Where are the Workers? From Great Resignation to Quiet Quitting

by Dain Lee, Jinhyeok Park and Yongseok Shin

James J. Heckman

THE UNIVERSITY OF CHICAGO

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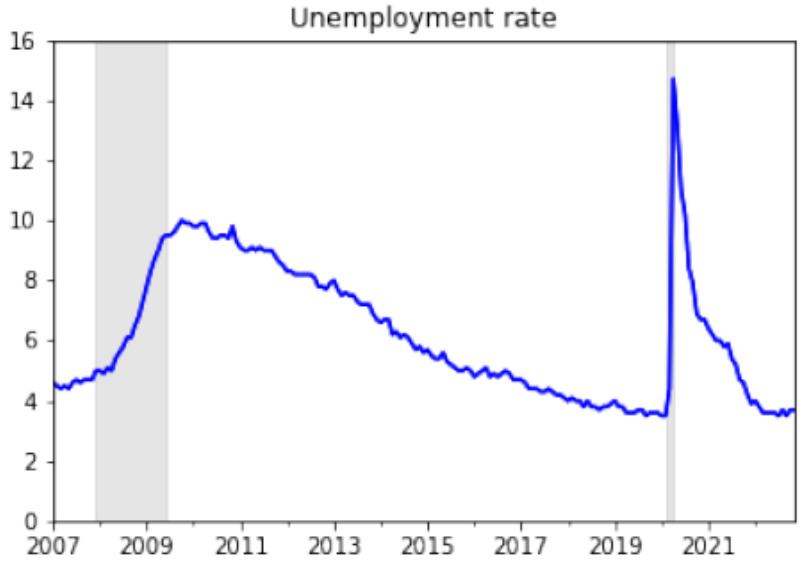
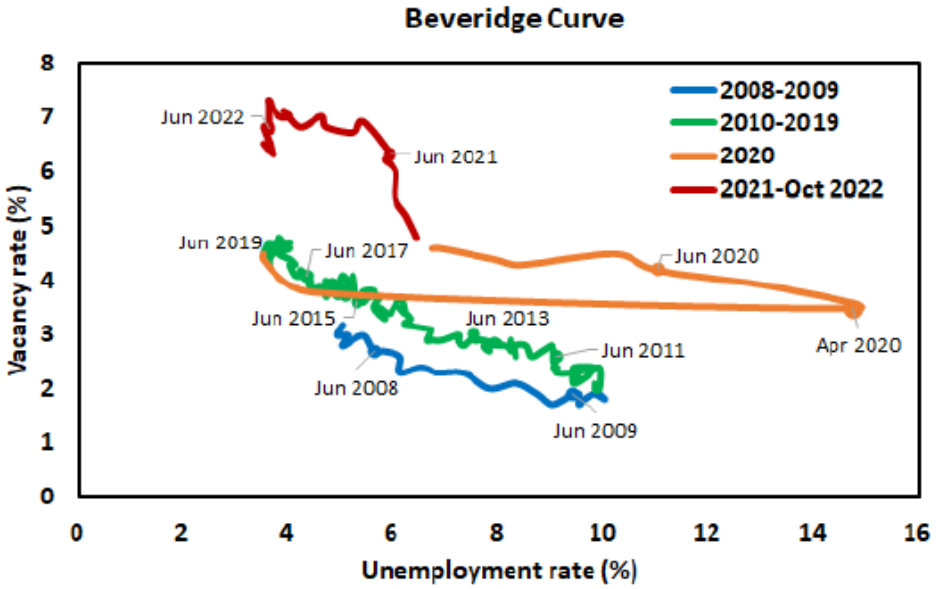
1 Unemployment and Labor Force Participation

1.1 Trends in Unemployment and Vacancies

Figure 1: Unemployment Rate and the Beveridge Curve (Vacancies vs. Unemployment)

