

Where Are the Missing Workers?

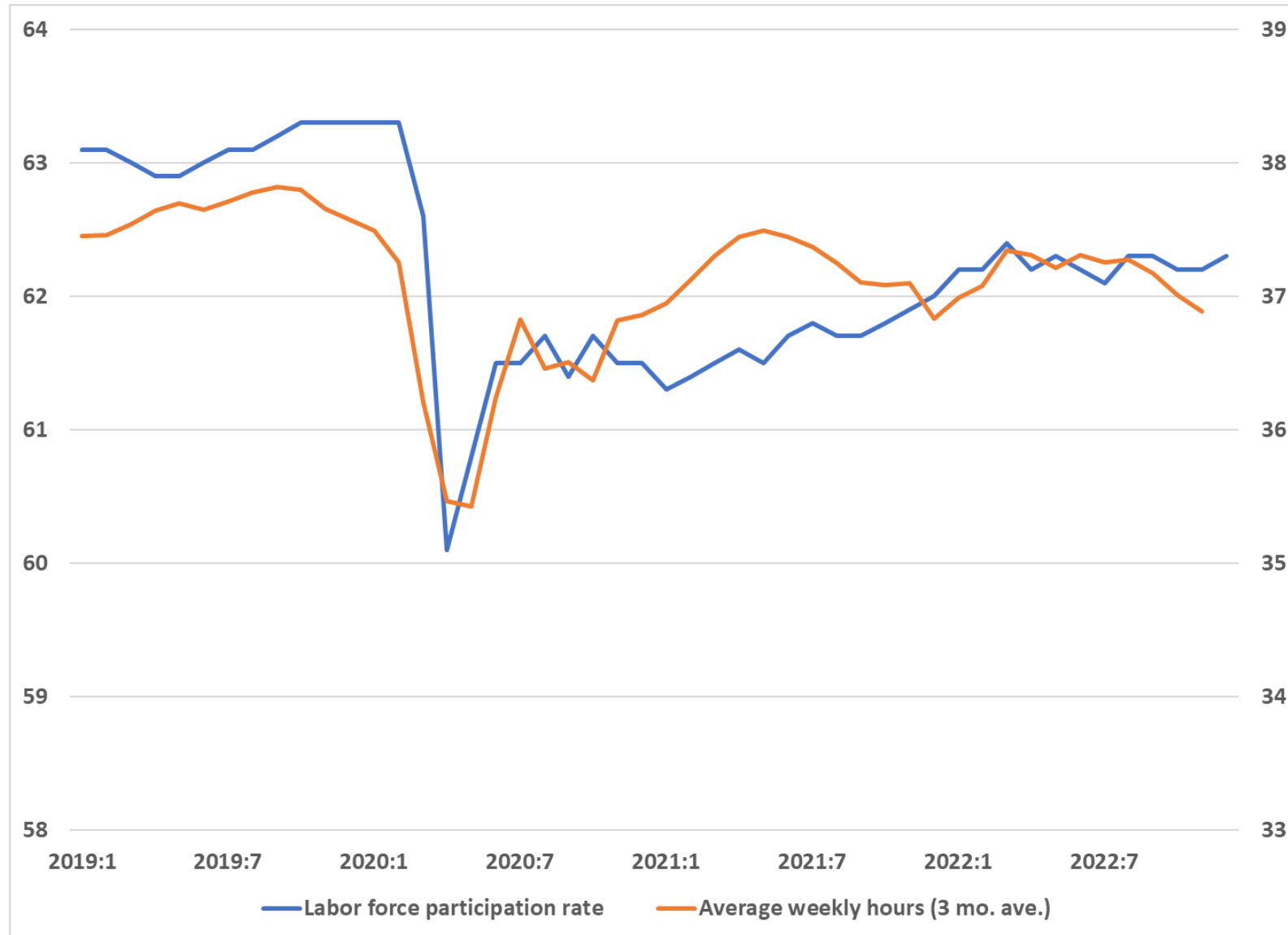
Katharine G. Abraham
University of Maryland

