CENTER for RETIREMENT RESEARCH at BOSTON COLLEGE

# THE IMPACT OF HIGH-PRESSURE LABOR MARKETS ON RETIREMENT SECURITY

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**Abstract**

This paper explores whether exposure to tight labor markets at working ages is linked to improved financial wellbeing at older ages especially for groups traditionally disadvantaged in the labor market, including people with low income, those without college degrees, and people of color. We also examine what role the timing of exposure to tight labor markets may play with respect to the outcomes of interest.

The paper found that:

- Higher exposure to stronger-than-average labor markets at working ages (41-61, as well as 31-61) is significantly correlated with a lower likelihood of being poor and with higher household income at retirement ages (63-67).
- The magnitude of the estimated coefficients is larger for marginalized workers, including those who start out with lower incomes, those without college degrees, and people of color.
- Statistically significant results are observed almost exclusively for exposure before age 50).
- The income effect of exposure to high-pressure labor markets may be more important than the employment and/or labor market participation effect, implying that one mechanism of the impact of tight labor markets on the financial wellbeing of older adults could be through keeping them on a higher earnings trajectory throughout their careers.

The policy implications of the findings are:

- Tight labor markets can help protect the long-term financial wellbeing of older people.
- Those who stand to benefit more are from various groups traditionally disadvantaged in the labor market, including people with low incomes, those without college degrees, and people of color.
- Earlier exposure is associated with more favorable financial outcomes at retirement ages, arguably suggesting that interventions designed to support labor force attachment and/or improve pay and benefits early in the career may yield overall better returns than the same size interventions later in life.

## Introduction

Prior research has documented the negative consequences of economic downturns on the job prospects and financial wellbeing of workers, finding that job displacement during recessions has a long-term adverse impact on workers' earnings (e.g., Davis and von Wachter 2011; Farber 2011; Lachowska, Mas, and Woodbury 2020). Importantly, studies find that not everyone fares equally during economic downturns. The negative impacts of the Great Recession, for example, were strongest for men, Black and Hispanic workers, youth, and workers with low educational attainment (Hoynes, Miller, and Schaller 2012).

More generally, the labor market outcomes of people with low educational attainment, people of color, and women with lower skills have been found to be especially sensitive to labor market fluctuations (Hoynes 2000). Not only are these groups more likely to experience reductions in employment and earnings during downturns, but they are more likely to experience gains during recoveries (Aaronson et al. 2019; Hotchkiss and Moore 2022; Hoynes 2000). While some studies find that these gains can be lasting (Aaronson et al. 2019; Newman and Jacobs 2023), other studies find that they do not persist over time (Fallick and Krolikowski 2018; Hotchkiss and Moore 2022).

Finally, some studies find evidence of that the protective impact of tight labor markets on workers' risk of becoming unemployed or experiencing hourly wage declines during the subsequent downturns (Newman and Jacobs 2023), and that some demographic groups experience better outcomes during periods of high unemployment that were preceded by tight labor markets (Hotchkiss and Moore 2022).

While we know that expanding economic opportunities, especially during high-pressure periods in the economic cycle, benefit marginalized workers in the near term, we know less about their long-term prospects. Indeed, no study that we are aware of has assessed the potential beneficial impact of high-pressure expansions on marginalized workers who gained a foothold in the labor market during expansionary times. What is the impact of exposure to tight labor markets on retirement income and wealth? How does the timing of labor market gains impact subsequent retirement wellbeing? Do high-pressure labor markets protect marginalized workers through economic downturns and into retirement?

In addressing these questions, this paper finds that increased exposure to stronger-than-average labor markets at younger ages is significantly correlated with a lower likelihood of being

poor and with higher household income at retirement ages. The magnitude of the effect is larger for those with lower incomes, those without college degrees, and for people of color, suggesting that the relative long-term benefits of tight labor markets may be greater for those who are traditionally disadvantaged in the labor market. Moreover, the timing of exposure to high-pressure labor markets is particularly important. Significant results are predominantly found for exposure before age 51, whereas there is comparatively little evidence of a relationship between exposure to tight labor markets after age 50 and outcomes at retirement ages. Finally, we find some evidence that the protective effect of high-pressure labor markets is transmitted through income instead of employment and/or labor participation. Rather than protecting them from job loss, exposure to strong labor markets puts people on a higher earnings trajectory that appears to protect them through subsequent downturns and leads to improved financial wellbeing in the long run.

**Background**

Prior research has documented the negative consequences of economic downturns on the job prospects and financial wellbeing of workers, finding that job displacement during recessions has a long-term adverse impact on the earnings of workers (e.g., Davis and von Wachter 2011; Farber 2011; Lachowska, Mas, and Woodbury 2020). For example, this research established that workers who lost jobs during the Great Recession had low rates of reemployment, faced substantial challenges in finding full-time employment, and suffered major earnings losses (Farber 2011). Workers displaced during the recession also suffered a substantial decline and slow recovery in their hourly wages (Lachowska, Mas, and Woodbury 2020). Focusing on the 1974-2008 period, Davis and von Wachter (2011) find that the cumulative earnings losses associated with job displacement are twice as high when the national unemployment rate is above 8 percent than when it is below 6 percent.

In their recent book, Newman and Jacobs (2023) cite multiple examples of low-wage workers benefiting from tight labor markets, including employers offering higher wages and better job benefits than traditionally provided in low-wage jobs, and low-wage workers switching jobs and getting paid substantially more. The authors also provide more general evidence of the protective impact of tight labor markets on workers' risk of becoming unemployed or experiencing hourly wage declines during the subsequent downturns.

Beyond this recent research, limited existing literature on the impact of strong labor markets for marginalized workers has mixed findings. Aaronson and colleagues (2019) find that they benefit disproportionately from very tight labor markets, and for some groups such as African Americans and women, gains can be lasting, especially as they relate to labor force participation. Wilson (2015) also finds African Americans benefit from high-pressure economic expansions much more than from weaker expansions as measured both by the unemployment rate and earnings. Bradbury (2000), however, finds some convergence in the unemployment rates of African American and white workers during strong expansions for men only. Indeed, some recent research (Fallick and Krolikowski 2018; Hotchkiss and Moore 2022) shows that labor market gains such as lower rates of unemployment and higher labor force participation rates for marginalized workers do not persist over time.