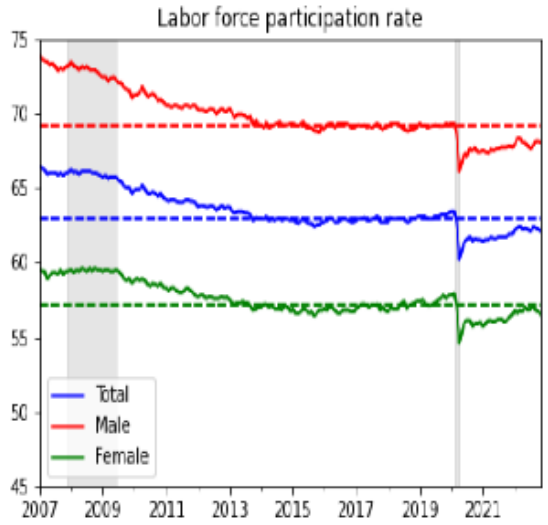


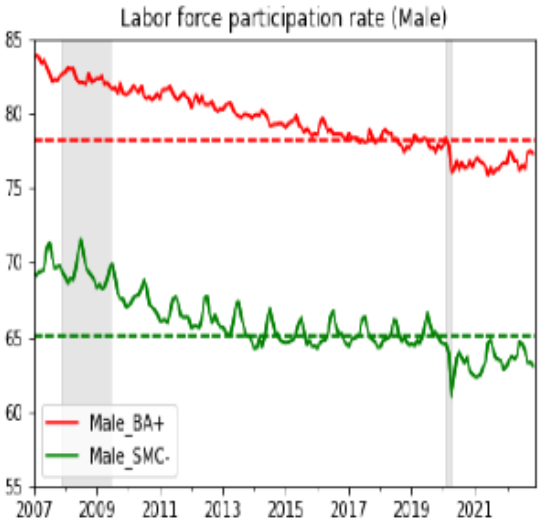


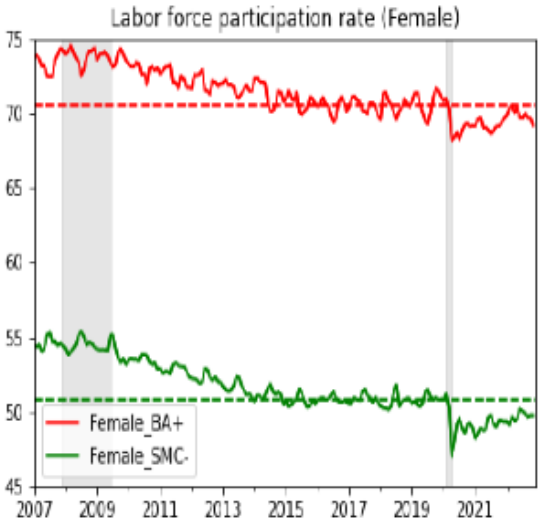
- The left panel of Figure 1 is the seasonally-adjusted unemployment rate since 2007.
- It shows the impact of the Great Recession and the slow recovery that followed.
- By contrast, the recovery from the pandemic lockdown was swift, with the unemployment rate falling from the April 2020 peak of 14.7 percent to below 4 percent in 20 months.
- The right panel plots the vacancy rate against the unemployment rate, which is known as the Beveridge curve.
- The vacancy numbers are from the Job Openings and Labor Turnover Survey by the Bureau of Labor Statistics.
- It shows an overall negative relationship between vacancies and unemployment.

1.2 Trends in Labor Force Participation

Figure 2: Labor Force Participation Rate



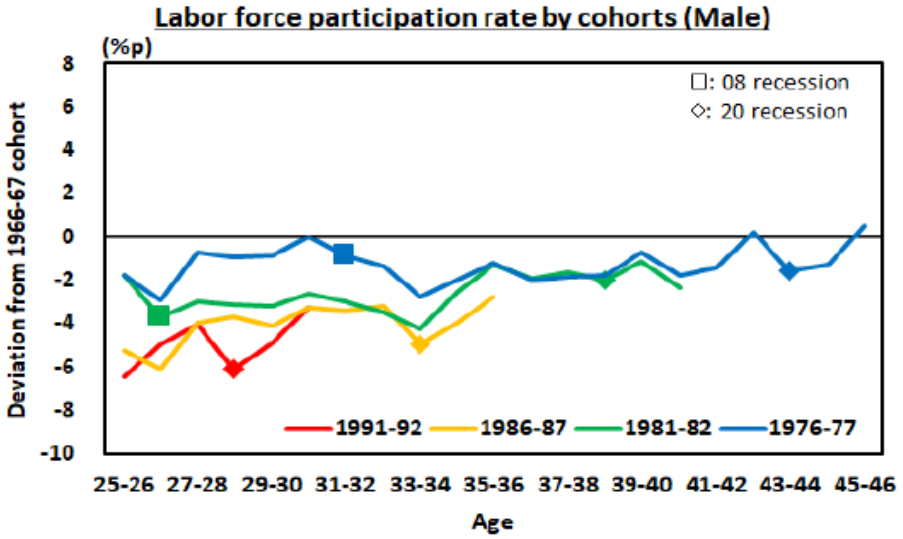




- Figure 2 shows the participation rate, which is the percentage of the civilian noninstitutional population 16 years and older that is working or actively looking for work.
- The left panel shows the aggregate participation rate and also the participation rates by gender (all seasonally adjusted).
- The dashed lines are the respective pre-pandemic average between 2017 and 2019.
- The aggregate participation rate fell steadily after the Great Recession till 2014, from 66 percent in July 2007 to 62.9 percent in January 2014.
- Although the downward trend was arrested, the participation rate never recovered.
- When the pandemic hit and the economy went into lockdown, the participation rate jumped down to 60.2 percent.

- Next, we examine the pattern in participation rates over the life cycle.
- To emphasize how the age profile of participation rates differ across cohorts, we do the following.
- We select five birth cohorts: those born in 1966-67 (ages 55-56 in 2022), 1976-77 (ages 45-46), 1981-82 (ages 40-41), 1986-87 (ages 35-36), and 1991-92 (ages 30-31).
- We use the participation rates over the life cycle of the 1966-67 cohort as the baseline, and for each of the other four cohorts, we calculate how much their participation rates deviate from the 1966-67 cohort's at any given age.
- The result is Figure 3, where the horizontal axis is age and the vertical axis is the deviation in participation rate from the 1966-67 cohort's.