Lea E. Rendell
University of Maryland

Brookings Panel on Economic Activity
March 30, 2022



Motivation: Both labor force participation and weekly hours remain below pre-pandemic levels



Some possible explanations

- Labor force participation was falling even before the pandemic
 - Demographic changes
 - Pre-existing within-group changes
- The pandemic—and the response to the pandemic—has led people to choose to work less
 - Federal pandemic spending
 - Rising house prices
 - Long COVID
 - Fear of COVID
 - Re-evaluation of work-life balance
- Goal of paper: Evaluate these competing stories



Roadmap

- Develop a benchmark for post-pandemic participation and hours; consider where declines have occurred
- Consider evidence regarding possible explanations for changes in participation and hours relative to benchmark
 - Federal pandemic spending
 - Rising house prices
 - Long COVID
 - Fear of COVID
- Summarize findings



Decomposing changes in participation and hours into *unanticipated* vs. *anticipated* pieces

- For this exercise, use 12-month moving average data
 - Compare 12 months ending December 2022 with 12 months ending February 2020
- Two demographic factors affecting participation and possibly hours
 - Population aging (Baby Boomers reaching retirement years)
 - Increasing educational attainment at given ages
- Decomposition #1: Treat as *anticipated* changes attributable to shifts in age by education mix
 - 13 age groups (16-19, 20-24, 25-29, ... , 70-74, 75 plus)
 - 4 education groups for those age 25 and older (less than high school, high school, some college, Bachelors' degree or higher)



Decomposing changes in participation and hours into *unanticipated* vs. *anticipated* pieces (continued)

- Formal decomposition as follows
 - s_i are shares of population in groups defined by age and education

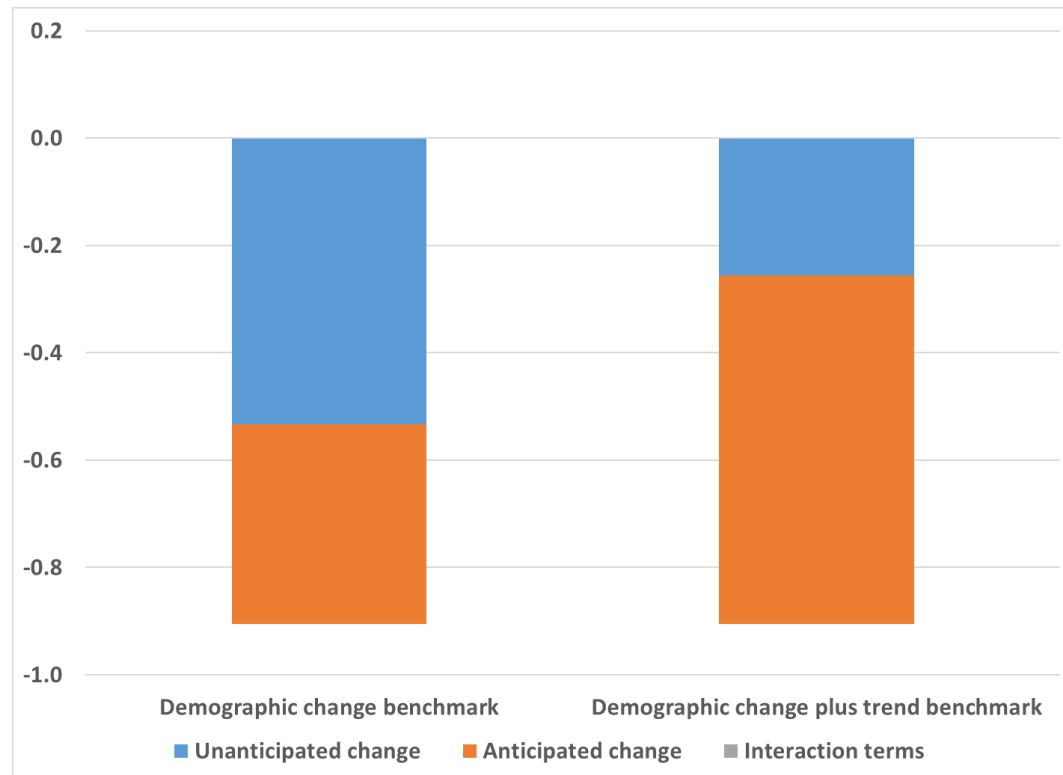
$$\Delta(LFPR)_{t_0,t_1} = \underbrace{\sum_i s_{i,t_0} \Delta(LFPR)_{i,t_0,t_1}}_{\text{Unanticipated}} + \underbrace{\sum_i (LFPR)_{i,t_0} \Delta s_{i,t_0,t_1}}_{\text{Anticipated}} + \underbrace{\sum_i \Delta s_{i,t_0,t_1} \Delta(LFPR)_{i,t_0,t_1}}_{\text{Interaction terms (turn out to be negligible)}}$$