*Defining High-pressure Labor Markets*

In everyday life, most people can relatively easily identify whether the economy is doing well or not, whether jobs are abundant and employers willing to provide higher wages and other benefits to find new (and keep the existing) workers or whether workers are unemployed and struggling to find any work. In this context, it may seem counterintuitive that defining a high-pressure labor market is not straightforward and there is not one universally accepted definition. Most commonly, it is associated with very low unemployment levels and plentiful jobs. One question that emerges is low unemployment relative to what level of unemployment. In defining its dual-mandate of price stability and maximum sustainable employment, the Fed only states that specifying a goal for the latter is "not appropriate" (Federal Reserve 2020), presumably due to the complex nature of the labor market. Indeed, factors such as job vacancies, labor force participation rates, and the number of discouraged (potential) workers impact the "tightness" of the labor market. Personal factors, such as educational attainment, are also important as determinants of each person's labor market experience. Moreover, the strength of the local labor market is much more relevant than national trends for most people because they tend to look for job opportunities in the relative vicinity of where they live (Newman and Jacobs 2023).

Notwithstanding these complexities, the unemployment level remains arguably the most important factor in considering high-pressure labor markets. In this regard, a particularly important concept is the non-cyclical rate of unemployment (NROU), often referred to also as

non-accelerating inflation rate of unemployment (NAIRU) or, simply, natural rate of unemployment. This represents the lowest level of unemployment that an economy can sustain without increased inflationary pressure, that is, the level of unemployment that would be expected in the absence of any cyclical impact. Although economists have long raised important concerns regarding the usefulness of this concept, including its weak theoretical foundations, the limited empirical evidence of its existence, and the complexities in measuring it (e.g., Galbraith 1997), it remains widely used as a benchmark for labor market performance. Figure 1 shows trends for the NROU and actual rate of unemployment since the second half of the 20th century. The NROU allows for the easy and intuitive identification of periods of very low unemployment, which are considered to represent the periods of tight labor markets nationally.

In the present study, we also rely on the NROU alongside information on actual unemployment to construct our measure of high-pressure labor markets. To acknowledge the importance of local labor markets, we create approximate state-specific NROUs, described below, that can be used alongside state-specific real unemployment rates to determine exposure to high-pressure labor markets.

## Data

### *Data and Sample*

Data for this analysis come primarily from two nationally representative longitudinal surveys—the Panel Study of Income Dynamics (PSID) and Health and Retirement Study (HRS). The PSID has surveyed people ages 16 and older continuously since 1968 (annually through 1997 and biennially thereafter) and collects information on the demographic and socioeconomic characteristics and health status of respondents and their families. This includes detailed information on respondents' labor force status, household income, poverty status, Social Security receipt, hourly earnings, and work hours, which are key for our analysis. We start with the user-friendly version of the PSID data available from the Cross-National Equivalent File (CNEF) and augment these data with the information from the original PSID, such as detailed labor force status and poverty thresholds. Our analytic sample uses every other wave of the PSID from 1971 through 1997 and every wave thereafter through 2019.

At each wave, the PSID interviews about 4,000-11,000 families and 17,000-32,000 individuals and has over time collected information on over 82,000 people (Beaule et al. 2023;

Insolera et al. 2021). However, our analytic sample is substantially smaller because we require respondents to be continuously present between ages 41 and 67. We measure their exposure to high-pressure labor markets between ages 41 and 61 and examine their long-term outcomes between ages 63 and 67. We also stratify the sample by respondents' exposure to high-pressure labor markets at younger ages (41-50) and at older ages (51-61) to examine whether the timing of high-pressure exposure influences outcomes differently. Depending on the outcome of interest and related missing information, our sample varies between 3,981 and 4,239 person-years.

We also stratify the sample by respondents' income level (i.e., bottom two vs. top three quintiles) at entry into the sample, educational attainment (college degree vs. no college degree), and race (white vs. non-white). Finally, we test the sensitivity of our findings to analyzing respondents' outcomes between ages 65 and 67 and to examining their exposure to high-pressure labor markets over a longer period between ages 31 and 61. These analytic decisions result in sample size variations as reported in our tables of results.

In a separate analysis, we also examine the short-term, contemporaneous, outcomes of exposure to high-pressure labor markets for respondents between ages 16 and 61 with information on at least one complete economic cycle. This sample size ranges from 152,060 to 179,360 person-years depending on the outcome of interest.

Because the PSID follows respondents over their entire lives and has much longer historic data than the HRS, our primary focus is on analyzing PSID data to assess the long-term impacts of high-pressure labor markets on the financial wellbeing of older adults. However, our PSID analysis faces several limitations, including a smaller sample size of older adults and no information on their wealth. For these reasons, we also use the HRS data, which includes information on adults over age 50, biennially collected since 1992. The HRS initially interviewed a sample of non-institutionalized Americans born between 1931 and 1941 (when they were ages 51-61) and their spouses (regardless of age). The survey interviewed additional cohorts in subsequent years so that it now represents the U.S. population ages 51 and older.[1] We pool data from the 1998 through 2018 HRS waves. Our analytical sample includes respondents

[1] In 1993, the survey added adults born before 1924 (when they were age 70 or older) and their spouses. In 1998, it added adults born between 1924 and 1930 (when they were ages 68 to 74) and their spouses. Every six years, beginning in 1998, the HRS adds another new sample of Americans ages 51 to 56.

whom we observe continuously between ages 55 and 67. We measure their exposure to high-pressure labor markets between ages 55 and 61 and examine their outcomes between ages 63 and 67. Our sample size ranges from 4,455 to 4,809 person-years depending on the outcome of interest. As with the PSID analyses, we stratify the sample by respondents' income level, educational attainment, and race.

*Variables*

In the long-term PSID analysis, we focus on three outcomes for older adults: poverty (coded as one if household income is below the official federal poverty line and zero otherwise), logged value of household income, and an indicator of whether anyone in the household receives Social Security benefits.[2] In the short-term PSID analysis, we examine six outcomes for respondents ages 16-61: time spent unemployed (measured in weeks spent unemployed during the past year), time spent in the labor force (measured in weeks spent employed during the past year), log hourly pay, and weekly hours of work, plus poverty and log household income.

In the HRS analysis, we examine seven long-term outcomes for older adults: poverty, working for pay, self-reported fully retired, self-reported fully or partly retired, Social Security benefit receipt, log household income, and log household assets. In both the PSID and HRS analyses, all dollar amounts are expressed in real 2019 U.S. dollars.