Figure 3: Participation Rates over Life Cycle, Deviation from the 1966-67 Cohort's



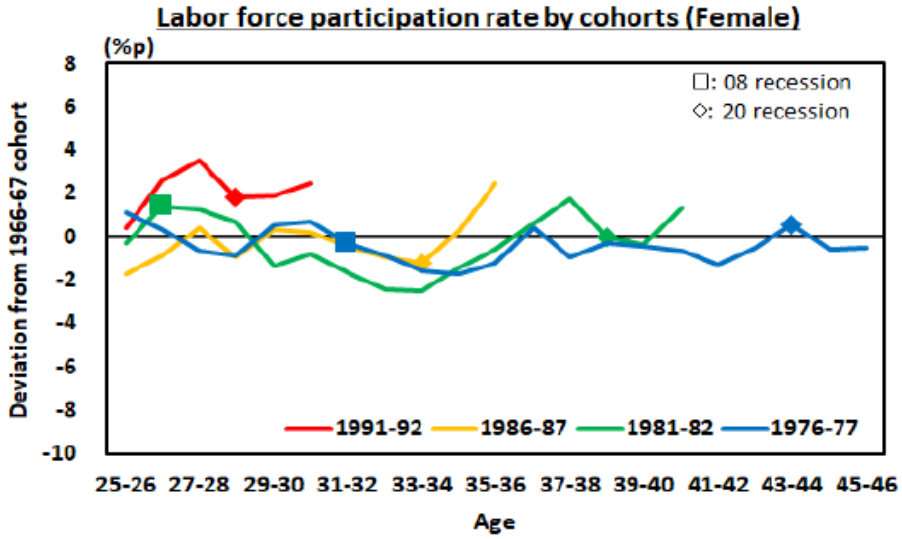
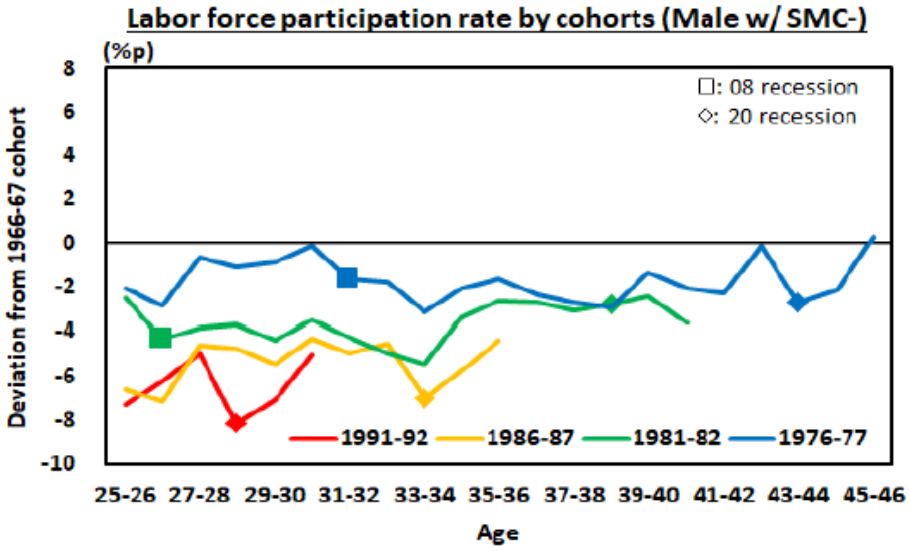
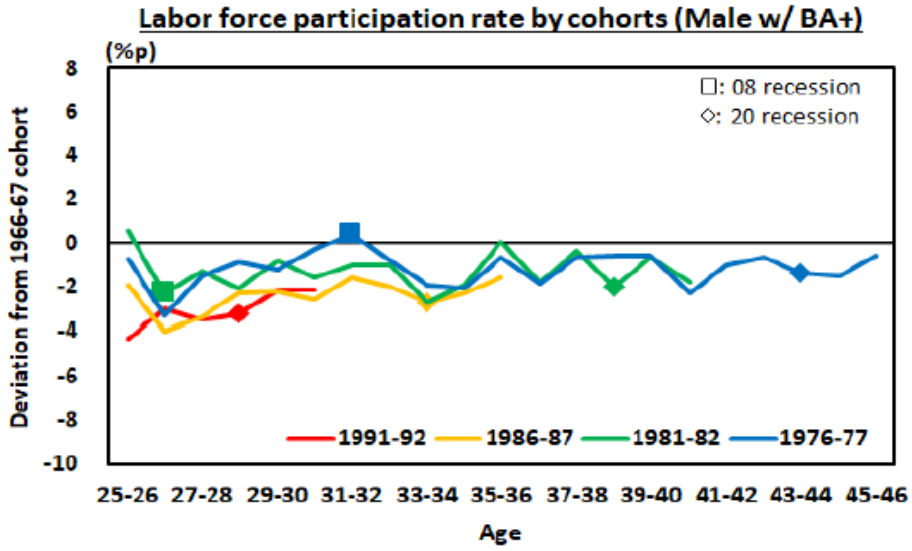