- Decomposition #2: Additionally treat effects of pre-existing within-group trends as anticipated
 - Trends estimated over 2000-2019 period

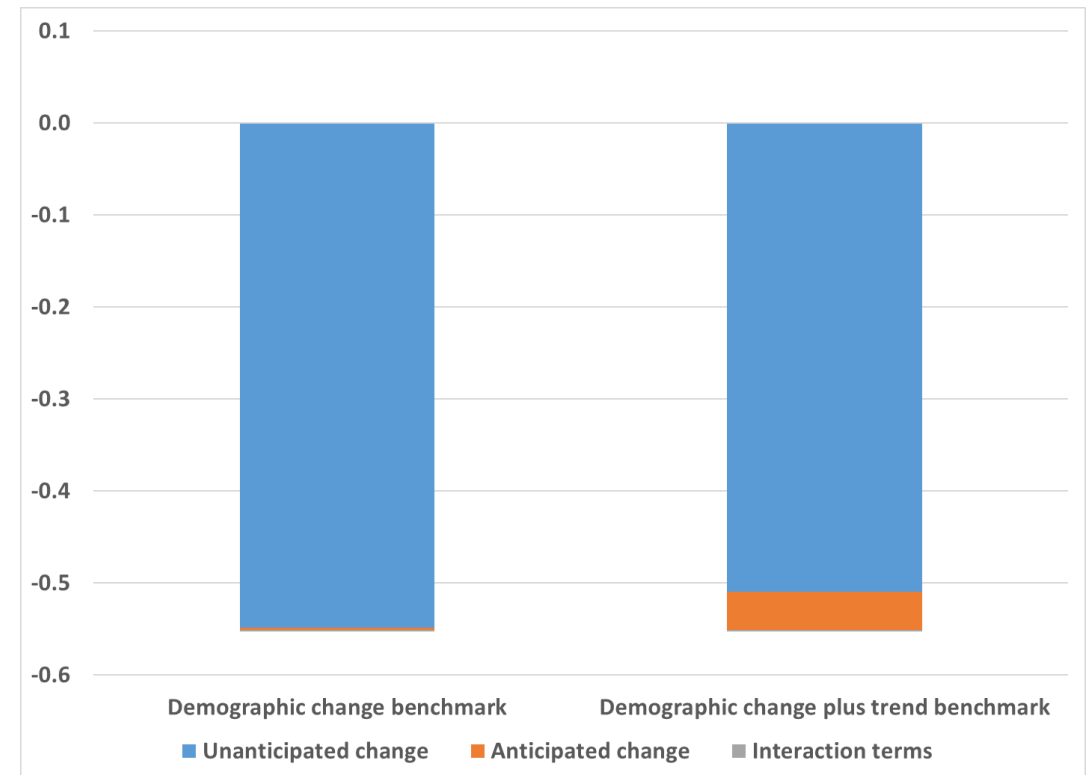


Changes in labor force participation rate and average weekly hours, Mar. 2019-Feb. 2020 to Jan.-Dec. 2022

