	-0.036***	-0.011	0.002	0.001	0.002	0.006	0.006	0.003	0.008
	(0.010)	(0.010)	(0.010)	(0.011)	(0.011)	(0.012)	(0.012)	(0.012)	(0.014)	(0.021)
UE>8.0	-0.025***	-0.025***	-0.010	-0.003	-0.003	-0.001	-0.000	-0.001	-0.003	-0.001
	(0.005)	(0.005)	(0.006)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.014)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.016	-0.023	-0.019	-0.042**	-0.043**	-0.048**	-0.045**	-0.046**	-0.039	-0.082*
	(0.021)	(0.021)	(0.020)	(0.019)	(0.019)	(0.021)	(0.022)	(0.022)	(0.026)	(0.048)
Health Limits Work	-0.033***	-0.035***	-0.009	0.002	0.001	0.001	0.004	0.004	0.002	0.006
	(0.010)	(0.010)	(0.010)	(0.011)	(0.011)	(0.012)	(0.012)	(0.012)	(0.014)	(0.021)
UE>9.0	-0.023***	-0.023***	-0.006	-0.000	-0.001	0.003	0.004	0.003	0.003	0.006
	(0.006)	(0.006)	(0.007)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.010)	(0.016)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.009	-0.018	-0.016	-0.051**	-0.051**	-0.062**	-0.061**	-0.061**	-0.049	-0.027
	(0.028)	(0.027)	(0.026)	(0.025)	(0.024)	(0.026)	(0.027)	(0.027)	(0.031)	(0.060)
Health Limits Work	-0.035***	-0.037***	-0.010	0.000	-0.001	-0.001	0.003	0.003	0.000	0.001
	(0.010)	(0.010)	(0.009)	(0.011)	(0.011)	(0.012)	(0.012)	(0.012)	(0.014)	(0.021)
UE>10.0	-0.026***	-0.027***	-0.013	-0.004	-0.004	-0.000	-0.002	-0.002	-0.002	0.013
	(0.007)	(0.007)	(0.008)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)	(0.019)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	0.033	0.033	0.025	-0.034	-0.036	-0.033*	-0.032*	-0.034*	-0.040*	-0.041
	(0.042)	(0.041)	(0.038)	(0.026)	(0.026)	(0.019)	(0.019)	(0.020)	(0.022)	(0.045)
Health Limits Work	-0.037***	-0.040***	-0.013	-0.002	-0.004	-0.004	-0.000	-0.000	-0.001	0.001
	(0.009)	(0.009)	(0.009)	(0.011)	(0.011)	(0.012)	(0.012)	(0.012)	(0.013)	(0.020)
UE>11.0	-0.021**	-0.021**	-0.010	-0.003	-0.002	0.005	0.001	0.001	0.002	0.012
	(0.010)	(0.010)	(0.010)	(0.011)	(0.011)	(0.011)	(0.012)	(0.012)	(0.013)	(0.022)
Observations	69033	69033	69033	50313	50313	44674	41438	41130	37895	22636
R^2	0.000	0.048	0.086	0.075	0.076	0.082	0.085	0.089	0.090	0.125
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is $\text{PROMOTION}_{i,c,t+1}$ in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, **weighted** using sample weights. The "lead" of promotion from waves 1990 and 2016 are also used.

G Trimmed sample

We predict the propensity score of having work limiting health issues with a logit model using individual and household characteristics such as marital status, gender, race, AFQT score, dummies for high school and college degrees, a dummy for urban area, family size, number of new children since last survey, job tenure, hourly wages, an indicator for whether the individual had a work limiting health issue in the prior period, as well as year fixed effects as explanatory variables. We then drop observations with propensity scores below the 2.5^{th} percentile and above the 97.5^{th} percentile of the propensity scores distribution.

From Table G.1 we can see that the covariate spread between the group of individuals without and with work limiting health issues is narrower in columns (5) and (6) than the covariate spread in the untrimmed sample in columns (3) and (4). Table G.2 then shows the estimation results of our main specification, equation 4. The results in this table confirm the findings of Table 7.