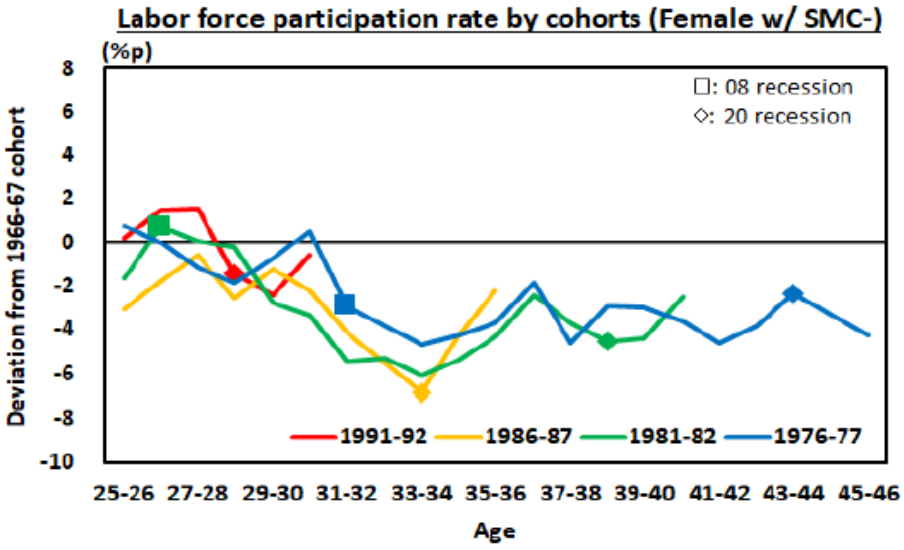
Figure 4: Participation Rates over Life Cycle, Deviation from the 1966-67 Cohort's

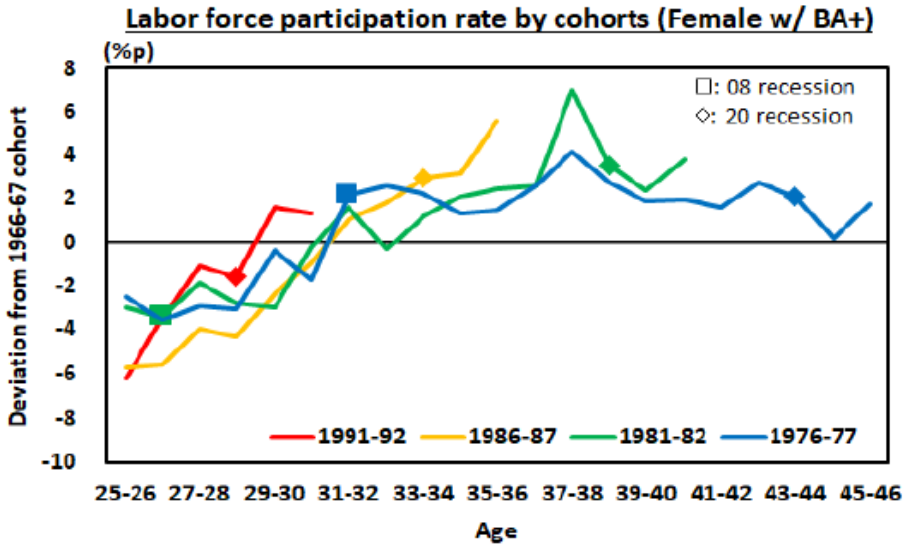




- In the left panel of Figure 4, we plot the deviation of the participation rates of younger male cohorts in the SMC- category from those of the 1966-67 cohort in the SMC- category.
- In the right panel, we do the same for those in the BA+ category.
- It is clear that the lower participation rates of younger male cohorts are largely driven by those with less education.
- Compared with the SMC- group of the 1966-67 cohort, the SMC- group of the 1991-92 and the 1986-87 cohorts has participation rates that are on average 7 percentage points lower.
- While the BA+ group of younger cohorts also has lower participation rates than the BA+ group of the 1966-67 cohort, the gap is smaller, 3 percentage points on average.

Figure 5: Participation Rates over Life Cycle, Deviation from the 1966-67 Cohort's





- Figure 5 is for women, the left panel for the SMC- group and the right for the BA+ group.
- The two education groups paint very different pictures.
- For the less educated, younger female cohorts have lower participation rates than the 1966-67 cohort, after they turn 30.
- To the contrary, the BA+ group of younger cohorts has higher participation rates than the BA+ group of the 1966-67 cohort, after they turn 30.
- These opposing patterns of the two education group roughly offset each other, generating the flat pattern around zero in the right panel of Figure 3.