Decomposition of percentage point change in LFPR, alternative benchmarks



Decomposition of change in average weekly hours, alternative benchmarks



Putting the changes in context

- Sources of reduction in labor supplied per adult member of population can be expressed as:

$$\Delta \ln(TOTHRS / POP) = \Delta \ln(LFPR) + \Delta \ln(1 - UR) + \Delta \ln(AVEHRS)$$

- Can translate each of the components into worker-equivalents
 - Continue to look at change from Mar. 2019-Feb. 2020 to Jan.-Dec. 2022
 - Decline in LFPR equivalent to losing about 2.4 million workers
 - 1.4 million remaining after accounting for changes in age and education
 - 0.7 million remaining after also accounting for effects of pre-existing trends
 - Small increase in moving-average UR equivalent accounts for less than 0.1 million workers
 - Decline in average weekly hours equivalent to losing about 2.4 million workers

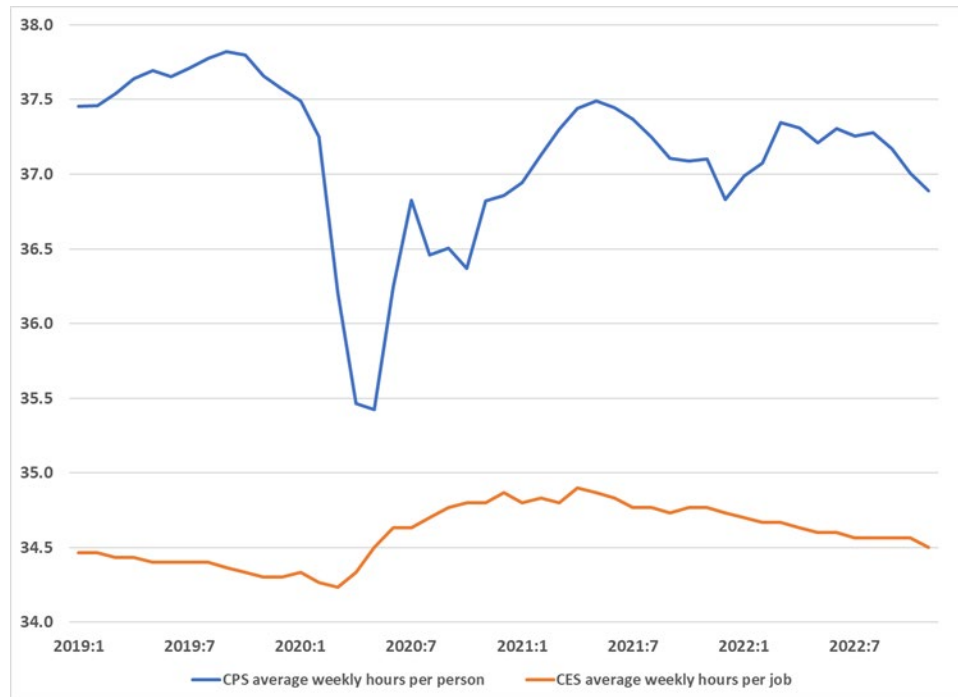


Measurement comment #1: Effect of CPS population controls

- CPS introduced new population controls in January 2022 based on 2020 Census showing a younger population than previously believed
 - Adjustment raised participation rate by 0.3 percentage point
 - One time change to data, but demographic divergence from previous estimates likely occurred gradually since 2010 Census and earlier participation rates likely should have been higher
- True 12-month moving-average participation rate decline may have been 0.2 or 0.3 percentage point higher than the 0.9 percentage point shown in official data (i.e., 1.1 to 1.2 percentage points)
- Should have little effect on estimates of *unanticipated* changes



Measurement comment #2: CPS versus payroll survey hours



- Although CPS hours fell during pandemic and have not fully recovered, *payroll survey* hours rose and remain slightly above their pre-pandemic level
- CPS measures hours *per employed person*; payroll survey measures hours *per job*
 - Decrease in multiple job holding since the pandemic can explain part of discrepancy
- CPS measures hours *worked*; payroll survey measures hours *paid*
 - To extent that workers have paid sick leave, increases in absences due to illness also can explain part of discrepancy

