

Covid-19 Lockdown,(Un)Employment and Mental Health:Evidence from the UK

- 1 Motivation
- 2 Data
- 3 Empirical Strategy and Results
- 4 Conclusion

1 Motivation

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Rise in unemployment during the pandemic

- ▶ UK prime minister Boris Johnson had announced UK wide lockdown on 22nd March 2020
- ▶ UK economy experienced an increase in unemployment rate following this lockdown (Highest since 2015 as per ONS)

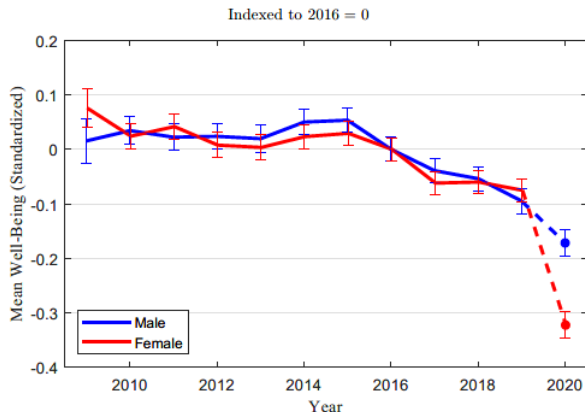
Table 1: Quarterly Unemployment rates in UK during first phase of lockdown in 2020.

| Quarterly Period | UK Unemployment Rate (Age 16 and over) | Absolute number of Unemployed person (In Million) |
|----------------------------|---|--|
| 2020-January to March | 4.0 | 1.365 |
| 2020-February to April | 4.0 | 1.367 |
| 2020-March to May | 4.1 | 1.384 |
| 2020-April to June | 4.1 | 1.381 |
| 2020-May to July | 4.3 | 1.451 |
| 2020-June to August | 4.5 | 1.522 |
| 2020-July to September | 4.8 | 1.624 |
| 2020-August to October | 4.9 | 1.692 |
| 2020-September to November | 5.0 | 1.724 |
| 2020-October to December | 5.1 | 1.744 |

Source: Office of National Statistics (ONS), UK

Deterioration in Mental Well-being during the pandemic

- ▶ Pandemic has not only affected the physical health of people, but also had effects on mental health and wellbeing



Source: Etheridge and Spantig(2020)

- ▶ This paper aims to find out the casual link on the **reduction in work hours due to Covid-19 induced lockdown and mental wellbeing**
- ▶ Etheridge and Spantig (2020),Niedzweidz et al (2020) ,Chandola et al. (2020) ,Daly et al.(2020),Proto and Quintana-Domeque (2020) have aimed to find out the link between Covid-19 and mental health
- ▶ Our empirical identification strategy allows us to find the impact of fall in employment which can entirely be attributed to reasons related to Covid-19 in post-lockdown period on mental health.
- ▶ There are no studies in our knowledge, which looked at this particular impact and established a causal mechanism.

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- ▶ UK Household Longitudinal Study (UKHLS or *Understanding Society*) .
- ▶ UKHLS COVID-19 study (Institute for Social and Economic Research, 2020) conducted at the end of April, May, June 2020 merged with data from previous annual waves of the UKHLS.
- ▶ Panel of ca. 10,000 individuals who have been tracked from Waves 7,8,9 of the UKHLS upto the April, May, June 2020 of the Covid-19 surveys.
- ▶ In our paper, for simplicity, we will refer to the Apr, May, Jun 2020 waves as waves 10,11,12 respectively.

GHQ questionnaire

The GHQ index is constructed as the sum of the following 12 different questions, each one scaled from 0 to 3 (0, not at all; 1, no more than usual; 2, rather more than usual; 3, much more than usual).

- **a. concentration:** Have you recently been able to concentrate on whatever you're doing?
- **b. lack of sleep:** Have you recently lost much sleep over worry?
- **c. playing a useful role:** Have you recently felt that you were playing a useful part in things?
- **d. capable of making decisions:** Have you recently felt capable of making decisions about things?
- **e. constantly under strain:** Have you recently felt constantly under strain?
- **f. problem overcoming difficulties:** Have you recently felt you couldn't overcome your difficulties?
- **g. enjoy day-to-day activities:** Have you recently been able to enjoy your normal day-to-day activities?
- **h. ability to face problems:** Have you recently been able to face up to problems?
- **i. unhappy or depressed:** Have you recently been feeling unhappy or depressed?
- **j. losing confidence:** Have you recently been losing confidence in yourself?
- **k. believe worthless:** Have you recently been thinking of yourself as a worthless person?
- **l. general happiness:** Have you recently been feeling reasonably happy, all things considered?