1.3 Discussions on Labor Force Participation

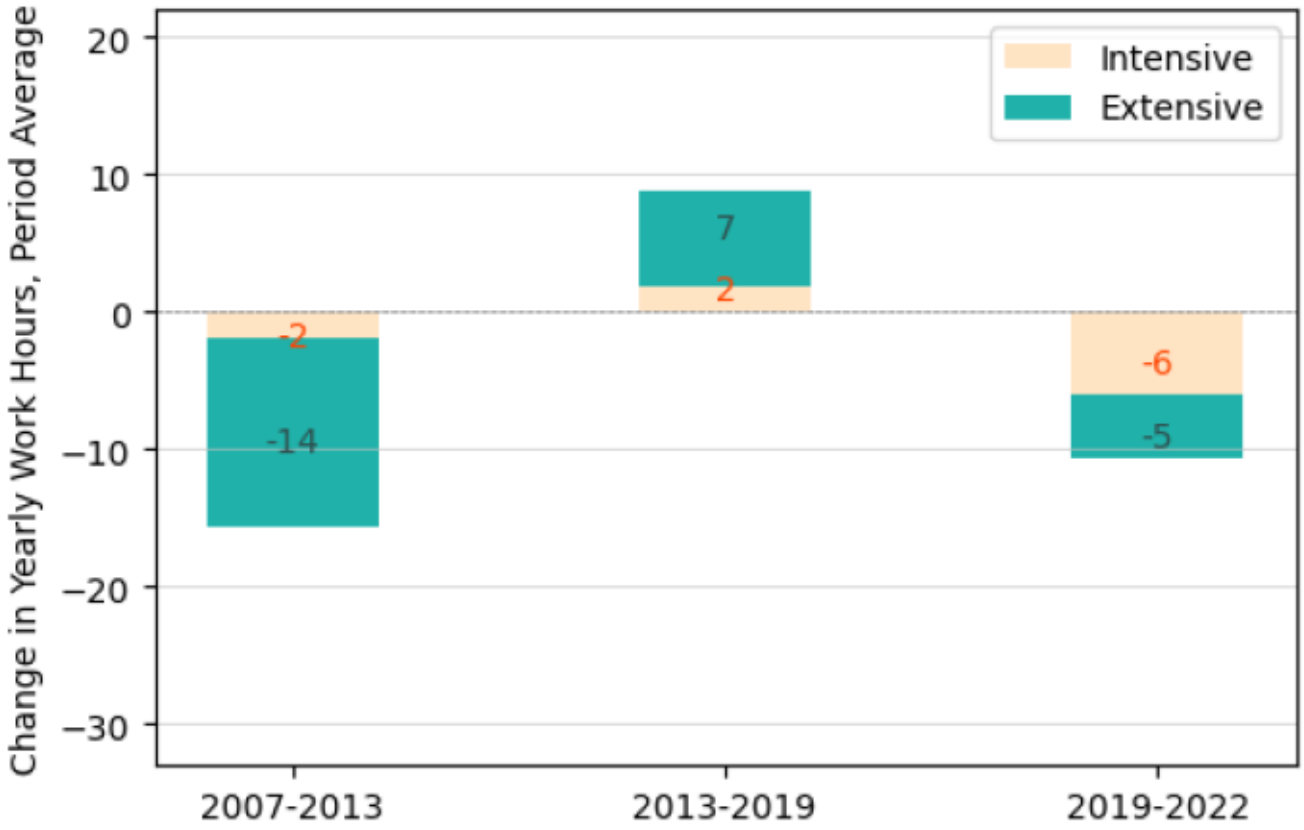
2 Extensive and Intensive Margins

2.1 Data and Methodology

2.2 Result

- Between 2007 and 2013, the annual hours worked per person decreased by 16 hours each year on average, which means over the 6 years the annual hours worked per person fell by 96 hours.
- Since the annual hours worked per person was 1,208 in 2007, this is a 7.9 percent decline of annual hours.
- Of the 16 hour per year decline, the vast majority, 14, comes through the extensive margin (i.e., fall in employment rate) and the rest through the intensive margin (i.e., reduction in hours worked per worker).
- This is consistent with the rise in unemployment in Figure 1 and the fall in participation in Figure 2 between 2007 and 2013.
- This is shown as the left bar in Figure 6.

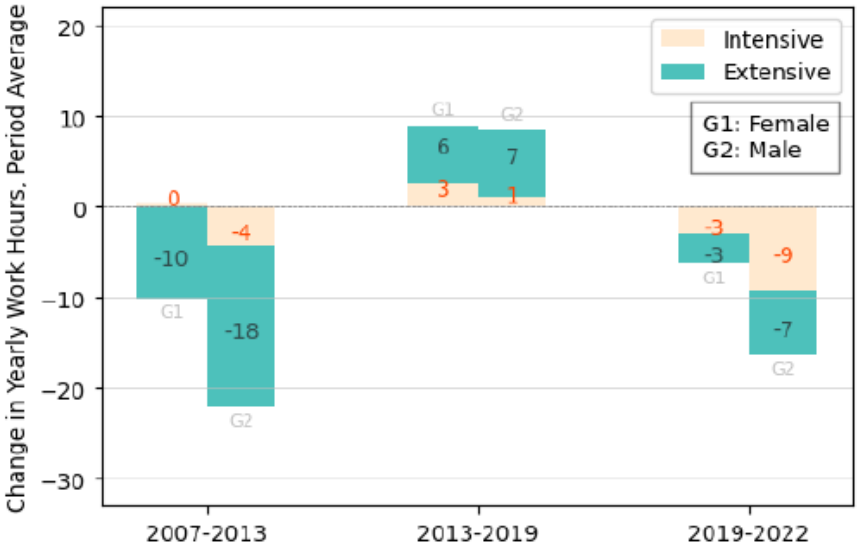
Figure 6: Decomposition of Change in Aggregate Hours Worked



