US and UK Labour Markets Before and During the Covid-19 Crash

David N.F. Bell

Division of Economics, Management School, University of Stirling,
IZA and CPC

and

David G. Blanchflower

Bruce V. Rauner Professor of Economics,
Department of Economics, Dartmouth College,
Division of Economics, Management School, University of Stirling,
GLO, Bloomberg and NBER

April 14th, 2020

"Florida's Department of Employment Opportunity executive director Ken Lawson said Monday April 6th that 520,000 applications for unemployment benefits have been filed in the past three weeks, more than the 326,653 applications for all of 2019."[1]

We originally intended this paper to contribute to the debate around whether the UK and US labour markets were close to full employment at the end of 2019. Our work on this topic was near completion in February 2020 when the world economy was overwhelmed by Covid-19 events. Given the magnitude of the shock, we altered strategy to update readers on the momentous shifts in labour markets following the Covid-19 outbreak. Between early March and mid-April, a global recession has taken hold. This is most evident in the US, partly due to its severity, but also due to its ability to produce timely, accurate labour market statistics. The quote above from the state of Florida makes it clear that existing systems have been overwhelmed by the unprecedented scale and speed of the labour market collapse.

It is our judgment that the two labour markets were not close to full employment at the start of 2020. As the COVID-19 shock hit, the first evidence of how the US labour market was taking the strain was a dramatic rise in unemployment insurance claims, a rise in the unemployment rate and historic falls in the employment rate and the underemployment rate. Initially there was little evidence of changes in wage growth or self-employment. The hardest hit groups are already those at the margins of the labour market, the young, the least educated, the foreign born and minorities. Unfortunately, UK data from the ONS is less timely and unable to signal high frequency changes in the UK labour market. Hence it is more difficult for us to present a contemporary view of UK trends.

In the UK and the US, prior to the COVID-19 outbreak, unemployment rates were close to post-war lows. During the Great Recession increases in unemployment were less dramatic than many expected. In the UK, for example, the annual unemployment rate averaged 11.2% between 1982 and 1987, while from 2008 to 2013 it averaged only 7.5%.[2] In the US, annual averages have not been in double figures since 1955, though they reached 9.3% and 9.6% in 2009 and 2010, respectively.[3]

1. Full employment?

In both labour markets unemployment rates have been in decline since 2014, falling below 4% in December 2018 in the UK and in May 2018 in the US. Yet only towards the end of this period was there any marked uptick in wage growth. Between 2010 and 2018, wage growth varied within the range 2%-2.5% in both countries. Why was the wage response so weak as unemployment fell? It seems to be that there was more 'slack' in the labour market than implied by the unemployment rate (Blanchflower, 2019 and Bell and Blanchflower, 2020). If labour markets are at the NAIRU, one would expect a marked rise in wage growth as firms do not have a pool of labour – Marx's reserve army of the unemployed – to draw from. To hire they would have to bid them away from

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[1] https://www.gainesville.com/news/20200407/coronavirus-florida-desantis-takes-steps-to-fix-failing-unemployment-system

[2] Source: 'Labour market quantities 1855-2015', A millennium of macroeconomic data for the UK, Bank of England. https://www.bankofengland.co.uk/statistics/research-datasets

[3] Source: OECD https://data.oecd.org/unemp/unemployment-rate.htm

other firms at higher wages. Rising wage growth is thus the central indicator of a tightening labour market. Previously, at unemployment rates of under 4%, wage growth would have been higher; hence the puzzle.

At full employment those who want fewer hours (the overemployed) and those who want more hours (the underemployed) should be able to realise their wishes, since firms will have to accommodate workers' wishes in order to retain them. A similar argument applies to the overemployed. Full employment should give workers flexibility to optimize their hours of work. Having developed this argument in previous reviews (Bell and Blanchflower, 2018a; 2018b; 2014, 2013, 2011 and Blanchflower, 2013) we now search for evidence for significant change as labour markets apparently approach full employment. We find little or no verification for such changes in either the US or the UK.

If the economy is at full employment, workers who are hours constrained in their main employment should be able to move readily and easily to new jobs with an hours-mix that better meets their preferences. Or they may move to self-employment so that they can control their working time, subject to demand. Another possible way to add to their working time would be to take another job, through either employment or self-employment. Both the underemployed and the overemployed are unhappy (Bell and Blanchflower, 2019, Mousteri et al, 2020), so presumably being able to adjust actual hours to desired hours would make them happier, which gives them an incentive to adjust their hours. These mechanisms affect wage outcomes without necessarily affecting unemployment, so they shift the NAIRU, weakening the predictive power of previous estimates of its relationship to wage inflation.