Table G.1: **Summary statistics by county unemployment and health status of trimmed sample**

	(1) Sample 1987–2014	(2) Sample 1994–2014	(3) HLWrk =0	(4) HLWrk =1	(5) Trimm:HLWrk =0	(6) Trimm:HLWrk =1
Promotion(t+1) Job1-5	0.16	0.13	0.13	0.12	0.13	0.11
Promotion(t+1) Same Job 1-5	0.12	0.10	0.10	0.07	0.10	0.07
Promotion(t+1) New Job 1-5	0.04	0.03	0.03	0.04	0.03	0.04
Received Promo Job 1-5	0.17	0.14	0.14	0.13	0.14	0.12
Promotion w/ Wage Inc.	0.10	0.09	0.09	0.08	0.09	0.07
Promotion(t-1)	0.17	0.15	0.15	0.14	0.15	0.14
Received Promo Job 1	0.15	0.13	0.13	0.11	0.13	0.11
Promo Possible W-in 2 Yrs Job1	0.57	0.57	0.57	0.52	0.57	0.52
Satisfaction at Job 1	1.63	1.61	1.61	1.71	1.61	1.72
Satisfied at Job	0.92	0.93	0.93	0.89	0.93	0.88
Health Prevents Wrk	0.01	0.01	0.00	0.26	0.00	0.30
Health Limits Kind of Wrk	0.05	0.05	0.00	0.90	0.00	0.89
Health Limits Amount of Wrk	0.04	0.04	0.00	0.70	0.00	0.68
Health Limits Wrk	0.05	0.06	0.00	1.00	0.00	1.00
New Health Lim.Wrk.	0.03	0.03	0.00	0.52	0.00	0.69
Initial Health	0.04	0.04	0.03	0.13	0.03	0.07
Body Mass Index	27.60	28.28	28.20	29.65	28.20	29.56
BMI > 30	0.28	0.32	0.31	0.41	0.31	0.41
Age	37.93	42.03	41.94	43.45	41.91	42.76
Married	0.56	0.60	0.60	0.52	0.60	0.56
Female	0.49	0.50	0.50	0.61	0.50	0.58
Black	0.28	0.29	0.29	0.30	0.29	0.29
Hispanic	0.17	0.18	0.18	0.15	0.18	0.16
AFQT score percentile	44.57	44.36	44.66	39.63	44.58	41.61
Years of Education	13.33	13.46	13.49	13.09	13.48	13.21
College	0.23	0.24	0.25	0.18	0.24	0.20
Family Size	3.00	3.05	3.07	2.77	3.07	2.88
Nr. of New Children from (t-1)	0.06	0.05	0.05	0.03	0.05	0.04
Resides in Urban Area	0.77	0.76	0.76	0.74	0.76	0.75
Employed Job1-5	1.00	1.00	1.00	1.00	1.00	1.00
Employed(t+1) Job1-5	0.92	0.92	0.93	0.81	0.93	0.82
Hourly Wage-Job 1 (2010 US$)	20.06	21.56	21.85	16.77	21.23	18.09
Wage/Hour Job1-5 (USD)	20.05	21.55	21.85	16.72	21.22	18.03
Wage Income (1,000 US$)	41.45	45.86	46.77	31.00	46.29	33.99
Net Fam. Inc. (USD 1,000)	72.77	76.73	77.76	59.69	76.66	64.07
Tenure in Years Job 1	6.60	7.97	8.03	7.00	8.05	7.66
Union member Job 1	0.21	0.18	0.19	0.16	0.19	0.18
Has Health Insurance Plan	0.87	0.87	0.88	0.82	0.88	0.83
Employees Job1 (in 1,000)	1.03	1.19	1.17	1.50	1.17	1.59
Employer Job1 Has Mult. Loc.	0.37	0.28	0.28	0.23	0.28	0.26
Observations	69033	50313	47339	2974	46322	2218

Notes: Data source is NLSY79, observations from 1987–1989 and 1994–2014, unweighted. The "lead" of promotion from waves 1990 and 2016 are also used. From column (3) onward we use waves from 1994–2014. Columns (5) and (6) show the trimmed sample by health group. The sample is trimmed according to propensity scores of having working limiting health issues: $P_{2.5} \leq \Pr(\text{HLWk}|X) \leq P_{97.5}$.