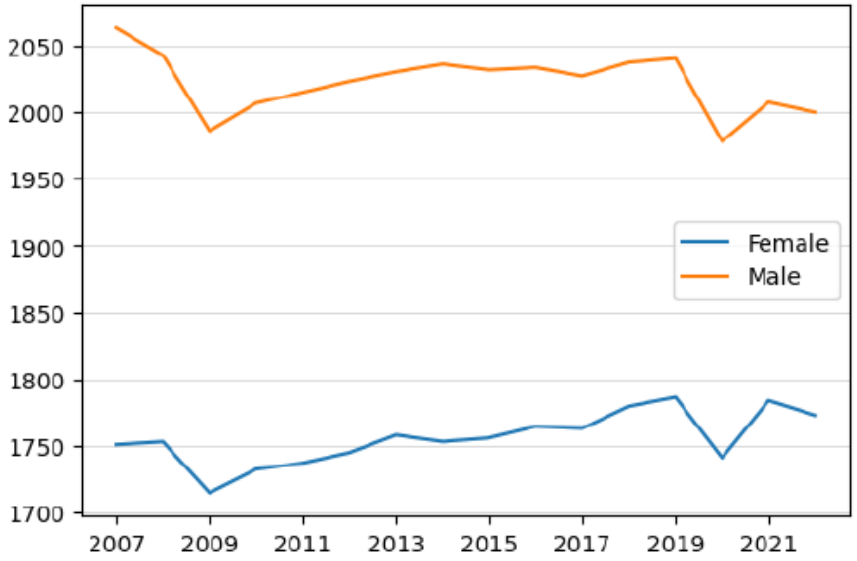
Note: The vertical positions of the orange and the blue bars are the changes in annual hours worked per person through the intensive and the extensive margins, respectively. The numbers are the average change per year over the given period, so the total change can be computed by multiplying each number by the period length.

- In the left panel of Figure 7, we repeat the decomposition, but separately for men and women.
- During the first period, men recorded more than double the fall in annual hours worked than women.
- The recovery during the second period was more even between men and women.
- In both periods, most of the adjustments occurred along the extensive margin.
- During the last period, it was again men who experienced a much larger drop in annual hours worked per person.
- For both men and women, the drop along the intensive margin was at least as large as along the extensive margin.

Figure 7: Decomposition of Change in Aggregate Hours Worked by Gender



(a) Decomposition by Gender

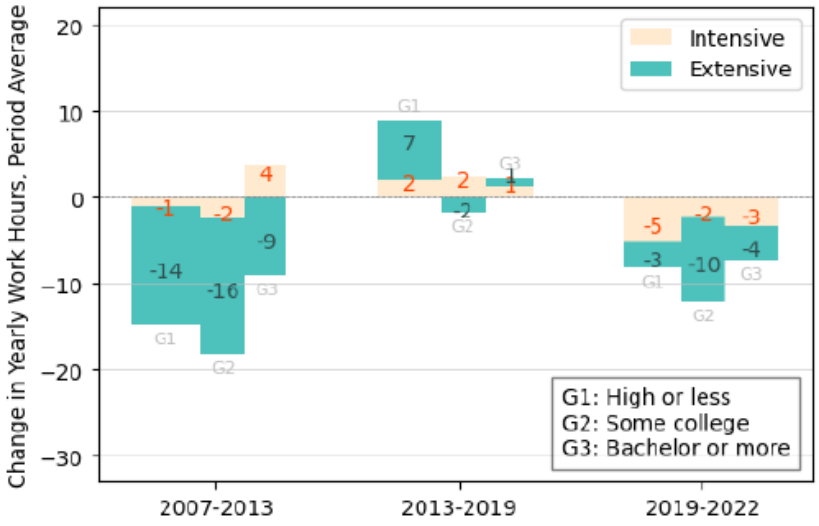


(b) Trend in Annual Hours per Worker

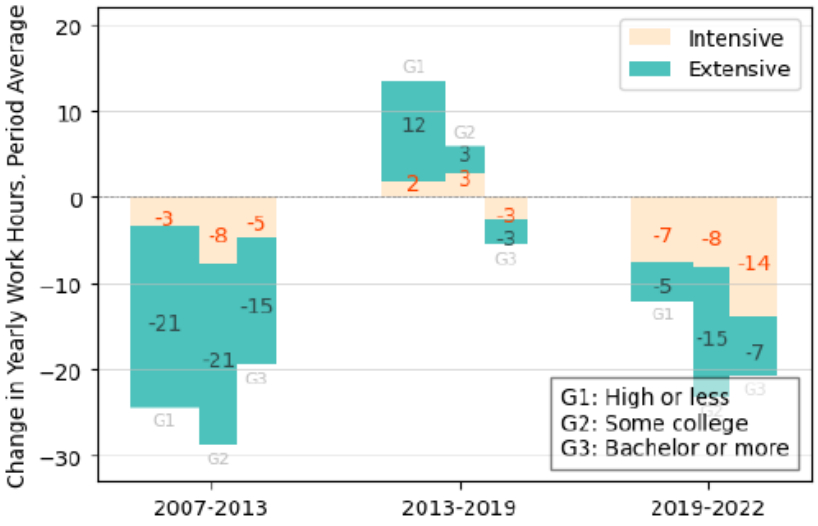
Note: The vertical positions of the orange and the blue bars are the changes in annual hours worked per person through the intensive and the extensive margins, respectively. The numbers are the average change per year over the given period, so the total change can be computed by multiplying each number by the period length. The widths of the bars are proportional to the population weight of each group at the beginning of the period.

