Maximum Employment and the Participation Cycle

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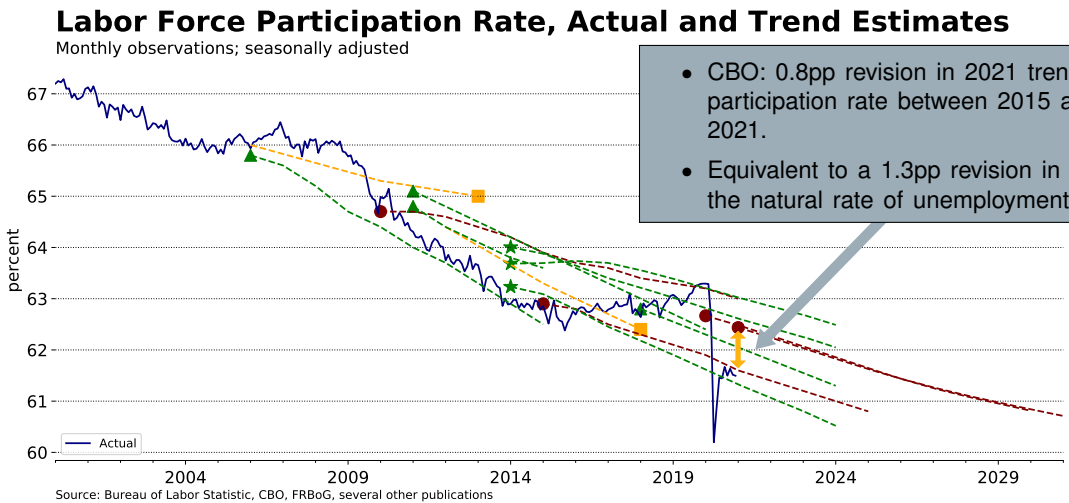
A broad-based and inclusive goal that is not directly measurable...

Maximum employment is shaped by both the natural rate of unemployment and the trend participation rate:

$$\Delta EPOP_t = \underbrace{-\overline{LFPR}_t \Delta u_t}_{\textit{unemployment term}} + \underbrace{(1-\overline{u}_t)\,\Delta LFPR_t}_{\textit{participation term}}$$

Changes in the labor force participation rate (LFPR) have about 1.6 times larger effect on the employment-to-population (EPOP) than changes in the unemployment rate (u).

Large disagreement about and revisions of trend participation rate



- CBO: 0.8pp revision in 2021 trend participation rate between 2015 and 2021.
- Equivalent to a 1.3pp revision in the natural rate of unemployment

Note: Vintage of forecast is indicated by dot. Actual is seasonally adjusted monthly observations. Trend estimates in bottom panel by source: ●: CBO trend estimates (2011,2015,2020,2021), ■: Tealbook estimates (backward-looking, Jan 2011 and Jan 2015), ⋆: Aaronson *et al.* (2014), and ▲: from Aaronson *et al.* (2006), Aaronson *et al.* (2012), Zandweghe (2012), and Hornstein *et al.* (2018).

Uncover procyclical forces that shape the participation rate

Source*: Driven by *employment stability* not by *entry/exit

- Participation cycle: Changes in LFPR due to movements between employment and unemployment

***Magnitude*: Procyclical pressures from participation on EPOP are large**

- Trough in participation cycle two-thirds that of unemployment cycle
- Participation cycle lags unemployment cycle
- Unemployment and participation cycles move in lockstep in latter part of expansions

***Uneveness*: Participation cycle *amplifies* uneven impact of recessions**

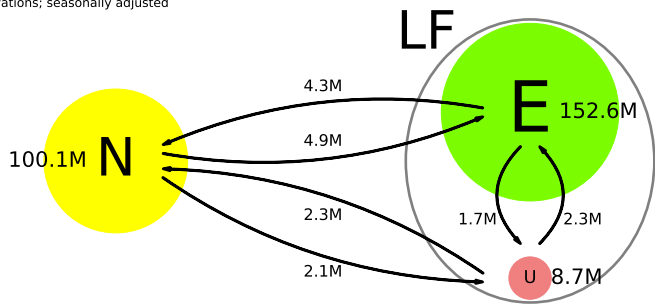
- Groups with high incidence of unemployment have large participation cycles