Table G.2: **Trimmed sample pooled OLS**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	0.006	0.017	0.014	-0.002	-0.004	-0.006	-0.013	-0.012	-0.018	-0.023
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)	(0.018)	(0.025)
Health Limits Work	-0.029***	-0.019**	-0.016**	-0.013	-0.011	-0.009	-0.004	-0.004	0.004	-0.011
	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.010)	(0.009)	(0.009)	(0.011)	(0.014)
UE>7.0	-0.029***	-0.002	-0.002	0.002	0.002	0.004	0.011*	0.011*	0.010*	0.011
	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.009)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	-0.002	0.007	0.005	-0.011	-0.012	-0.017	-0.017	-0.016	-0.026	0.001
	(0.016)	(0.016)	(0.015)	(0.015)	(0.015)	(0.017)	(0.017)	(0.017)	(0.020)	(0.032)
Health Limits Work	-0.027***	-0.016**	-0.014*	-0.012	-0.009	-0.007	-0.004	-0.004	0.003	-0.017
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.010)	(0.013)
UE>8.0	-0.029***	-0.010*	-0.010*	-0.001	-0.001	-0.001	0.005	0.005	0.005	0.001
	(0.004)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.010)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.018	-0.012	-0.013	-0.031*	-0.032*	-0.034*	-0.032*	-0.033*	-0.035	-0.012
	(0.018)	(0.018)	(0.017)	(0.017)	(0.017)	(0.019)	(0.018)	(0.019)	(0.022)	(0.036)
Health Limits Work	-0.025***	-0.013*	-0.011	-0.009	-0.007	-0.006	-0.003	-0.003	0.003	-0.016
	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.010)	(0.013)
UE>9.0	-0.027***	-0.006	-0.007	-0.001	-0.001	-0.001	0.005	0.005	0.005	-0.001
	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.011)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.021	-0.015	-0.013	-0.036*	-0.036*	-0.043**	-0.046**	-0.047**	-0.051**	-0.021
	(0.021)	(0.020)	(0.020)	(0.020)	(0.019)	(0.021)	(0.020)	(0.021)	(0.025)	(0.041)
Health Limits Work	-0.025***	-0.013*	-0.012	-0.010	-0.009	-0.007	-0.003	-0.003	0.003	-0.015
	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.013)
UE>10.0	-0.025***	-0.006	-0.005	0.001	0.001	-0.001	0.003	0.004	0.001	0.004
	(0.005)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.013)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.023	-0.023	-0.022	-0.048*	-0.049*	-0.054*	-0.059**	-0.062**	-0.068**	-0.075
	(0.027)	(0.027)	(0.027)	(0.025)	(0.025)	(0.027)	(0.024)	(0.025)	(0.033)	(0.048)
Health Limits Work	-0.026***	-0.014*	-0.012	-0.011	-0.009	-0.008	-0.004	-0.004	0.002	-0.014
	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.012)
UE>11.0	-0.022***	0.002	0.002	0.001	0.002	0.002	0.002	0.002	-0.002	0.011
	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.015)
Observations	65819	65819	65819	48540	48540	43186	40018	39718	36699	21898
R^2	0.000	0.072	0.078	0.069	0.073	0.079	0.097	0.101	0.105	0.116
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is $\text{PROMOTION}_{i,c,t+1}$ in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, **unweighted.** The "lead" of promotion from waves 1990 and 2016 are also used. The sample is trimmed according to propensity scores of having working limiting health issues: $P_{2.5} \leq \Pr(\text{HLWk}|X) \leq P_{97.5}$.