- As in Section 1, we further group men and women by educational attainment.
- Unlike in Section 1, however, we have three education groups: those with a high school degree or less; those with some college education but no bachelor's degree; and those with a bachelor’s degree or more.
- The results are shown in Figure 8.

Figure 8: Decomposition of Change in Aggregate Hours Worked by Education and Gender



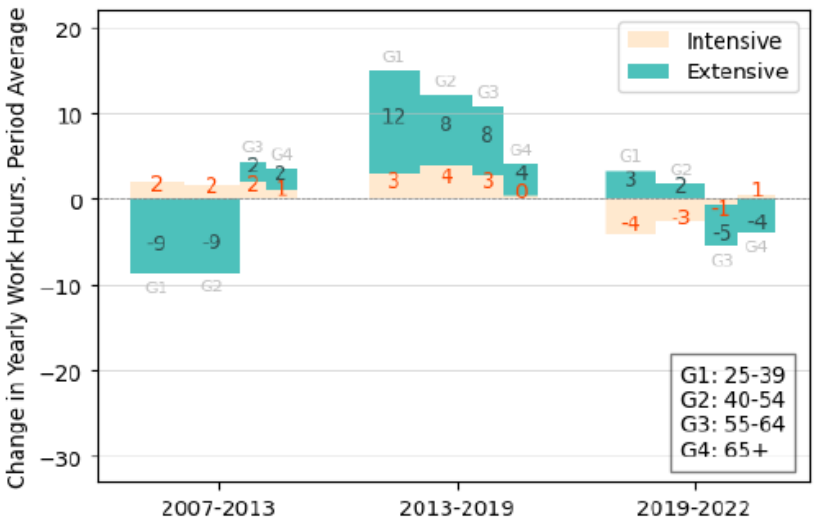
(a) Women by Education



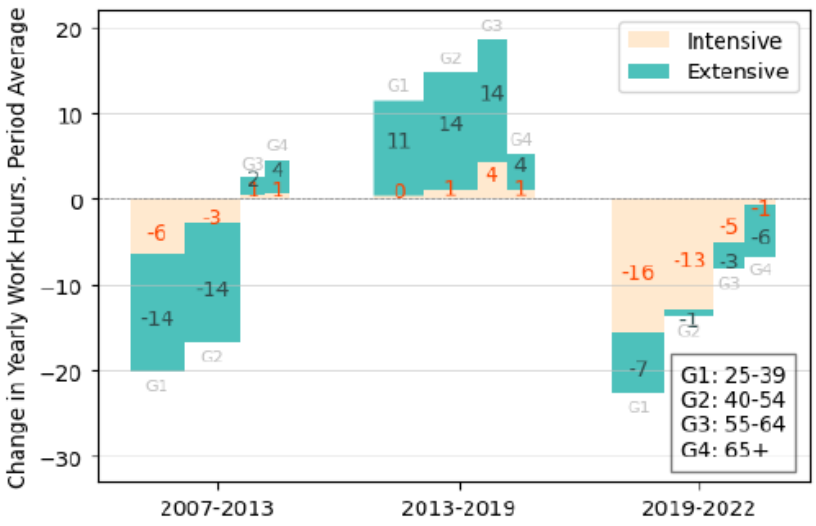
(b) Men by Education

Note: The vertical positions of the orange and the blue bars are the changes in annual hours worked per person through the intensive and the extensive margins, respectively. The numbers are the average change per year over the given period, so the total change can be computed by multiplying each number by the period length. The widths of the bars are proportional to the population weight of each group at the beginning of the period.

Figure 9: Decomposition of Change in Aggregate Hours Worked by Age and Gender



(a) Women by Age



(b) Men by Age

Note: The vertical positions of the orange and the blue bars are the changes in annual hours worked per person through the intensive and the extensive margins, respectively. The numbers are the average change per year over the given period, so the total change can be computed by multiplying each number by the period length. The widths of the bars are proportional to the population weight of each group at the beginning of the period.

- During the first period, 2007–2013, as shown by the left sets of bars in both panels of Figure 9, annual hours worked per person fell the most for the first two age groups of women and men (prime-age women and men), mostly along the extensive margin.

- Surprisingly, older workers increased their annual hours worked along the extensive and the intensive margins, albeit modestly.

- During the second period, the annual hours worked per person grew robustly for all age groups except for the 65 or older group, both for women and men.

- Again, most of the rise occurred along the extensive margin. One difference is that, for women, the annual hours of the youngest group (25-39) grew the most, whereas for men, it was those aged 55-64 that increased their hours the most.

