The Impacts of COVID-19 Illnesses on U.S. Workers

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More than 70 million Americans have reported cases of COVID-19, and more than 800,000 have died from it. In addition to its health consequences, the pandemic has wrought significant disruption to many aspects of the U.S. economy, including the labor market. In February 2020, the seasonally-adjusted labor force participation rate was 63.4 percent, and it fell to 60.2 percent by April 2020. While the rate has recovered to 61.9 percent by December 2021, it remains 1.5 percentage points below the pre-pandemic level.[1] Some of this gap can be explained by the aging of the population; however, the labor force participation rate of prime-age workers (those aged 25-54) in December 2021 is also 1.1 percentage points below its pre-pandemic level of 83 percent in February 2020.[2]

The reduction in labor force participation is likely due to a variety of reasons, including both demand-side challenges, such as businesses experiencing lower demand for services that involve face-to-face contact, and supply-side factors, such as workers leaving the labor force to care for children affected by the closures of schools and child-care facilities. In this project, we aim to investigate a direct channel from COVID-19 illnesses to labor market outcomes. Specifically, we seek to understand whether post-acute sequelae of COVID-19, colloquially referred to as "long COVID" and involving lingering symptoms from COVID-19 illness, has meaningfully depressed labor force participation.

While there is a growing literature describing the prevalence of COVID-19 symptoms for a sustained period after infection, data regarding the share of those afflicted by long COVID is not widely available. Indeed, even the definition of this post-COVID-19 condition varies across studies as only in October 2021 did the World Health Organization (WHO) arrive at a consensus definition, where long COVID is defined as a condition where symptoms including fatigue, shortness of breath, and cognitive dysfunction last for at least two months in a patient with a history of probable or confirmed SARS CoV-2 infection.[3] As a result, estimates of its prevalence vary widely; one recent meta-analyses suggest that the prevalence of long COVID symptoms following infection is present among over 50 percent of COVID-19 patients, while another indicates that more than 30 percent of patients experience fatigue and more than 20 percent experience cognitive impairment three months after infection (Groff et al. 2021; Ceban et al. 2022).

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[1] Bureau of Labor Statistics, Civilian labor force participation rate, seasonally adjusted, https://www.bls.gov/charts/employment-situation/civilian-labor-force-participation-rate.htm, obtained on January 25, 2022.

[2] Bureau of Labor Statistics, Civilian labor force participation rate (ages 25-54), seasonally adjusted, https://data.bls.gov/timeseries/LNS11300060, obtained on January 25, 2022.

[3] World Health Organization, A clinical case definition of post COVID-19 condition by a Delphi consensus, https://www.who.int/publications/i/item/WHO-2019-nCoV-Post_COVID-19_condition-Clinical_case_definition-2021.1, October 6, 2021. Obtained on January 25, 2022.

These measurement issues make quantifying the role that long COVID may play in labor force participation challenging. One recent analysis uses rates of COVID-19 cases among the working-age population combined with estimates of the prevalence of long COVID from other studies to estimate the number of people out of work due to long COVID as 1.6 million full-time equivalent workers, or 15 percent of the nation's 10.6 million unfilled jobs as of December 2021 (Bach 2022). This back-of-the-envelope calculation highlights the fact that long COVID may be an important factor in explaining reductions in labor force participation over the course of the pandemic.

Our preliminary analysis has uncovered a new approach to counteract the lack of data available on long COVID and help shed light on this important channel. In particular, data from the monthly Current Population Survey (CPS) indicates that work absences due to illness have increased by approximately 60 percent since the start of the pandemic, accounting for an average excess of 600,000 people reporting being absent from work due to their own illness, injury or medical problems in any given week.[4] Our preliminary analysis has shown that excess illness-related absences are highly correlated with reported cases of COVID-19 both in the aggregate and using relative variation across states over time, indicating that they are a credible proxy for COVID-19 illness.

Because respondents in the monthly CPS are surveyed on a rotating basis over the course of 16 months, it is possible to follow individuals with illness-related work absences over a period of approximately one year, allowing for a longitudinal analysis of short- and medium-term consequences of suspected COVID-19 illnesses. We aim to quantify the causal link between illness-related work absences and labor market/disability outcomes using an event-study approach that estimates within-person changes in labor market behavior in the periods prior to and following absence. The reduction in labor force attachment following COVID-19 illness can be thought of as a "revealed preference" approach to measuring long COVID severity, and can allow a quantification of the economic cost per confirmed COVID-19 case in terms of lost earnings.

We will examine the heterogeneity in the incidence of these absences, the effect of absences on longer-term outcomes, and the economic cost by age, race/ethnicity, sex, income, and occupational characteristics. We also intend to explore the role that policy and workplace characteristics, such as through flexible work arrangements, health insurance availability or COVID-19 vaccination requirements, can play in mitigating the longer-term effects of illness-related absences from work. We intend to supplement our work with the CPS with data from the Household Pulse Survey, which does not allow for longitudinal analysis but does include richer information related to COVID-19 including individual-level vaccination status.

As COVID-19 is likely to continue circulating in the population even after the acute phase of the pandemic abates, it is important to understand the role that long COVID may continue to play in both labor supply decisions and public health more generally. These factors are likely to be especially important for older workers who are more vulnerable to severe illness from COVID-19 and also exhibit more elastic labor supply. In addition, this research will allow for projections of labor force participation under different assumptions of COVID-19 illness and will help inform ways that policy can shape the economic costs of long COVID and appropriate ways to provide supports to the affected population.

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[4] Bureau of Labor Statistics, Employed with a job, not at work due to own illness, https://data.bls.gov/timeseries/LNU02006735, obtained on January 26, 2022.

Funding this project will allow us to further explore the consequences of illness-related work absences on labor force participation and disability status. This will lay the foundation towards a more comprehensive follow-up grant proposal in which we hope to continue to study the impact that long COVID has on one's health and disability status, labor market outcomes and their implications for disability and retirement programs like Social Security.

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