Roadmap

- Develop a benchmark for post-pandemic participation and hours; consider where declines have occurred
- Consider evidence regarding possible explanations for changes in participation and hours relative to benchmark
 - Federal pandemic spending
 - Rising house prices
 - Long COVID
 - Fear of COVID
- Summarize findings



Lasting effects of federal pandemic spending can't have been large

- More generous pandemic unemployment benefits and changes to Child Tax Credit likely had some effect on labor supply during 2020 and 2021, but by 2022, both had ended
- Any lasting effect from these payments plus Economic Impact Payments would be due to increases in household wealth
 - For many people, payments simply offset pandemic-related income losses
 - As discussed in paper, based on other evidence regarding unexpected windfalls and labor supply, amounts involved not large enough in any case to have had a significant effect labor supply

Roadmap

- Develop a benchmark for post-pandemic participation and hours; consider where declines have occurred
- Consider evidence regarding possible explanations for changes in participation and hours relative to benchmark
 - Federal pandemic spending
 - Rising house prices
 - Long COVID
 - Fear of COVID
- Summarize findings



Rising house prices may have affected who is working, but probably not overall participation or hours

- Past research generally has concluded that rising house prices have little if any short-term effect on labor force participation
 - Consistent with past work, Coile (2022) finds no evidence that house prices affected retirement decisions during the pandemic
- In contrast, Favilukis and Li (2023) argue that rising house prices caused significant declines in participation among older homeowners
 - If we accept results (not clear we should), a somewhat different interpretation is that, if hit by other shocks (e.g., COVID, a layoff), older homeowners can afford to retire while older renters cannot
 - Could help to explain greater participation declines among more educated older adults who are more likely to be homeowners
 - Because Favilukis and Li (2023) find offsetting effects on older renters and younger adults, conclude little net effect on overall participation



Roadmap

- Develop a benchmark for post-pandemic participation and hours; consider where declines have occurred
- Consider evidence regarding possible explanations for changes in participation and hours relative to benchmark
 - Federal pandemic spending
 - Rising house prices
 - Long COVID
 - Fear of COVID
- Summarize findings



Suspicious of largest estimates of long COVID effects

- Widely cited estimate reported by Bach (2022b): Equivalent of 2 to 4 million people out of work due to long COVID
- This estimate (and other similarly-constructed estimates) use information on
 - Number of people with long COVID
 - Share of those people who would have worked absent long COVID
 - Share of latter group who do not work (or share who reduce their hours and, if so, the reduction amount) due to long COVID
- Concern: Available estimates of COVID's labor supply impact seem likely to refer to people with most serious problems, not full long COVID population
 - Bach's 4 million estimate uses data for nonprobability sample recruited via long COVID support groups and social media
 - Bach's 3 million estimate uses data for nonprobability sample recruited by UK Trades Unions Council via "social media, through affiliated unions and long COVID support groups"
- Aggregate labor supply effects may be significantly overstated



Other research approaches avoid need to directly identify long COVID population

- Goda and Soltas (2022): Event study compares subsequent participation and hours for people who experience a full-week health-related absence from work
 - Combine event study effects with information on excess health-related absences during post-pandemic period to estimate long COVID effects
 - Adjust to account for 1) absences missed because they did not occur during survey reference week and 2) people who do not enter the labor force or work fewer hours because of long COVID
 - Estimated reduction in participation: 510,000 and 885,000 people as of June 2022
- We build on Goda and Soltas' work by 1) extending analysis through December 2022; and 2) calculating worker-equivalent effect on hours as of that date
 - Estimated reduction in participation: 555,000 to 1,095,000 people
 - Estimated reduction in hours: 195,000 to 428,000 FTEs

Other research approaches avoid need to directly identify long COVID population (continued)