COVID-19 Recession*: Bulk of the decline is *cyclical

- 1.5pp of 1.7pp decline in participation between Feb-2020 and Jun-2021 cyclical
- Participation cycle is bound to lag recovery in unemployment in coming years

Job-loss and job-finding affect attachment to the labor force

Flow Origins of Participation: Jul 2021
Monthly observations; seasonally adjusted

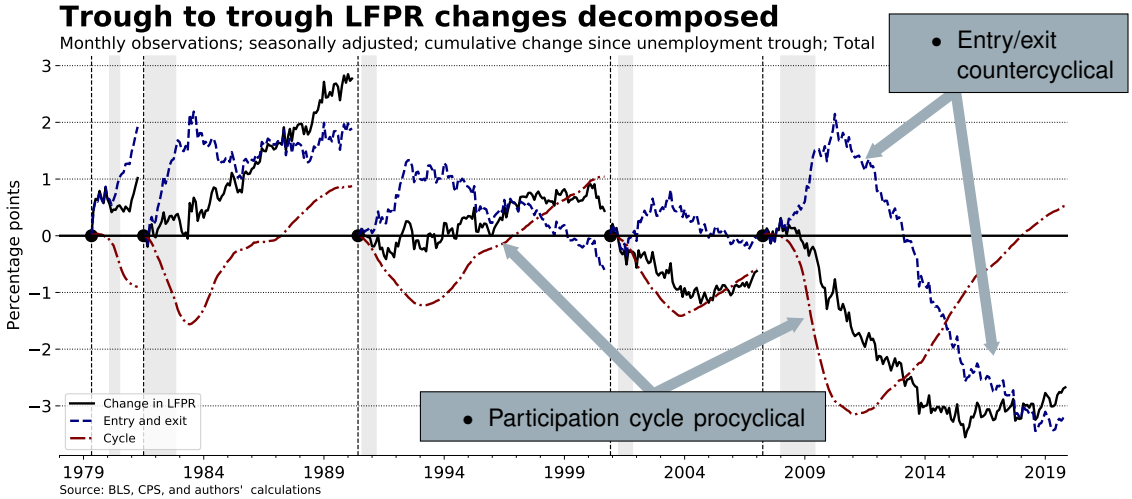


Source: Bureau of Labor Statistics

- Flows >> Net changes in stocks
  - Large flows in and out of labor force
- Unemployed are less attached than the employed
  - *Attachment wedge*

Key Intuition: When someone moves from U to E, they are more likely to remain in the labor force going forward. This simple mechanism (*the participation cycle*) is the source of procyclicality of participation, *not* labor force entry and exit.

Participation cycle is source of procyclical pressures on participation



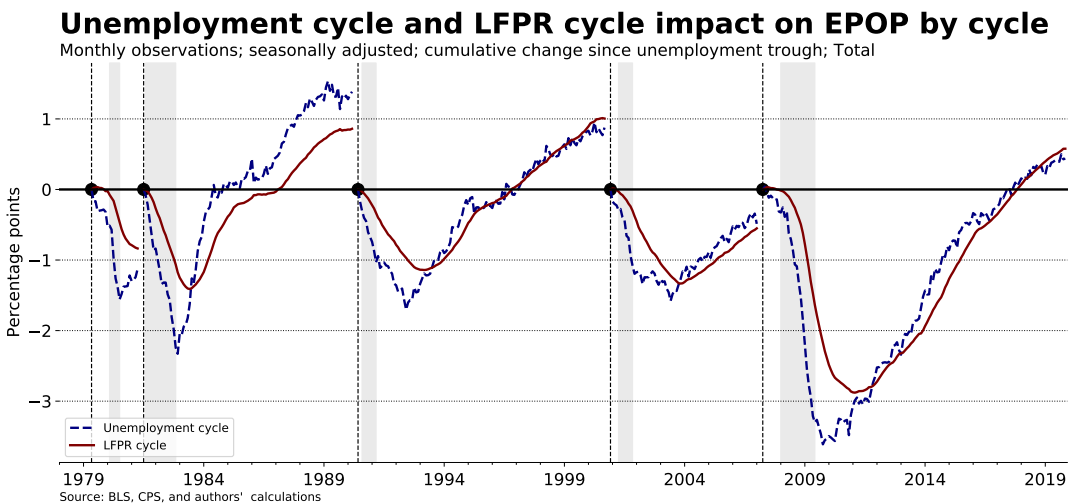
Note: Update of Elsby *et al.* (2019). Seasonally adjusted monthly data. Cumulative effect on LFPR from every trough in the unemployment rate. Entry is contribution from $P_{N,U}$ and $P_{N,E}$, exit is contribution from $P_{U,N}$ and $P_{E,N}$, and cycle from flows between U and E, i.e. $P_{E,U}$ and $P_{U,E}$.