Even before the dramatic impact of the Covid-19 epidemic, many Americans were suffering economic, physical and psychological hardship - see for example Arnade (2019), Kristof and WuDunn (2020), Quinones (2015), Vance (2017) and Deaton and Case (2020) who documents the rise of hopelessness and deaths of despair - from drug poisonings, suicide and heavy drinking – especially among prime age-less educated whites in the US. Blanchflower and Oswald (2019) show that one in three Americans in a recent international survey report that over the previous for weeks they had been in pain 'often' or 'very often'. This compares with an average of 20% in other countries.[4] Much of this seems to be labour market driven (Blanchflower, 2019). This was not a good starting place for the biggest and fastest post-war economic shock.

We start by presenting evidence on a series of labour market variables across the two countries including unemployment and underemployment rates; participation and employment rates as well as the share of employment accounted for by part-timers. We then discuss trends in multiple jobholding and in self-employment.

If the UK or US economies were close to full employment by the start of 2020, we would have expected to see evidence of fundamental changes as workers move onto their labour supply curves. Our expectation was that we would find some such evidence of change in these channels of labour market adjustment between 2016 and 2019. The absence of marked changes suggests that neither

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[4] Nicholas Kristof, 'The Hidden Depression Trump Isn't Helping. The economy may get the president re-elected, but not everyone is sharing in its strength', The New York Times, February 8th, 2020.

labour market was anywhere close to full employment. As the virus hit, there was already existing slack in the two labour markets, especially in the number of additional hours workers desired to work. We now summarise this evidence.

2. Background US and UK labour markets 2000-2020.

We begin by discussing similarities and differences between the US and UK labour markets:

Similarities
   a) Strong labour market recovery in the decade following the Great Recession, so unemployment and underemployment rates fell.
   b) At the end of 2019, unemployment rates were below pre-recession levels while underemployment rates were not.
   c) Wage growth in both labour markets has been weak.
   d) There has been little change in second job holding rates.
   e) Average weekly hours have been broadly flat.
   f) The proportion of workers in part-time jobs has declined in recent years.
   g) Labour force participation and employment rates in both countries had risen as the unemployment rate fell.
   h) In neither country has there been any dramatic change in wage growth since the start of the recovery, suggesting that both are not at the NAIRU, even though unemployment rates fell below 5%.

Differences
   a) Employment rates and labour force participation rates in the UK are well above pre-recession levels but this is not the case in the USA.
   b) Self-employment rates in the UK rose after 2007-08 but fell in the USA.

We now trace these developments in detail, while also including the Covid-19 induced changes to the US labour market which were already evident in the second half of March 2020. As mentioned earlier, it is not possible to replicate this for the UK, due to lack of timely data.

Unemployment and Underemployment
Figure 1a-d shows the pick-up and subsequent decline in the unemployment and underemployment rates (U7). In Figure 1a for the UK we define the underemployment rate as the number of part-time workers who say they want full-time jobs, expressed as a percent of employment and in Figure 1b for the US we define it as the number of *part-time for economic reasons as a share of employment* (Bell and Blanchflower, 2019) that we call "U7". In both countries, in contrast to the unemployment rate, the underemployment rate was still above pre-recession levels in 2019.

In the UK, the Great Recession started in April 2008 when the unemployment rate was 5.2%, and in the US the recession started in December 2007, when the rate was 5%. The UK unemployment rate did not fall below 5% until October 2016 and in the US until August 2014. Previously, unemployment rates below 5% were associated with wage growth of 4% and higher in both countries. We report the re-calculated Bell-Blanchflower underemployment index (seasonally adjusted) for the UK up to 2019Q4 in Figures 1c and 1d. In Figure 1c we plot the number of

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(higher) desired hours of the underemployed along with the desired (fewer) hours of the overemployed. In the latest data they are once again close together. In Figure 1d we translate these data into an underemployment rate, which then is very close to the unemployment rate. Note that the unemployment rate was *well above* the underemployment rate before the Great Recession. For the US, our underemployment index is not available, and we have to proxy it using U7, a statistic which only uses data on involuntary part-timers who are usually part-time (see Dunn, 2019). However, from the UK as well as data from other European countries based on the European Labour Force Surveys, it is clear that it is not just involuntary part-timers who want more hours, but so too do voluntary part-timers and even some full-timers (Bell and Blanchflower, 2019).