Table G.3: **Trimmed sample fixed effects (within) estimator**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>7.0	-0.010	-0.006	-0.003	-0.013	-0.015	-0.023	-0.028	-0.032*	-0.023	-0.060*
	(0.016)	(0.016)	(0.016)	(0.017)	(0.017)	(0.018)	(0.018)	(0.018)	(0.021)	(0.031)
Health Limits Work	-0.036***	-0.038***	-0.016	-0.008	-0.008	-0.004	-0.002	-0.000	-0.003	-0.004
	(0.010)	(0.010)	(0.009)	(0.011)	(0.011)	(0.012)	(0.012)	(0.012)	(0.014)	(0.020)
UE>7.0	-0.019***	-0.022***	0.001	0.004	0.004	0.006	0.009	0.008	0.008	0.010
	(0.004)	(0.004)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.010)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>8.0	-0.010	-0.008	-0.002	-0.024	-0.025	-0.037**	-0.032*	-0.036*	-0.023	-0.033
	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.019)	(0.019)	(0.019)	(0.022)	(0.038)
Health Limits Work	-0.037***	-0.038***	-0.016*	-0.006	-0.007	-0.003	-0.004	-0.003	-0.005	-0.015
	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.011)	(0.011)	(0.011)	(0.013)	(0.019)
UE>8.0	-0.021***	-0.022***	-0.010*	-0.001	-0.001	0.001	0.003	0.003	0.002	-0.002
	(0.004)	(0.004)	(0.005)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.011)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>9.0	-0.026	-0.026	-0.020	-0.041**	-0.040**	-0.049**	-0.039*	-0.043**	-0.036	-0.029
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.021)	(0.021)	(0.021)	(0.024)	(0.040)
Health Limits Work	-0.035***	-0.037***	-0.014	-0.006	-0.007	-0.004	-0.005	-0.004	-0.005	-0.017
	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.011)	(0.011)	(0.012)	(0.018)
UE>9.0	-0.019***	-0.019***	-0.006	-0.001	-0.001	0.001	0.002	0.003	0.001	-0.002
	(0.005)	(0.005)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.013)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>10.0	-0.022	-0.025	-0.019	-0.050**	-0.048**	-0.065***	-0.060***	-0.065***	-0.059**	-0.034
	(0.023)	(0.023)	(0.022)	(0.022)	(0.022)	(0.024)	(0.023)	(0.024)	(0.026)	(0.042)
Health Limits Work	-0.037***	-0.038***	-0.015*	-0.007	-0.008	-0.005	-0.005	-0.004	-0.005	-0.018
	(0.008)	(0.009)	(0.008)	(0.009)	(0.009)	(0.010)	(0.011)	(0.011)	(0.012)	(0.018)
UE>10.0	-0.016***	-0.015**	-0.003	0.001	0.001	0.001	0.002	0.002	0.001	0.007
	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.009)	(0.014)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE>11.0	-0.008	-0.012	-0.019	-0.045	-0.045	-0.051*	-0.046*	-0.051*	-0.055*	-0.043
	(0.032)	(0.031)	(0.030)	(0.028)	(0.027)	(0.029)	(0.026)	(0.027)	(0.031)	(0.058)
Health Limits Work	-0.039***	-0.040***	-0.015*	-0.009	-0.010	-0.008	-0.008	-0.007	-0.007	-0.019
	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.012)	(0.017)
UE>11.0	-0.008	-0.006	0.004	0.003	0.003	0.004	-0.001	-0.001	-0.005	0.006
	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.016)
Observations	65819	65819	65819	48540	48540	43186	40018	39718	36699	21898
R^2	0.000	0.038	0.074	0.066	0.068	0.073	0.073	0.077	0.079	0.105
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is $\text{PROMOTION}_{i,c,t+1}$ in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. The indicator variable UE $> X$ equals one if the person/year observation is from a county with an unemployment rate larger than X percent. The control variables used in columns (1)–(10) follow the same pattern as the control variables in Table 6. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Column (6) adds union membership status to the set of firm controls and column (7) adds an indicator of whether the worker has received a promotion since the last interview. Data source is NLSY79, **unweighted.** The "lead" of promotion from waves 1990 and 2016 are also used. The sample is trimmed according to propensity scores of having working limiting health issues: $P_{2.5} \leq \Pr(\text{HLWk}|X) \leq P_{97.5}$.

H County unemployment rate in levels

Table H.1 shows regression results based on interactions of the local unemployment rate with work limiting health conditions. We again see the negative effect on promotions if the unemployment rate increases in conjunction with work limiting health issues. Our preferred specification is in Table 7 as "binning" highlights that the negative effect is driving by individuals who live in counties with relatively high local unemployment rates.