Unemployment and participation cycles

The cyclical change in the employment-to-population ratio is the sum of unemployment and participation cycles:

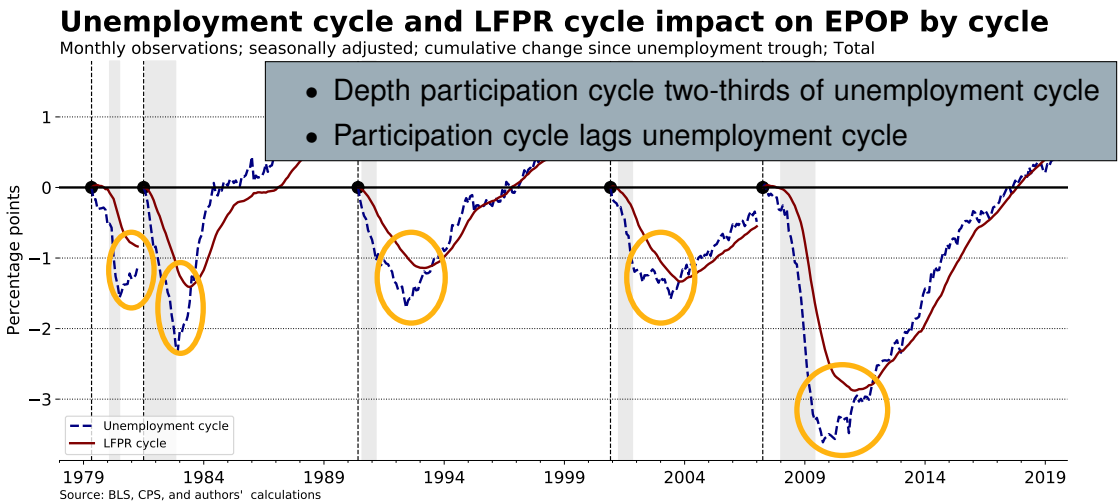
$$\Delta EPOP_t^c = \underbrace{-\overline{LFPR}_t \Delta u_t}_{\text{unemployment cycle}} + \underbrace{(1-\overline{u}_t)\,\Delta LFPR_t^c}_{\text{participation cycle}}$$

Effect of unemployment and participation cycles on EPOP



Note: Unemployment cycle is cumulative sum of $-\overline{LFPR}_t \Delta u_t$ and LFPR cycle is cumulative sum of $(1 - \bar{u}_t)\, \Delta LFPR_t^C$.