We also have data on underemployment from the Gallup US Daily Tracker Poll (GUSDT), on 2,767,068 individuals across the years 2009-2017, with around 350,000 a year but with 270,000 in 2017 and only 17,000 in 2009. Information on labour force status is available over these years, split into six categories - employee FT; self-employed FT: PT does not want full-time; PT wants full-time; unemployed and out of the labour force (OLF). Part-time is defined as less than 30 hours and part-time wants full-time is based on responses to the question "Do you want a job with 30+ hours?" This is essentially the same question used in the UK and European Labour Force Surveys – part-time wants full-time – as reported in Bell and Blanchflower (2020). The BLS U7 measure has more than halved since 2009, whereas the Gallup measure has slowed less and picked up again in 2017.

	Gallup U7	BLS U7
2009	9.9	6.4
2010	10.2	6.4
2011	10.5	6.1
2012	10.3	5.7
2013	10.3	5.5
2014	9.8	4.9
2015	9.1	4.3
2016	8.6	3.9
2017	8.8	3.4

Figure 2 plots data from the Gallup US Daily Tracker Poll from 2007-2018. It shows the BLS measured U7 and U3 as well as an unemployment rate derived from the data file that tracks closely the official US unemployment rate. What is clearly different is the Gallup underemployment measure which is a) much higher and b) has a very different time path. The likelihood is that a large share of part-timers who classify themselves as choosing a job for non-economic reasons would still take a job of 30 hours and over if they had the option. If such a job was offered, many of these workers could likely take it up in the following week. These Gallup numbers seem a better measure of underemployment to us than the BLS numbers and suggest a much higher level of underemployment in the US since the Great Recession.

Employment Rates
Figure 3 plots employment to population (EPOP) ratios for the UK and the USA. Prior to the Great Recession the US EPOP rate was above that in the UK but is now below it. In both countries

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EPOPs fell after the onset of recession and a subsequent recovery. The 2019 UK EPOP was well above its pre-recession level, while it was lower in the US. The UK EPOP was below its US counterpart until around 2011 and is now above it. On these measures the US was clearly not at full employment in 2019.

According to the NBER Business Cycle Dating Committee the US entered recession in December 2007. Of note in the United States is that overall, seasonally adjusted EPOP has never returned to its pre-recession levels – it was 62.7 in December 2007 versus 61.1 in February 2020 and 60.0 in March 2020. That was also true of whites that their EPOP remains well below starting levels – 63.5 in December 2007 and 60.2 in March 2020 respectively. In contrast EPOP of African Americans is now the same as at the start of recession – 57.8 in both December 2007 and March 2020. Prime age men in the US appear to have been especially hard hit in terms of declining EPOPS. Prime-age female LFPRs ages 45-54 have higher EPOPS compared to pre-recession levels up from 73.0 in December 2007 to 73.7 in March 2020 from 76.1 to 76.2 although men ages 45-54 have seen a fall from 85.9 to 84.8. Similarly, females ages 35-44 have seen a rise from 73.1 to 73.6 while men ages 35-44 have seen a fall from 88.7 to 87.9.

The rise in EPOP in both countries suggests labour market recovery, albeit at a slower rate in the US. As the economy recovered people were drawn into the labour force. This additional slack was not reflected in increased unemployment rates, suggesting a discouraged worker effect. When conditions improve, those who are out of the labour force (OLF) rejoin the job market. The question going forward will be what happens to those who lose their jobs in the crisis; what proportion will move to unemployment and what proportion will drop out of the labour force?

Table 1 plots EPOP rates by US state for the years 2000, 2008 and 2019. In every state except Massachusetts, the 2019 rate was below the rate in 2000. The 2019 rate was below the 2008 rate in 44 states; constant in three (Indiana, Maryland and Wyoming) and above it in Tennessee (+0.9pp), Michigan (+0.9pp), DC (+2.4pp) and Massachusetts (+2.9pp). Aggregate US employment grew, but the population grew faster.