The key predictor of interest is each respondent's level of exposure to high-pressure labor markets that precede downturns. Constructing this measure involves several steps. First, for each state *s* in year *t*, we create a state-specific $NROU_{st}$ that is the Congressional Budget Office's national NROU shifted up or down by the difference between the state's average unemployment rate (from the Current Population Survey) and the national average unemployment rate (equation 1). This measure accounts for the fact that most workers participate in their state and local labor markets rather than the larger national labor market, and that state and local labor markets have diverse economies and populations that will result in different levels of structural unemployment not reflected by the national NROU alone. We then create a measure of the state's economic environment, the unemployment rate gap $HP_{st}$ as defined in Hotchkiss and Moore (2022), that is the difference between its $NROU_{st}$ and actual unemployment rate. We do this only in years in

[2] In the PSID-based analysis, we rely on the household-level measure because it is consistently available over the study period, whereas in the HRS-based analysis this is an individual-level measure.

which $HP_{st}$ is above zero, indicating a state expansion period, during a national expansion period that is followed by a national recession (equation 2). Finally, we sum $HP_{st}$ over all the years $N$ during the high-pressure period $h$ (equation 3).[3] We repeat the same calculation for every expansion period that is followed by a recession, that is, a complete economic cycle. The steps are as follows:

(1) $$NROU_{st} = NROU_{UST} + \{\overline{UR}_{st} - \overline{UR}_{UST}\}$$

(2) $$HP_{st} = NROU_{st} - UR_{st}, \text{ when } HP_{st} > 0$$
during national expansion that is followed by national economic downturn

(3) $$HP_{sh} = \sum_{t=1}^{N} HP_{st}$$

In the models focused on short-term outcomes, $HP_{sh}$ enters the regression in the subsequent high-unemployment period ($HP_{st} < 0$).[4] In the models focused on long-term outcomes, we further sum up all $HP_{sh}$ that respondents were exposed to at different times between ages 31-61 to assess their cumulative exposure to high-pressure labor markets, and $\sum HP_{sh}$ enters the regression in the subsequent high-unemployment periods.

Our PSID-based models control for various demographic, socioeconomic, and health characteristics of respondents. Demographic controls include age, sex, race (white, Black, and other), and marital status (married, single, widowed, and divorced or separated). We also control for educational attainment (in years, categorized as <12, 12, 13-15, 16 or more), fair or poor self-rated health, and survey wave. In the HRS-based analysis, we use a similar set of covariates, although educational attainment is coded as no high school diploma, high school diploma or GED, some college, and college degree.

[3] Recession and expansion periods are defined by NBER.

[4] $HP_{sh}$ is a composite measure that accounts for both the duration and intensity of high-pressure periods. For example, an $HP_{sh}$ of 6 could reflect 2 years of unemployment that are 3 percentage points below the long-term average or it could indicate 4 years of unemployment that are 1.5 percentage points below the long-term average, or any other combination of the two. What we can say, then, is that an $HP_{sh}$ of 6 signifies exposure to high-pressure periods that is twice as strong in duration-intensity than an $HP_{sh}$ of 3. We could decompose this high-pressure composite measure to examine the unique contributions of duration and intensity, but this is beyond the scope of the present study. In previous research that decomposed this measure, the results suggest that both duration and intensity are significantly correlated with contemporaneous labor market and wellbeing outcomes and that neither dominates in importance, with variations by age, gender, race, and baseline wages (Newman and Jacobs 2023).

*Analytic Approach*

We begin by documenting each state's average high-pressure level ($HP_{sh}$) over the observed period, as well as its average unemployment rate gap ($HP_{st}$). We next turn to multivariate analyses of the impact of the cumulative exposure to high-pressure labor markets on older adults' long-term outcomes. This model can be generally summarized as follows:

$$Outcome_{isa} = \beta_0 + \beta_1 \sum_{a=41}^{61} HP_{ish} + D_i^k \beta_{2k} + C_i \beta_3 + \tau_t + \varepsilon_{isa}$$

where outcomes for person *i* in state *s* at ages *a* (e.g., ages 63-67) include those described above. $HP_{ish}$ is total high-pressure exposure during the expansion period that immediately precedes the high-unemployment period and is summed up for each individual over multiple ages (e.g., ages 41-61). This variable is individual-specific reflecting that people can be exposed to different high-pressure labor markets because of their different ages (e.g. one person is age 41 in 1995 and another person is the same age in 2019) or because they lived in multiple states. The model also includes period fixed effects ($\tau_t$) and the error term ($\varepsilon_{isa}$).

If there is a protective effect of high-pressure labor markets on retirement security, what is the mechanism through which it is transmitted? Are people more likely to keep their jobs in downturns or are they better able to maintain their earnings gains from strong labor markets into weak ones. In other words, is the mechanism an employment/labor market participation effect or an income effect? To address this, we examine short-term labor market and financial wellbeing outcomes. We fit a similar general model specification as the one in the main analysis, but 1) focus on the contemporaneous, rather than cumulative, exposure to a high-pressure labor market that precedes an economic downturn, and 2) consider outcomes for people at ages 16-61, rather than at retirement ages. We estimate the following equation:

$$Outcome_{ist} = \beta_0 + \beta_1 HP_{ish} + D_i^k \beta_{2k} + C_i \beta_3 + \tau_t + \varepsilon_{ist}$$

where we examine outcomes for an individual *i* in state *s* at time period *t* as a function of state-specific exposure to high-pressure labor market in the period preceding the downturn ($HP_{ish}$), a vector of discrete ($D_i^k$) and continuous ($C_i$) person-specific characteristics, and time fixed effects ($\tau_t$). $HP_{ish}$ is individual-specific reflecting that people can be exposed to different high-pressure labor markets because they lived in multiple states.

**Results**

Table 1 includes a list of states sorted by their average level of high-pressure exposure $HP_{sh}$ (column 1). It also shows their average unemployment rate gap $HP_{st}$ (column 2). These measures differ in that $HP_{st}$ reflects only the intensity of high-pressure periods while $HP_{sh}$ reflects the intensity and duration. For example, New Hampshire has a higher than average $HP_{sh}$ but a lower than average $HP_{st}$—suggesting that its high-pressure periods last longer on average compared with other states. In contrast, New Mexico has a lower than average $HP_{sh}$ but higher than average $HP_{st}$ —suggesting that its high-pressure periods do not last as long as some other states.

States shown in bold cursive font have a state-specific $NROU_{st}$ that is at least one percentage point above the national NROU. While these states are spread throughout the list, they seem to be somewhat more concentrated in the upper part of it, possibly suggesting a higher level of cyclicality that they experience. However, given the limited number of cases, any seeming difference could be random. There is also a substantial cross-state variation in $HP_{st}$. It appears, however, to be somewhat higher in the bolded states.