Measures of Mental Health(Dependent Variables)

- ▶ **Likert Score** that yields a total score between 0(least distressed) to 36(most distressed) that sums 12 questions from the General Health Questionnaire (GHQ-12), coded from 0 to 3.
- ▶ **Standardized Likert score** where we standardise(Likert score minus its sample mean divided by its standard deviation) so that differences in GHQ-12 can be measured in standard deviations.
- ▶ **Mental Health Problems Indicator** which equals the value 1 if the individual is at the risk of mental health problems,also obtained from GHQ-12.(Daly et al.(2020))

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Main DiD Strategy

An individual is a **treated individual** if that individual realised a fall in the hours of work in either of the post-lockdown UKHLS survey round in comparison to Jan-Feb 2020.

Filter further how many respondents among the cases of treatment=1 are due to reasons related to Covid-19 or Covid-19 induced lockdown.

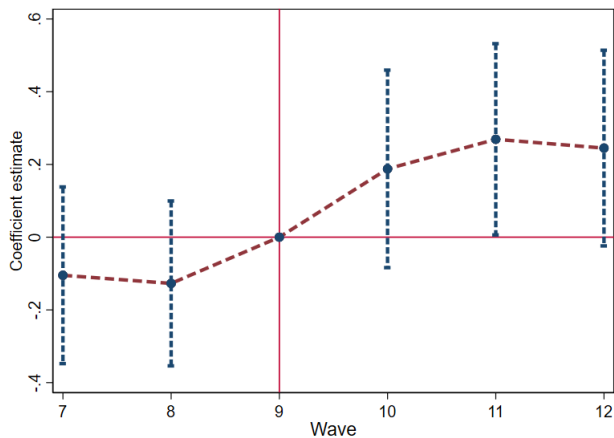
Pooled DiD Model:

$$y_{it} = \alpha_i + \gamma_t + \delta(Post_t \times lesshrsworked_i) + \beta X_{it} + \varepsilon_{i,t}$$

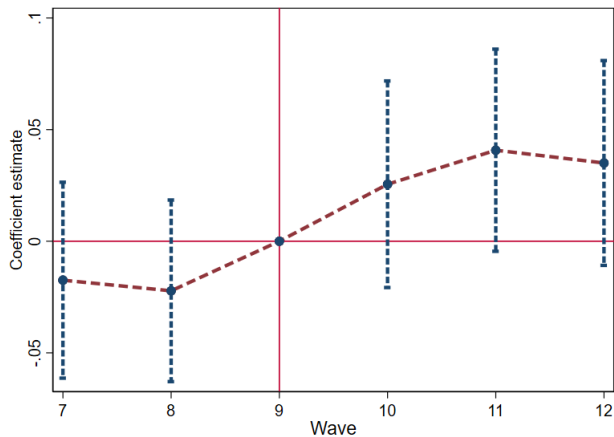
Event Study Design:

$$y_{it} = \alpha_i + \gamma_t + \sum_{t \neq 9} \eta_t \times Year_t \times lesshrsworked_i + \beta X_{it} + \varepsilon_{i,t}$$

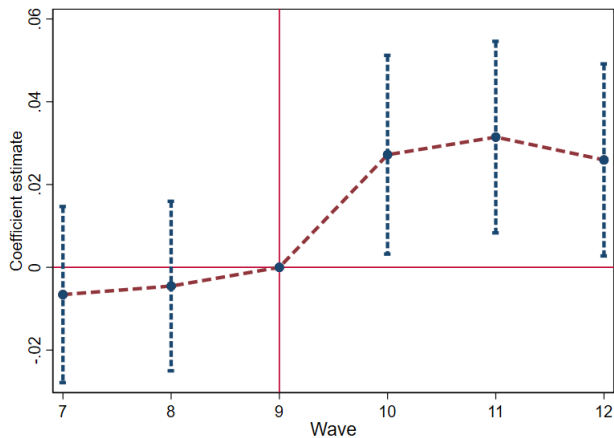
Impact of Covid-19 induced reduction in work hours on the Likert Score



Impact of Covid-19 induced reduction in work hours on the *Standardised Likert Score*



Impact of Covid-19 induced reduction in work hours on the *Mental Health Problems Indicator*



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Conclusion

- ▶ UKHLS data enable us to disentangle two different but related impacts
- ▶ **First**, the impact of fall in employment in post-lockdown period on the mental health and **second**, the impact of fall in employment which can entirely be attributed to reasons related to Covid-19 in post-lockdown period on mental health.
- ▶ We see that Covid-19 related fall in workhours significantly worsened mental health outcomes - respondents who faced Covid-19 related fall in employment were **3%** more likely to be at the risk of mental health problems.
- ▶ Deterioration of mental health is much stronger for the individuals who experienced a fall in workhours due to Covid-19 related reasons as compared to those who experienced fall in workhours due to Non-Covid-19 related reasons.