- Sheiner and Salwati (2022): Use data on excess number of disabled 16-64 year olds relative to trend together with data on participation and hours among disabled and non-disabled adults to tease out long COVID effects
 - Basic idea: Excess disabilities likely attributable to long COVID; pattern of growth in reported disability consistent with this supposition
 - Estimates are averages for January-September 2022
 - Estimated reduction in participation: 281,000 to 562,000 people
 - Estimated reduction in hours: 20,000 to 39,000 FTEs
- We build on Sheiner and Salwati's work by 1) extending analysis through December 2022; and 2) adding estimates of participation effect for adults age 65 plus
 - Estimates are averages for January-December 2022
 - Estimated reduction in participation: 318,000 to 906,000 people
 - Estimated reduction in hours (exclusive of those 65 plus): 40,000 to 58,000 FTEs



Roadmap

- Develop a benchmark for post-pandemic participation and hours; consider where declines have occurred
- Consider evidence regarding possible explanations for changes in participation and hours relative to benchmark
 - Federal pandemic spending
 - Rising house prices
 - Long COVID
 - Fear of COVID
- Summarize findings



Some research has produced evidence suggesting very large effects of COVID fears on participation

- Most notable work on topic is that by Barrero, Bloom and Davis (2022) using their Survey of Working Arrangements and Attitudes (SWAA) data
 - Online non-probability survey; target population adults age 18-64 with significant work activity in previous year
 - Two estimates of reduction in participation as of first half of 2022
 - Estimate based on asking people out of the labor force whether “worries about catching COVID or other infectious diseases [are] a factor in your decision not to seek work at this time”: 2.0 percentage point reduction
 - Estimate based on association between plans for continued social distancing and participation: 2.6 percentage point reduction
- Are these estimates plausible?
 - Overall labor force participation rate for adults age 20-64 fell just 0.6 percentage point between February 2020 and February 2022
 - Would imply that, absent COVID fears, participation in this age group would have been *much* higher in early 2022 than prior to the pandemic