We present regression results from the PSID analysis in Table 2. These results suggest that exposure to high-pressure labor markets at younger ages is correlated with more favorable financial wellbeing outcomes at older ages. Each unit increase in the level of high-pressure labor market exposure between ages 41-61 is correlated with a 2-percentage point lower likelihood of poverty and a 1.8 percent higher household income at ages 63-67. The likelihood of receiving Social Security benefits is also marginally lower (by about 1 percentage point), but this coefficient is not statistically significant at conventional significance levels. Exposure to high-pressure labor markets at younger ages (41-50) is much more strongly and significantly associated with these outcomes than exposure at older ages (51-61), where only the link with household income remains marginally statistically significant and the magnitude is half the size.

Beyond the high-pressure exposure variable, we find that being older, Black, in fair or poor health, and unmarried are all negatively associated with financial wellbeing (poverty and household income) at older ages. In contrast, being male and having more education are positively associated with financial wellbeing. As expected, age and poor health are associated with a higher likelihood of receiving Social Security benefits, while being male, college

educated, and single or divorced/separated are linked to a lower likelihood of Social Security benefits receipt.

Building on this analysis, we present the results of the models stratified by starting income level, educational attainment, and race in Table 3. For poverty, the negative association with exposure to tight labor markets between ages 41-61 is strongest for those without a college degree and for people of color. However, the likelihood of being poor at ages 63-67 appears to be influenced by exposure to high-pressure labor markets only between ages 41-50, where the link is particularly strong for those with lower starting incomes, those with college degrees, and for people of color. For household income, we find a positive and statistically significant correlation with the level of high-pressure labor market exposure between ages 41-61 for all subgroups—with the magnitude being higher for those with lower starting income, those with no college degree, and for people of color. Moreover, the relationship is stronger and more significant if exposure to high-pressure labor markets occurs at younger ages than at older ages. For Social Security benefit receipt, the association with exposure to high-pressure labor markets is generally weaker. However, those with lower incomes have a significantly lower likelihood of Social Security benefit receipt if exposed to tight labor markets between ages 41-50, while those with college degrees have a significantly lower likelihood of benefit receipt if exposed to high-pressure labor markets between ages 51-61.

Table 4 presents the results of our HRS analysis, where we consider the influence of exposure to high-pressure labor markets between ages 55-61 on poverty, work, retirement, Social Security benefit receipt, household income, and household assets at ages 63-67. Although the association between exposure to tight labor markets and each of the outcomes is positive, it is statistically insignificant. Except for household income, which was marginally significant in the PSID analysis, the HRS findings for exposure to high-pressure labor markets between ages 55-61 are consistent with the PSID findings for exposure between ages 51-61.

The coefficients on most other variables have the expected sign and magnitude. For example, age is negatively correlated with poverty and work (odds ratios are less than 1) and positively correlated with being retired and collecting Social Security benefits (odds ratios are greater than 1). In addition, being unmarried and having fair/poor health are associated with a higher likelihood of poverty, lower household income, and lower household assets than being married or having excellent/good health. In contrast, having more education is associated with a

lower likelihood of poverty, higher income, and higher assets. Having a college degree is positively associated with the likelihood of working and negatively associated with the likelihood of being retired and collecting Social Security benefits, while being in fair/poor health is negatively associated with work and positively associated with retirement.

Next, we consider whether the link between exposure to high-pressure labor markets and the various outcomes differs by income level, educational attainment, and race (Table 5). We find some differences between subgroups, but most of the effects are small and statistically insignificant. For example, the association between exposure to tight labor markets and the likelihood of being poor is negative for those with college degrees but positive for those without college degrees. And the positive link between exposure to high-pressure markets and the likelihood of working at ages 63-67 is stronger for those with lower incomes than for those with higher incomes. However, these findings are statistically insignificant. We find no statistically significant relationship between high-pressure labor markets and poverty, work, full retirement, household income, or household assets for any of the subgroups. In fact, the only statistically significant effects of exposure to tight labor markets are for full/partial retirement and Social Security benefit receipt. Each unit increase in the level of high-pressure labor market exposure between ages 55-61 is correlated with a 3-percentage point higher likelihood of being retired for those with higher incomes and for those with college degrees, and a 2-percentage point higher likelihood of being retired for white people—although the latter two findings are not statistically significant at conventional levels. In contrast, a one unit increase in the level of high-pressure exposure is associated with a 5-percentage point lower likelihood of collecting Social Security benefits for those with lower incomes. This finding may differ from the PSID finding, for those with lower incomes who are exposed to tight labor markets between ages 51-61, because Social Security benefit receipt is captured at the household-level in the PSID analysis but the individual-level in the HRS analysis.

*Sensitivity Analyses*

In a sensitivity analysis, we first examine the robustness of our findings to outcomes at ages 65-67 (Table 6). We find results that are consistent both with respect to statistical significance and magnitude with our previous results. We next examine how the results change when we consider respondents' exposure to high-pressure labor markets over a longer period

between ages 31-61 (Table 7). The strength of the relationship weakens somewhat for poverty, but increases for Social Security benefit receipt and remains robust for household income.

*Short-term Outcomes*

Next, we examine the short-term, contemporaneous, effect of exposure to high-pressure labor markets on outcomes for people ages 16-61 to understand the mechanism through which the protective effect of tight labor markets is transmitted. The results in Table 8 generally show a strong link between exposure to high-pressure labor markets and hourly earnings and household income. That is, the more exposure a person has to high-pressure labor markets, the higher their earnings and incomes during downturns—regardless of their income level, educational attainment, or race. However, the coefficients are slightly larger in magnitude for those with lower income, those without college degrees, and for people of color. These same groups are less likely to experience a decline in weekly hours worked and poverty during economic downturns the more exposure they have had to high-pressure labor markets. In fact, exposure to high-pressure labor markets is positively linked with hours worked for people of color. Additionally, tight labor markets are positively correlated with their labor force participation. Mirroring the findings for the long-term impact of tight labor markets, the observed relationships are more significant and of a larger magnitude through age 50 than between ages 51-61.

**Discussion and Conclusion**

In this research, we set out to examine the relationship between exposure to tight labor markets at working ages on the financial wellbeing of older adults, especially those who have been traditionally more disadvantaged in the labor market. In particular, we wanted to understand whether exposure to a strong labor market remains protective in economic downturns. Furthermore, we aimed to explore the temporal aspect of exposure to high-pressure labor-markets by comparing outcomes when exposure occurred at younger ages with outcomes when it occurred at older ages.

At the most general level, our results show that increased exposure to stronger-than-average labor markets at younger ages (31-61 and 41-61) is significantly correlated with a lower likelihood of being poor and with higher household income at retirement ages (63-67, as well as

65-67). The magnitude of the estimated coefficients is larger for those who start out with lower incomes, those without college degrees, and for people of color, suggesting that the relative long-term benefits of tight labor markets may be greater for those who are traditionally marginalized in the labor market.