Effect of unemployment and participation cycles on EPOP



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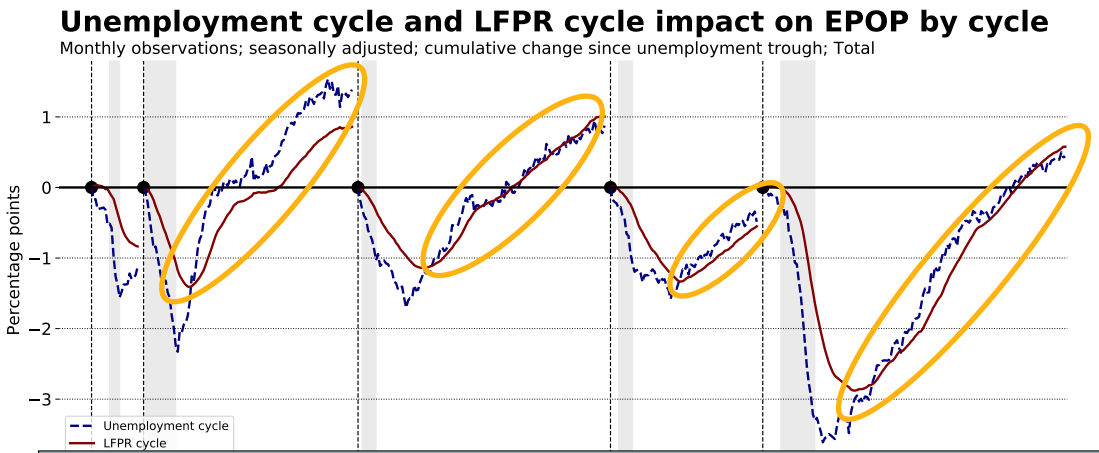
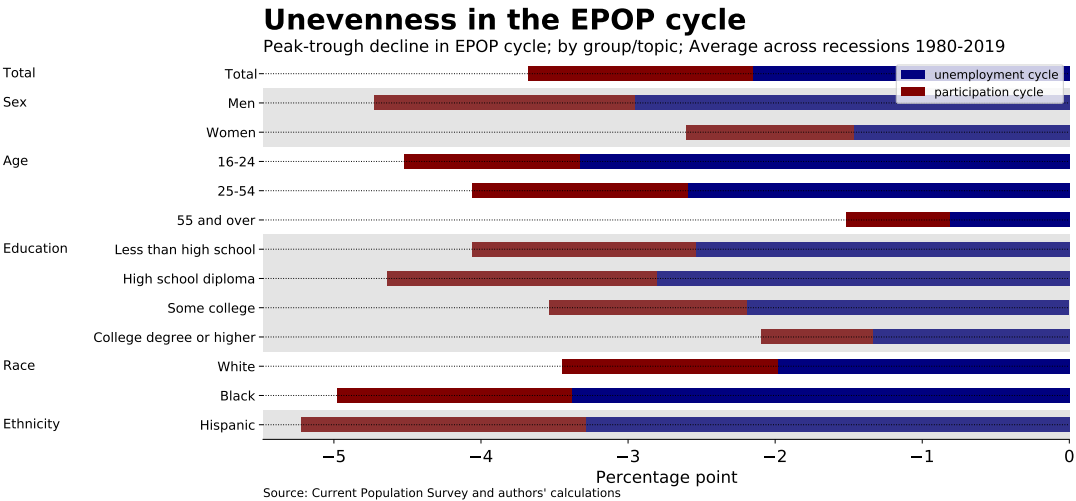
Effect of unemployment and participation cycles on EPOP



- During latter part of expansions both components move in lockstep
- Perry-Okun Rule: $\Delta LFPR_t^c \approx -0.65\Delta u_t$ Perry (1971), Okun (1973)