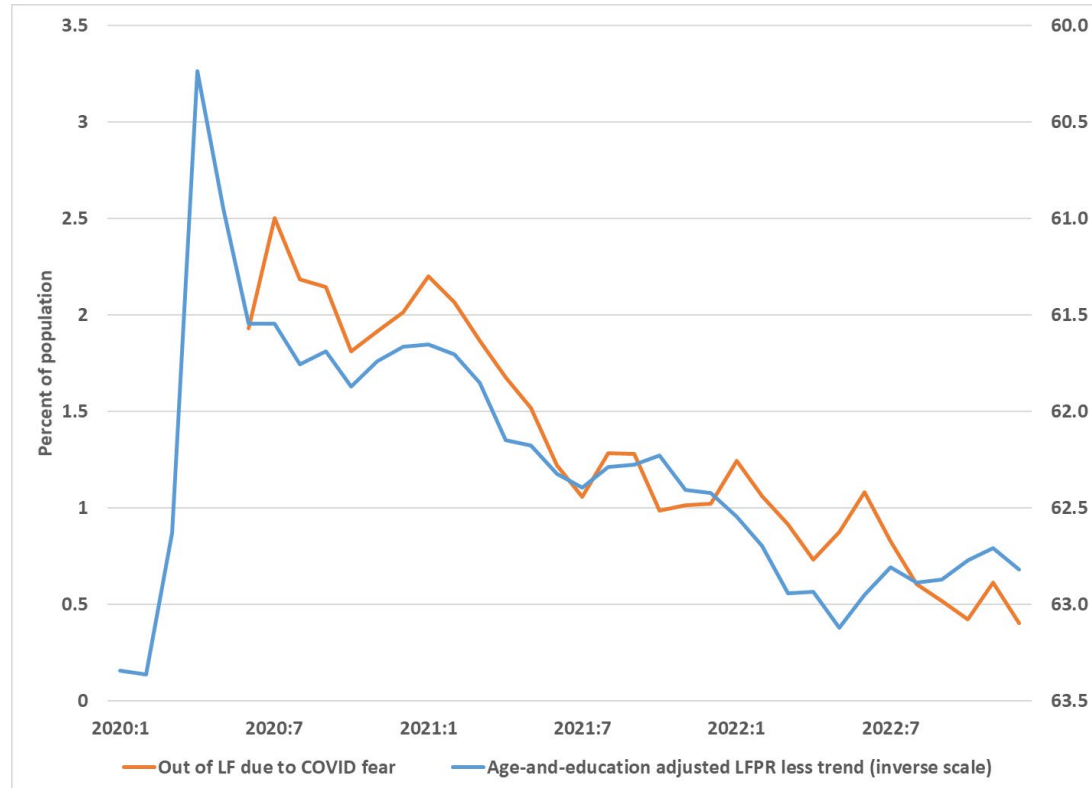


Reasons to be cautious about estimated effects based on SWAA

- Target population for SWAA includes only people with significant prior work experience
 - Back-of-the-envelope calculations suggest that, under plausible assumptions, effect for that group could overstate effect for population as a whole
- Pre-recruited online panel to which SWAA administered may not be representative of target population
 - When same questions asked, fear of COVID as reason for not working higher in SWAA than in Census Bureau's Household Pulse Survey
- Question about role of infection fears as reason for not working may encourage “yes” answers
 - Acquiescence bias (tendency of survey respondents to agree with a survey statement whether or not it reflects their true opinion)
 - Primacy bias (tendency of survey respondents to pick first answer they see in written survey questions)



Household Pulse Survey another data source



- Household Pulse Survey an experimental online Census Bureau survey
 - Probability sample, but response rate has been under 10 percent
- Non-employed respondents asked why not working, given menu of possible responses
- Declines in COVID fears have tracked increases in participation
 - By December 2022, share of adult population not working and citing concern about getting or spreading COVID as main reason just 0.4 percent
 - Social desirability bias (tendency of survey respondents to give answers that put them in a positive light) may have inflated number giving this answer
 - Some respondents citing COVID fears also could be long COVID sufferers
 - Our guesstimate: 0.2 percentage point effect (about 530,000 people)

Roadmap

- Develop a benchmark for post-pandemic participation and hours; consider where declines have occurred
- Consider evidence regarding possible explanations for changes in participation and hours relative to benchmark
 - Federal pandemic spending
 - Rising house prices
 - Long COVID
 - Fear of COVID
- Summarize findings



What explains the post-pandemic labor force decline?

	Counterfactual: Demographic Adjustment Only	Counterfactual: Demographic and Trend Adjustment
Total labor force decline through 2022 (thousands)	2,390	2,390
Anticipated change based on chosen counterfactual	990	1,710
Unanticipated change based on chosen counterfactual	1,400	670
Selected pandemic-related factors		
Healthier household balance sheets	0	0
Long COVID	700	700
Fear of COVID	530	530
Residual unexplained change	170	-560



What explains the post-pandemic decline in average weekly hours?

	Counterfactual: Demographic Adjustment Only	Counterfactual: Demographic and Trend Adjustment
Worker-equivalent hours decline through 2022 (thousands)	2,450	2,450
Anticipated change based on chosen counterfactual	0	210
Unanticipated change based on chosen counterfactual	2,450	2,240
Selected pandemic-related factors		
Healthier household balance sheets	0	0
Long COVID	300	300
Fear of COVID	0	0
Residual unexplained change	2150	1940



Can unexplained declines be attributed to (some) people seeking a different work-life balance?

- Pattern of unanticipated declines in participation broadly consistent with this explanation, with greater declines for (at least some) groups that on average have greater financial resources
 - Larger declines for Whites than for Hispanics; increases for Blacks
 - Larger declines for highly-educated than for less-educated older adults ... but declines among less-educated 25-54 year olds and unanticipated increases for highly-educated 25-54 year olds
- Hours declines have been broad based
- Would like more direct evidence regarding this explanation



Thank you!