Importantly, there is a clear distinction between exposure at earlier and later ages. Indeed, statistically significant results are predominantly found for exposure before age 51, whereas there is little evidence of a relationship between exposure to tight labor markets after age 50 and outcomes at retirement ages. This finding highlights the importance of the timing. A sudden economic downturn may wreak havoc on people's personal finances and financial security. If it happens near retirement age, it can be particularly harmful as there may not be enough time for older adults to recover financially, and they may be forced to accept lower retirement income or to work much longer than planned. And while it seems that strong labor markets would benefit all workers, regardless of age, they may be of limited value to older adults because any marginal gains would likely be small in the context of their overall retirement wealth. In contrast, exposure at younger ages could be substantively meaningful, even if the gains appear relatively modest at first, since it would set a worker on a higher earnings trajectory, and the benefits of such an event would compound and accrue over time with the length of the time horizon playing a critical role.

Finally, our short-term analysis suggests that the income effect of exposure to high-pressure labor markets may be more important than the employment and/or labor market participation effect. In other words, rather than protecting them from job loss, exposure to strong labor markets appears to protect at least some earnings gains through subsequent downturns, keeping them on a higher earnings trajectory in the long run.

These findings provide prima facie evidence that tight labor markets can help protect the long-term financial wellbeing of older people, and that those who stand to benefit more are from various groups traditionally disadvantaged in the labor market, including people with low income, those without college degrees, and people of color. However, this beneficial outcome seems to be critically linked to the passage of time after the exposure to a tight labor market, with earlier exposure yielding higher benefits. This suggests that interventions designed to support labor force attachment and/or improve pay and benefits early in the career may yield overall better returns than the same interventions later in life. Ad hoc measures to support the

wellbeing of older adults, while necessary in some cases, are likely to be more expensive than measures to support younger adults who are just transitioning into the labor force. Future research could aim to evaluate the impact of various such measures or policies and strengthen our understanding of how benefits accrue over time and how they compare with program/policy costs. This is particularly relevant for the most vulnerable groups in the labor market, such as people of color (e.g., young Black men) as they may have the largest long-term benefits of early interventions.

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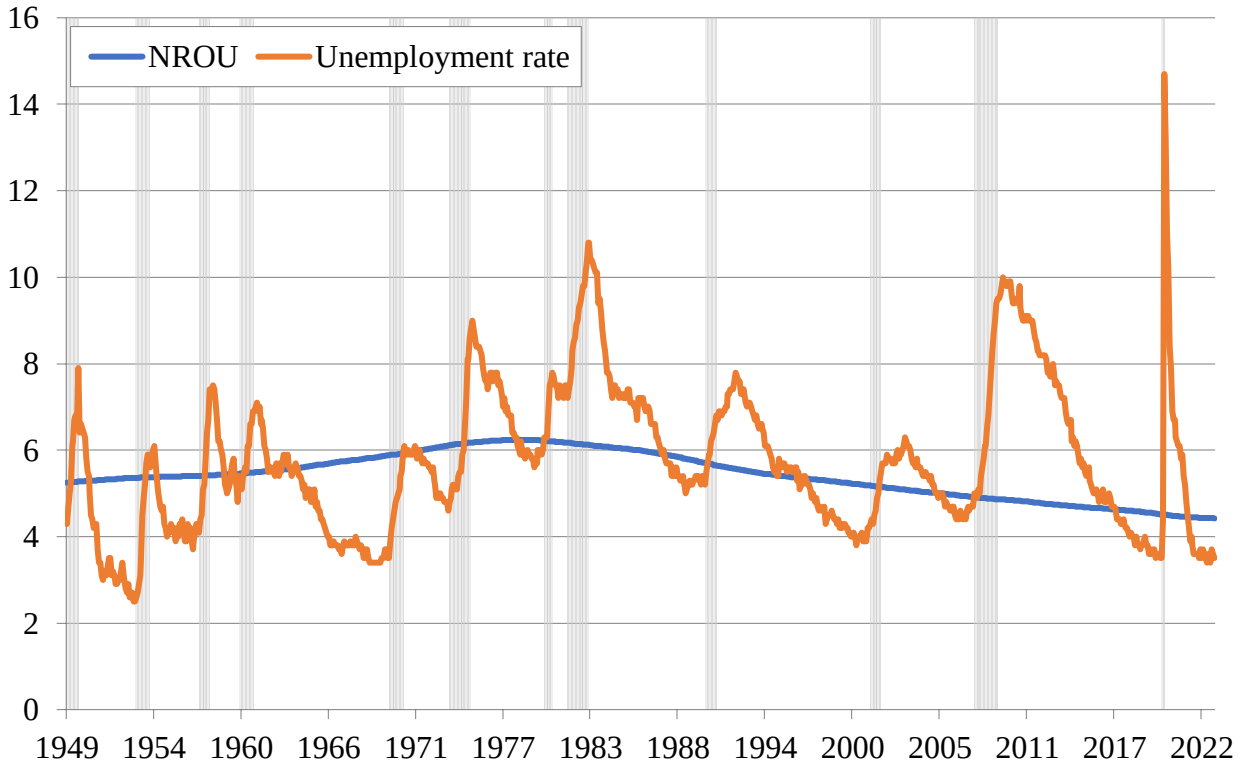
## Figures

Figure 1. *Real and Noncyclical Rate of Unemployment (NROU) for the United States, 1949-2023*




Note: Shaded areas indicate U.S. recessions as dated by the National Bureau of Economic Research.
*Sources:* Congressional Budget Office; U.S. Bureau of Labor Statistics; National Bureau of Economic Research.