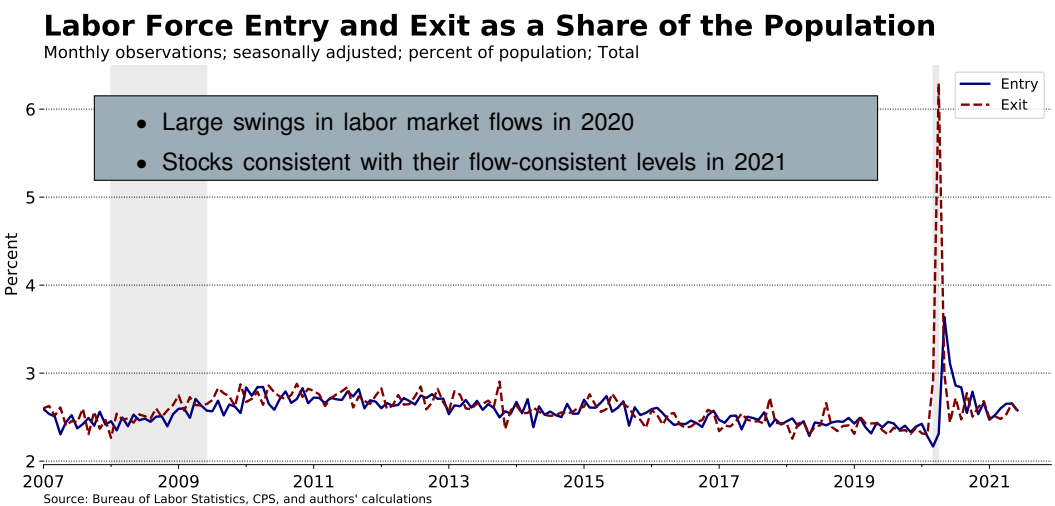
Note: Unemployment cycle is cumulative sum of $-\overline{LFPR}_t \Delta u_t$ and LFPR cycle is cumulative sum of $(1 - \bar{u}_t)\,\Delta LFPR_t^c$.

Participation cycle amplifies uneven effects of recessions

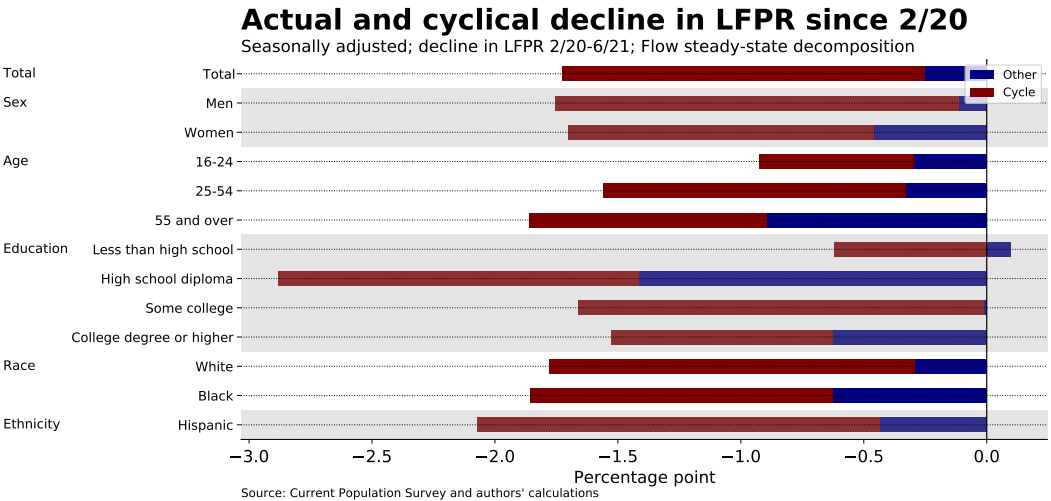


Note: Results for workers with less than high school education are different from the published statistics due to anonymization of the CPS micro data. Consistent with Wolfers' discussion of Aaronson *et al.* (2019)