Table H.1: **Local level unemployment and promotions in (t+1)**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HLWrk × UE-Rate	-0.002	0.000	-0.000	-0.003	-0.003	-0.003	-0.005*	-0.005*	-0.004	-0.010**
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
Health Limits Work	-0.014	-0.010	-0.007	0.008	0.012	0.015	0.027	0.026	0.027	0.050*
	(0.016)	(0.016)	(0.016)	(0.018)	(0.018)	(0.020)	(0.019)	(0.019)	(0.022)	(0.029)
Unemployment Rate (County)	-0.005***	-0.003***	-0.003***	-0.002*	-0.002*	-0.002*	-0.001	-0.001	-0.001	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Age of individual			-0.024***		-0.004	-0.004	-0.005	-0.005	-0.007	0.007
			(0.003)		(0.005)	(0.006)	(0.005)	(0.005)	(0.006)	(0.008)
Married			0.007*		0.014***	0.012***	0.011***	0.010**	0.013***	0.012*
			(0.004)		(0.004)	(0.005)	(0.004)	(0.004)	(0.005)	(0.007)
Female			-0.013***		-0.002	-0.002	-0.002	-0.004	-0.002	0.002
			(0.004)		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.006)
Black			0.010*		0.018***	0.018***	0.017***	0.016***	0.019***	0.004
			(0.006)		(0.006)	(0.007)	(0.006)	(0.006)	(0.006)	(0.009)
Hispanic			0.011		0.024***	0.025***	0.023***	0.023***	0.025***	0.032***
			(0.007)		(0.008)	(0.008)	(0.007)	(0.007)	(0.008)	(0.011)
AFQT score percentile			0.001***		0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
			(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
No High School Degree			-0.032***		-0.030***	-0.024***	-0.020***	-0.018***	-0.018***	-0.020**
			(0.006)		(0.006)	(0.007)	(0.006)	(0.006)	(0.007)	(0.010)
College			0.008		0.005	0.004	0.005	0.009	0.008	0.015*
			(0.005)		(0.005)	(0.006)	(0.005)	(0.005)	(0.006)	(0.008)
Resides in Urban Area			-0.001		-0.003	-0.005	-0.006	-0.007	-0.005	-0.008
			(0.005)		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.009)
Family Size			-0.002*		-0.002*	-0.003*	-0.002	-0.002	-0.002	-0.002
			(0.001)		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Nr. of New Children from (t-1)			-0.010*		-0.007	-0.008	-0.004	-0.004	-0.003	-0.006
			(0.006)		(0.007)	(0.008)	(0.008)	(0.008)	(0.009)	(0.012)
Tenure years job 1-5			-0.002***		-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***
			(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Wage/Hour Job1-5 (USD)			-0.000		0.000	-0.000	-0.000	-0.000*	-0.000*	-0.000
			(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Satisfaction at Job 1						-0.012***	-0.007***	-0.008***	-0.007***	-0.010**
						(0.003)	(0.002)	(0.003)	(0.003)	(0.004)
Has Health Insurance Plan						0.014***	0.009*	0.006	0.003	-0.004
						(0.006)	(0.005)	(0.005)	(0.006)	(0.008)
Employer Job1 Has Mult. Loc.						0.046***	0.036***	0.034***	0.036***	0.012
						(0.006)	(0.006)	(0.006)	(0.007)	(0.010)
Employees Job1 (in 1,000)						0.000	0.000	0.000	0.000	-0.000
						(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Union member job 1-5						-0.024***	-0.017***	-0.012**	-0.013**	-0.012
						(0.005)	(0.005)	(0.005)	(0.005)	(0.008)
Received Promo Job 1-5							0.134***	0.129***	0.128***	0.116***
							(0.006)	(0.006)	(0.007)	(0.008)
Observations	69021	69021	69021	50301	50301	44662	41426	41118	37886	22629
R^2	0.002	0.073	0.079	0.068	0.072	0.079	0.098	0.101	0.106	0.117
County FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial Health FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample 1994–2014	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Ind+Occ FE	No	No	No	No	No	No	No	Yes	Yes	Yes
Employed(t+1)=1	No	No	No	No	No	No	No	No	Yes	No
Promo.Possible(t)=1	No	No	No	No	No	No	No	No	No	Yes

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: The dependent variable is $\text{PROMOTION}_{i,c,t+1}$ in JOB 1–5. The indicator variable HLWrk equals one if the person reports having a work limiting health issue. UE-Rate is the county unemployment rate in levels. Columns (1)–(3) use data from 1987–2014 where individuals are between age 22–57 and columns (4)–(10) use data from 1994–2014 where individuals are between age 29–57. Data source is NLSY79, unweighted. The "lead" of promotion from waves 1990 and 2016 is also used.