**Tables**

Table 1. *State Average Level of High-Pressure Exposure ($HP_{sh}$) and Average Unemployment Rate Gap ($HP_{st}$), 1971-2019*

| State | Average $HP_{sh}$ | Average $HP_{st}$ |
|---|---|---|
| **Overall Average** | **3.99** | **0.99** |
| ***Nevada*** | 8.52 | 1.79 |
| ***Rhode Island*** | 8.31 | 1.51 |
| ***West Virginia*** | 8.00 | 2.16 |
| ***California*** | 6.71 | 1.25 |
| Wyoming | 6.36 | 1.87 |
| New Jersey | 6.09 | 1.07 |
| Florida | 5.67 | 1.02 |
| Delaware | 5.53 | 0.98 |
| ***Kentucky*** | 5.41 | 1.55 |
| ***Louisiana*** | 5.08 | 1.28 |
| ***District of Columbia*** | 5.06 | 1.65 |
| ***New York*** | 4.93 | 1.10 |
| Massachusetts | 4.91 | 1.03 |
| New Hampshire | 4.77 | 0.97 |
| Arizona | 4.75 | 1.10 |
| ***Alabama*** | 4.61 | 0.99 |
| ***Oregon*** | 4.39 | 1.13 |
| North Carolina | 4.37 | 0.87 |
| Maine | 4.25 | 0.86 |
| ***Mississippi*** | 4.17 | 1.07 |
| Georgia | 4.15 | 0.88 |
| ***Illinois*** | 4.13 | 1.25 |
| Maryland | 4.07 | 0.78 |
| Hawaii | 4.04 | 0.93 |
| Tennessee | 4.03 | 0.99 |
| Wisconsin | 3.98 | 0.91 |
| Connecticut | 3.94 | 0.87 |
| Utah | 3.94 | 0.98 |
| Idaho | 3.90 | 0.99 |
| ***Pennsylvania*** | 3.59 | 0.78 |
| ***New Mexico*** | 3.54 | 1.18 |
| Montana | 3.46 | 0.85 |
| Virginia | 3.33 | 0.75 |
| ***Washington*** | 3.29 | 0.95 |
| ***Michigan*** | 3.25 | 0.80 |
| ***Ohio*** | 3.05 | 0.96 |
| Colorado | 3.02 | 0.62 |
| Vermont | 2.86 | 0.76 |

| | | |
|---|---|---|
| Nebraska | 2.62 | 0.56 |
| Indiana | 2.51 | 0.89 |
| Oklahoma | 2.47 | 0.83 |
| Iowa | 2.31 | 0.86 |
| Texas | 2.16 | 0.84 |
| Kansas | 2.12 | 0.61 |
| Missouri | 2.11 | 0.66 |
| ***Arkansas*** | 2.08 | 0.77 |
| ***Alaska*** | 2.06 | 0.92 |
| Minnesota | 1.69 | 0.66 |
| North Dakota | 1.39 | 0.33 |
| ***South Carolina*** | 1.29 | 0.51 |
| South Dakota | 1.15 | 0.50 |

Notes: States in bold cursive font have state-specific long-term average unemployment rate $NROU_{st}$ that is at least 1 percentage point above national non-cyclical unemployment rate NROU. The unemployment rate gap $HP_{st}$ equals $NROU_{st}$ minus the state unemployment rate when $HP_{st}$ is above zero during a national expansion period that is followed by a national recession. The level of high-pressure exposure $HP_{sh}$ is the sum of $HP_{st}$ over all the years during the high-pressure period.
*Sources: Current Population Survey,* Congressional Budget Office, National Bureau of Economic Research (1971-2019).

Table 2. *Regression Results for Long-Term Outcomes at Ages 63-67 for Persons Who Were in the Sample Continuously Between Ages 41-67, by Age at Exposure to High-pressure Labor Markets*

| | High-pressure exposure ages 41-61 | | | High-pressure exposure ages 41-50 | | | High-pressure exposure ages 51-61 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Poverty | Household income | Household Social Security benefits | Poverty | Household income | Household Social Security benefits | Poverty | Household income | Household Social Security benefits |
| Level of high-pressure exposure | 0.98* | 0.0177*** | 0.99+ | 0.98** | 0.0202*** | 0.99 | 1.00 | 0.0106* | 0.99 |
| Age | 1.13*** | -0.1017*** | 1.82*** | 1.14*** | -0.1099*** | 1.83*** | 1.13*** | -0.1047*** | 1.82*** |
| Race (ref. White) | | | | | | | | | |
| Black | 1.84** | -0.3467* | 0.83 | 1.78** | -0.3221* | 0.82 | 1.84** | -0.3504* | 0.84 |
| Other | 0.88 | -0.0516 | 1.15 | 0.88 | -0.0423 | 1.14 | 0.87 | -0.0333 | 1.15 |
| Male | 0.75* | 0.1691** | 0.64*** | 0.75* | 0.1691** | 0.64*** | 0.74* | 0.1773** | 0.63*** |
| Marital status (ref. Married) | | | | | | | | | |
| Single | 1.77+ | -0.7345*** | 0.45* | 1.84* | -0.7560*** | 0.45* | 1.69+ | -0.7073*** | 0.44* |
| Widowed | 2.23*** | -0.7043*** | 1.04 | 2.23*** | -0.7000*** | 1.04 | 2.24*** | -0.7135*** | 1.05 |
| Divorced/Separated | 2.65*** | -0.9336*** | 0.64** | 2.65*** | -0.9359*** | 0.64** | 2.65*** | -0.9401*** | 0.64* |
| Educational attainment (ref. <12 years) | | | | | | | | | |
| 12 years | 0.44*** | 0.5240*** | 1.00 | 0.42*** | 0.5609*** | 0.97 | 0.42*** | 0.5450*** | 0.99 |
| 13-15 years | 0.32*** | 0.8095*** | 0.91 | 0.32*** | 0.8546*** | 0.88 | 0.31*** | 0.8444*** | 0.90 |
| 16+ years | 0.12*** | 1.3139*** | 0.42*** | 0.12*** | 1.3640*** | 0.40*** | 0.11*** | 1.3582*** | 0.41*** |
| Fair/poor self-rated health | 1.79*** | -0.4963*** | 1.91*** | 1.78*** | -0.4936*** | 1.91*** | 1.79*** | -0.5068*** | 1.92*** |
| N | 4,239 | 3,981 | 4,239 | 4,239 | 3,981 | 4,239 | 4,239 | 3,981 | 4,239 |

Notes: All models also control for period (i.e., survey wave). *** p<0.001; ** p<0.01; * p<0.05; + p<0.1.
*Source: Panel Study of Income Dynamics* (1971-2019).