COVID-19 Recession: Labor force entry and exit



Most of decline in participation during pandemic cyclical

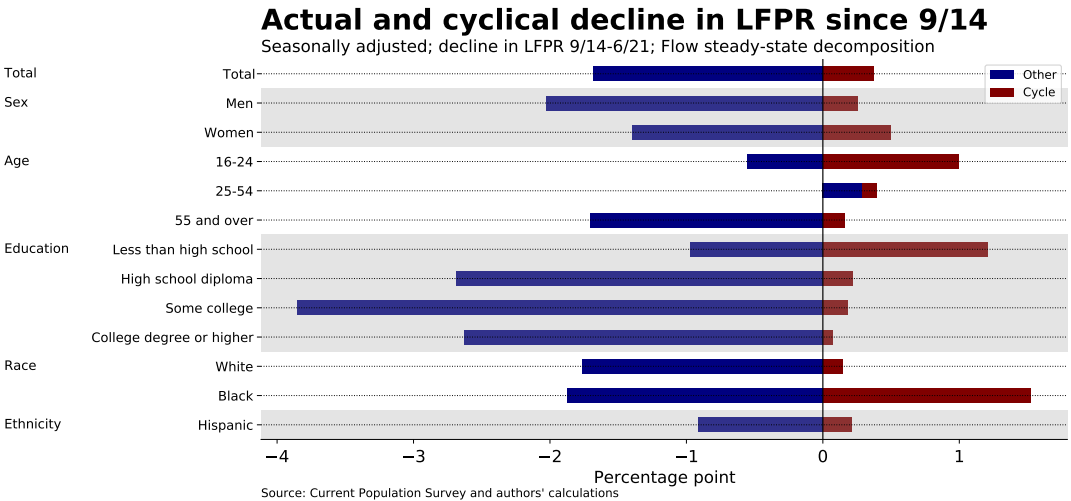


Labor market dynamics similar to fall 2014

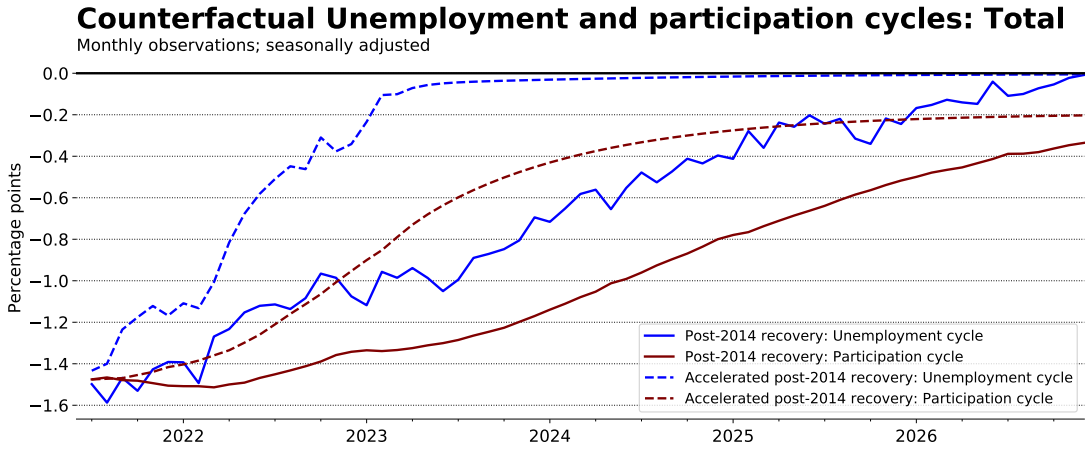
- Labor market in June 2021 resembled that of September 2014.
- The main difference is that the participation rate is 1.2 pp lower now than in the fall of 2014.
- Comparing the early fall of 2014 and the first half of 2021:
  1. The cyclical downward pressures on participation in 2021 are close to in 2014.
  2. The 1.2 pp difference in the LFPR is due to the secular downward trend:
     $\longrightarrow$ average decline in trend participation of 0.17 pp a year in 2014-2020.

Key Question: Have cyclical gains in participation since 2014 been fully erased?

Cyclical gains in participation since 2014 not fully erased



Participation cycle bound to lag recovery in unemployment



Source: BLS, CPS, and authors' calculations

Note: Unemployment and participation cycles plotted in terms of percentage point cyclical pressures on the EPOP ratio.
"Post-2014 recovery" based on path of flow rates from Sep 2014 - Feb 2020.
"Accelerated post-2014 recovery" path of flow rates is three times faster than the baseline case.

Key takeaways

- Prevailing narrative attributes the procyclicality of the participation rate to the entry and exit of marginalized workers.
- We show that it is driven by *employment stability* of all workers.
- Perry-Okun Rule holds for all groups. Improvements in participation during expansions are not limited to discouraged workers.
- The participation cycle lags the unemployment cycle since the adjustment dynamics of the participation rate are much slower than those of the unemployment rate.
- Our method allows policy makers to track the participation cycle in real time on a monthly basis without requiring an estimate of the trend participation rate.

Policy Implication: Declines in unemployment naturally result in upward pressures on participation for all groups—including the marginalized ones.

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