2.3 Decline of Hours Worked among Male Workers

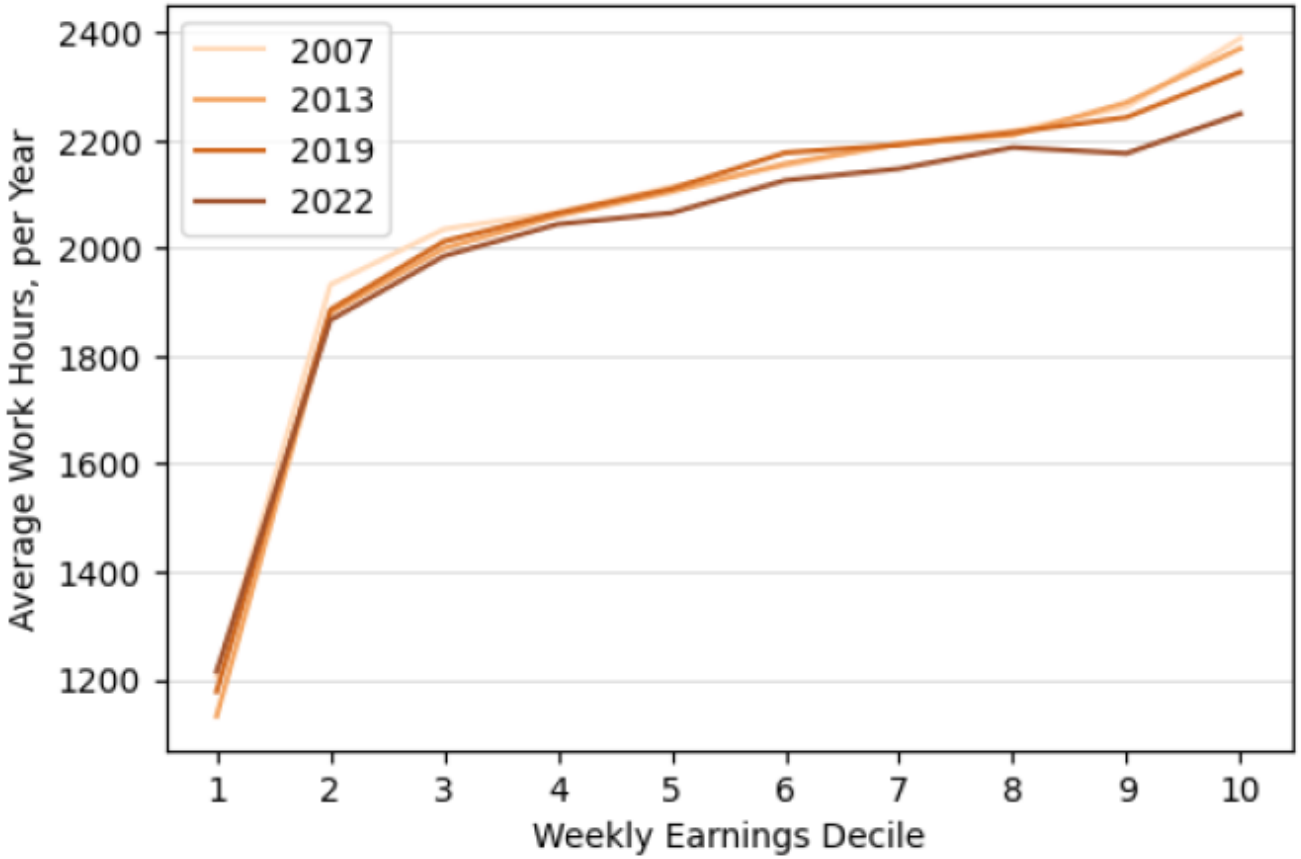
- In Table 1, we report selected percentiles of the annual hours worked distribution among men who worked in a given year.
- Because people report weekly hours, which we then multiply by 52, the values cluster to certain integers.
- For example, in all four years, the 25th percentile and the median are 2,080 hours of work during the year.
- Nevertheless, it is clear that those who work very long hours cut back on their hours between 2019 and 2022, evidenced by the significant hours reduction at the 75th and the 90th percentiles, but not at the median.
- In 2019, one had to work for at least 2,860 hours to rank in the top 10 percent of workers working longest hours.
- In 2022, he needed to work “only” 2,600 hours to win this dubious honor.

Table 1: Percentiles of Annual Hours Worked

Percentile	Year				Changes		
	2007	2013	2019	2022	2007 - 2013	2013 - 2019	2019 - 2022
10th	1,248	1,248	1,248	1,248	0	0	0
25th	2,080	2,080	2,080	2,080	0	0	0
50th	2,080	2,080	2,080	2,080	0	0	0
75th	2,392	2,340	2,340	2,236	-52	0	-104
90th	2,912	2,860	2,860	2,600	-52	0	-260

- We can also examine the reduction in annual hours across the earnings distribution.
- For each year, we construct earnings deciles and compute the average hours worked of male workers in each decile.
- The result is in Figure 10.

Table 1. Congruence, factor structures obtained by PCA, and comparison with theoretical scale.



Note: Each point represents the average annual hours worked of the male workers in each earnings decile.

2.4 Discussions on Hours Decline

3 Concluding Remarks