Table 3. *Coefficients on Level of High-pressure Exposure from Regressions on Long-term Outcomes at Ages 63-67 for Persons Who Were in the Sample Continuously Between Ages 41-67, by Age at Exposure to High-pressure Labor Markets, Income Level, Educational Attainment, and Race*

| | All | Higher income | Lower income | College degree | No college degree | White | Non-white |
|---|---|---|---|---|---|---|---|
| **Poverty** | | | | | | | |
| High-pressure exposure ages 41-61 | 0.98* | 0.98* | 0.99 | 0.99 | 0.98** | 0.99+ | 0.97* |
| High-pressure exposure ages 41-50 | 0.98** | 0.98 | 0.96* | 0.96* | 0.98* | 0.98* | 0.96+ |
| High-pressure exposure ages 51-61 | 1.00 | 0.98 | 1.02 | 1.02 | 0.98 | 1.00 | 0.99 |
| N | 4,239 | 2,877 | 1,362 | 1,214 | 2,960 | 3,127 | 1,112 |
| **Household income** | | | | | | | |
| High-pressure exposure ages 41-61 | 0.0177*** | 0.0166*** | 0.0179* | 0.0171** | 0.0211*** | 0.0175*** | 0.0215* |
| High-pressure exposure ages 41-50 | 0.0202*** | 0.0151** | 0.0299*** | 0.0184*** | 0.0232*** | 0.0201*** | 0.0257* |
| High-pressure exposure ages 51-61 | 0.0106* | 0.0134** | -0.0033 | 0.0121 | 0.0137* | 0.0104* | 0.0096 |
| N | 3,981 | 2,757 | 1,224 | 1,265 | 2,716 | 3,029 | 952 |
| **Household Social Security benefits** | | | | | | | |
| High-pressure exposure ages 41-61 | 0.99+ | 1.00 | 0.97** | 0.98+ | 1.00 | 0.99 | 0.99 |
| High-pressure exposure ages 41-50 | 0.99 | 1.00 | 0.96** | 0.99 | 0.99 | 0.99 | 0.98 |
| High-pressure exposure ages 51-61 | 0.99 | 0.99 | 0.99 | 0.97* | 1.00 | 0.99+ | 1.00 |
| N | 4,239 | 2,877 | 1,362 | 1,279 | 2,960 | 3,127 | 1,112 |

Notes: All models control for the same set of covariates as shown in Table 2. *** p<0.001; ** p<0.01; * p<0.05; + p<0.1.
*Source: Panel Study of Income Dynamics* (1971-2019).

Table 4. *Regression Results for Outcomes at Ages 63-67 for Persons Who Were in the Sample Continuously Between Ages 55-61*

| | Poverty | Work | Fully Retired | Retired | Social Security benefits | Household Income | Household Assets |
|---|---|---|---|---|---|---|---|
| Level of high-pressure level exposure | 1.01 | 1.00 | 1.00 | 1.02 | 1.00 | 0.0026 | 0.0080 |
| Age | 0.85** | 0.82*** | 1.24*** | 1.33*** | 1.93*** | -0.0149 | 0.0143 |
| Race (ref. White) | | | | | | | |
| Black | 2.73*** | 0.89 | 1.06 | 1.16 | 0.93 | -0.4072*** | -0.9245*** |
| Other | 1.99** | 0.89 | 0.80 | 0.75 | 0.87 | -0.3177*** | -0.5622*** |
| Male | 0.99 | 1.39** | 0.82+ | 0.91 | 0.77* | 0.0355 | -0.0410 |
| Marital status (ref. Married) | | | | | | | |
| Single | 8.36*** | 1.56 | 0.58 | 0.57 | 1.02 | -0.9758*** | -1.4874*** |
| Widowed | 2.79*** | 0.94 | 0.95 | 0.88 | 1.01 | -0.7674*** | -0.8718*** |
| Divorced/Separated | 4.79*** | 1.25 | 0.78 | 0.81 | 0.90 | -0.8144*** | -1.1847*** |
| Educational attainment (ref. No high school diploma) | | | | | | | |
| High school diploma | 0.20*** | 1.40+ | 0.92 | 0.80 | 1.02 | 0.3351*** | 0.6976*** |
| Some college | 0.22*** | 1.21 | 1.05 | 0.90 | 0.89 | 0.4726*** | 1.0910*** |
| College degree | 0.16*** | 2.18*** | 0.63* | 0.53** | 0.46*** | 0.9237*** | 1.7964*** |
| Fair/poor self-rated health | 2.37*** | 0.33*** | 2.45*** | 2.33*** | 1.04 | -0.3845*** | -0.8619*** |
| N | 4,809 | 4,799 | 4,507 | 4,507 | 4,809 | 4,784 | 4,455 |

Notes: All models also control for period (i.e., survey wave). *** p<0.001; ** p<0.01; * p<0.05; + p<0.1.
*Source: Health and Retirement Study* (1998-2018).

Table 5. *Coefficients on Level of High-pressure Exposure from Regressions on Outcomes at Ages 63-67 for Persons Who Were in the Sample Continuously Between Ages 55-61, by Income Level, Educational Attainment, and Race*

| | Poverty | Work | Fully Retired | Retired | Social Security benefits | Household Income | Household Assets |
|---|---|---|---|---|---|---|---|
| All | 1.01 | 1.00 | 1.00 | 1.02 | 1.00 | 0.0026 | 0.0080 |
| Higher income | 1.00 | 1.00 | 1.01 | 1.03* | 1.01 | 0.0045 | 0.0103 |
| Lower income | 1.01 | 1.03 | 0.97 | 0.96 | 0.95** | 0.0049 | 0.0098 |
| College degree | 0.99 | 0.99 | 1.01 | 1.03+ | 1.01 | 0.0028 | 0.0168 |
| No college degree | 1.01 | 1.01 | 0.99 | 1.00 | 0.98 | 0.0048 | 0.0069 |
| White | 1.00 | 1.00 | 1.00 | 1.02+ | 1.00 | 0.0043 | 0.0121 |
| Non-white | 1.01 | 1.00 | 1.00 | 0.99 | 0.99 | -0.0006 | -0.0218 |

Notes: All models control for the same set of covariates as shown in Table 4. *** p<0.001; ** p<0.01; * p<0.05; + p<0.1.
*Source: Health and Retirement Study* (1998-2018).

Table 6. *Coefficients on Level of High-pressure Exposure from Regressions of Long-term Outcomes at Ages 65-67 for Persons Who Were in the Sample Continuously Between Ages 41-67, by Age at Exposure to High-pressure Labor Markets*

| | Poverty | Household income | Household Social Security benefits |
|---|---|---|---|
| High-pressure exposure ages 41-61 | 0.98* | 0.0197*** | 0.99 |
| High-pressure exposure ages 41-50 | 0.97** | 0.0251*** | 0.99 |
| High-pressure exposure ages 51-61 | 0.99 | 0.0094+ | 0.99 |
| N | 2,594 | 2,421 | 2,594 |

Notes: All models control for the same set of covariates as shown in Table 2. *** p<0.001; ** p<0.01; * p<0.05; + p<0.1.
*Source: Panel Study of Income Dynamics* (1971-2019).

Table 7. *Coefficients on Level of High-Pressure Exposure from Regressions of Long-term Outcomes at Ages 63-67 and Ages 65-67 for Persons Who Were in the Sample Continuously Between Ages 31-67, by Age at Exposure to High-pressure Labor Markets*

| | Poverty | Household income | Household Social Security benefits |
|---|---|---|---|
| **Outcomes at ages 63-67** | | | |
| High-pressure exposure ages 31-61 | 0.99+ | 0.0168*** | 0.98** |
| High-pressure exposure ages 31-45 | 0.98+ | 0.0172** | 0.98* |
| High-pressure exposure ages 46-61 | 0.99 | 0.0109* | 0.98+ |
| N | 2,910 | 2,735 | 2,910 |
| | | | |
| **Outcomes at ages 65-67** | | | |
| High-pressure exposure ages 31-61 | 0.98+ | 0.0188*** | 0.97** |
| High-pressure exposure ages 31-45 | 0.98* | 0.0226** | 0.98 |
| High-pressure exposure ages 46-61 | 0.99 | 0.0094 | 0.97* |
| N | 1,729 | 1,613 | 1,729 |

Notes: All models control for the same set of covariates as shown in Table 2. *** p<0.001; ** p<0.01; * p<0.05; + p<0.1.
*Source: Panel Study of Income Dynamics* (1971-2019).

Table 8. *Coefficients on Level of High-pressure Exposure from Regressions on Labor Market Outcomes and Financial Wellbeing for Persons Aged 61 and Younger, by Age at Exposure to High-pressure Labor Markets, Income Level, Educational Attainment, and Race*

| | All | Higher income | Lower income | College degree | No college degree | White | Non-white |
|---|---|---|---|---|---|---|---|
| **Age 61 and below** | | | | | | | |
| Unemployment (weeks) | 0.0009 | 0.0010 | 0.0025 | 0.0008 | 0.0001 | 0.0007 | 0.0027 |
| N | 179,270 | 126,392 | 52,878 | 42,808 | 136,462 | 101,201 | 78,069 |
| Labor force participation (weeks) | 0.0082 | 0.002 | 0.0058 | 0.0201 | 0.0161 | -0.0404 | 0.1951*** |
| N | 179,270 | 126,392 | 52,878 | 42,808 | 136,462 | 101,201 | 78,069 |
| Log hourly earnings (2019 $) | 0.0111*** | 0.0107*** | 0.0115*** | 0.0115*** | 0.0128*** | 0.0106*** | 0.0151*** |
| N | 152,060 | 108,431 | 43,629 | 39,161 | 112,899 | 88,350 | 63,710 |
| Weekly hours | -0.0693* | -0.0817* | -0.0238 | -0.0982* | -0.0387 | -0.1301*** | 0.1327* |
| N | 179,360 | 126,453 | 52,907 | 42,820 | 136,540 | 101,257 | 78,103 |
| Poverty | 0.98*** | 0.99+ | 0.97** | 1.01 | 0.97*** | 1.00 | 0.95*** |
| N | 178,914 | 126,121 | 52,793 | 42,724 | 136,190 | 101,086 | 77,828 |
| Log household income (2019 $) | 0.0098*** | 0.0082*** | 0.0128*** | 0.0109*** | 0.0116*** | 0.0074*** | 0.0207*** |
| N | 173,885 | 123,620 | 50,265 | 42,576 | 131,309 | 99,829 | 74,056 |
| **Age 50 and below** | | | | | | | |
| Unemployment (weeks) | 0.0017 | 0.0032 | -0.0021 | 0.0016 | 0.0005 | 0.0027 | -0.0002 |
| N | 144,340 | 101,878 | 42,462 | 33,950 | 110,390 | 80,190 | 64,150 |
| Labor force participation (weeks) | 0.0163 | 0.0082 | 0.0199 | 0.0462 | 0.0236 | -0.0379+ | 0.1971*** |
| N | 144,340 | 101,878 | 42,462 | 33,950 | 110,390 | 80,190 | 64,150 |
| Log hourly earnings (2019 $) | 0.0145*** | 0.0143*** | 0.0144*** | 0.0161*** | 0.0166*** | 0.0138*** | 0.0179*** |
| N | 125,275 | 89,092 | 36,183 | 31,357 | 93,918 | 71,381 | 53,894 |
| Weekly hours | -0.0667* | -0.0719* | -0.0491 | -0.0325 | -0.0521 | -0.1454*** | 0.1645** |
| N | 144,404 | 101,921 | 42,483 | 33,957 | 110,447 | 80,228 | 64,176 |
| Poverty | 0.98*** | 0.98* | 0.97* | 1.00 | 0.97*** | 1.00 | 0.94*** |
| N | 143,998 | 101,607 | 42,391 | 33,875 | 110,123 | 80,076 | 63,922 |
| Log household income (2019 $) | 0.0117*** | 0.0105*** | 0.0136*** | 0.0137*** | 0.0141*** | 0.0082*** | 0.0238*** |
| N | 140,569 | 99,860 | 40,709 | 33,784 | 106,785 | 79,232 | 61,337 |
| **Age 51-61** | | | | | | | |
| Unemployment (weeks) | 0.0023 | -0.0076 | 0.0315 | -0.0038 | 0.0040 | 0.0001 | 0.0095 |
| N | 34,930 | 24,514 | 10,416 | 8,858 | 26,072 | 21,011 | 13,919 |
| Labor force participation (weeks) | 0.0493 | 0.0326 | 0.098 | 0.0909 | 0.0571 | 0.0116 | 0.2063 |
| N | 34,930 | 24,514 | 10,416 | 8,858 | 26,072 | 21,011 | 13,919 |
| Log hourly earnings (2019 $) | 0.0087** | 0.0074* | 0.0112* | 0.0089 | 0.0094** | 0.0100** | 0.0067 |
| N | 26,785 | 19,339 | 7,446 | 7,804 | 18,981 | 16,969 | 9,816 |
| Weekly hours | -0.0256 | -0.0777 | 0.1225 | -0.1624 | 0.0487 | -0.0761 | 0.1784 |
| N | 34,956 | 24,532 | 10,424 | 8,863 | 26,093 | 21,029 | 13,927 |
| Poverty | 0.99 | 1.00 | 0.96+ | 0.97 | 0.98 | 1.00 | 0.96+ |
| N | 34,916 | 24,514 | 10,402 | 8,849 | 26,067 | 21,010 | 13,906 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Log household income (2019 $) | 0.0079* | 0.0050 | 0.0161* | 0.0109+ | 0.0097* | 0.0075+ | 0.0130 |
| N | 33,316 | 23,760 | 9,556 | 8,792 | 24,524 | 20,597 | 12,719 |

Notes: All models control for the same set of covariates as shown in Table 2. *** p<0.001; ** p<0.01; * p<0.05; + p<0.1.
*Source: Panel Study of Income Dynamics* (1971-2019).

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