Wage growth
Figure 4a and Figure 4b respectively present evidence on nominal and real weekly pay growth in the UK and the USA. We focus on weekly earnings to allow for variations in hours worked. When times are good, overtime can boost earnings. At the start of 2019, pay growth began to accelerate. Among US private sector production and non-supervisory workers (PNSW), which make up four-fifths of the private sector workforce, wage growth hit 4.0% in January. That was the high point. Wage growth declined ever since, falling to 2.5% in March 2020. Average weekly earnings of all employees also declined steadily since the start of 2019.

In the UK the main data on wages that are available are Average Weekly Earnings (AWE) Total Pay growth. This series combines regular and bonus pay and is classed as a 'national statistic'. AWE single month annual wage growth averaged 4.0% from January 2001 to the start of the recession in April 2008, obtained by simply averaging the monthly rates. Between January 2009 and December 2018, it averaged 1.8% and in 2019 it averaged 3.3%. It slowed in the second half of 2019, falling from 4.0% in May 2019 to 2.8% in December 2019 before increasing to 3.1% in

January 2020. This is broadly consistent with the slowing of wage growth in 2019 seen in the USA.

As can be seen from Figure 4a real wage growth in the UK was still 3.7% below peak 2008 levels at the end of 2019.[5] In the US, in Figure 4b, real wage growth has been stronger. By January 2020 it had risen 10.5% from $287 in January 2008 to $317. It was still 8% below its February 1973 peak of $346. In Bell and Blanchflower (2020) we showed that the unemployment rate does not enter wage equations in either the UK or the US. What does enter is the underemployment rate U7. Slack at the internal margin of the labour market rather than at the external margin is what is keeping pay in check. Policymakers have wrongly used the unemployment rate as their preferred measure of labour market activity.

For space reasons in the Online Appendix we draw comparisons between the US and the UK for a series of other labour market measures including labour force participation rates; long-term unemployment; hours; the change in part-time employment; self-employment and multiple jobholding rates. These tend not to show a dramatic change between the end of the Great Recession and the onset of Covid-19.

Even though both employment rates and labor force participation rates are higher in the UK and unemployment rates are lower than before the recession started, underemployment rates are higher. Moreover, as noted above real wages in the UK at the start of 2020, based on the AWE were 3% below their levels a dozen years earlier. Data from the UK Annual Survey of Hours and Earnings confirms the decline in real pay in the UK with median weekly earnings 2.9% lower in 2019 than at their peak in 2008.[6] Thus, even after a decade of recovery labour markets in the US and the UK were surprisingly weak. This was not a good starting off point for a crisis of historic proportions.

3. The Economics of Walking About (EWA) in the US and the UK

Around the world in March 2020, economies essentially closed and especially so in France, Spain, Italy, the UK and at the time of writing in 45 US states and the District of Columbia as the pandemic struck. By April 8th only five states, all of which had Republican governors, did not have stay-at-home orders – Arkansas; Iowa; North and South Dakota and Nebraska. Country lockdowns simultaneously caused drastic contraction of both supply and demand – an unprecedented double shock to markets. Economic activity slowed sharply around the world. In the Eurozone and the UK this was evidenced by dramatic declines in the construction, services and manufacturing Purchasing Manager's Indices[7].

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[5] It has been suggested to us that it is inappropriate to use the peak real earnings level of £522 found in February 2008 (and £512 in January 2008) to compare to the most recent real AWE total pay real wage rate of £503 which has been observed in the last three months of data currently available (November and December 2019). The suggestion is the February 2008 peak, which coincidentally is two months before the onset of recession in April 2008 is an outlier due to bonus payments. That doesn't seem to be the case. Bonus payments were £32.49, £28.44; £35.93 in the three months before February 2008, were £33.24 that month and £32.66; £29.46 and £34.11 the following three months so there is no spike in bonus payments that we can see.

[6] 'Employee earnings in the UK, 2019', ONS 29th October 2019.2019.ONShttps://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/bulletins/annualsurveyofhoursandearnings/2019#measuring-this-data

[7] see David Blanchflower and David Bell, 'Forget 'recession': this is a depression', The Guardian, 3rd April, 2020

To work out what is going on will require us to do some Economics of Walking About (EWA), following Blanchflower (2019)[8]. We thus look at evidence from the real world and listen to what people and firms say. We show that early anecdotal evidence of a collapsing US labour market was quickly confirmed by official data.

US Department of Labor's Initial Unemployment Claims
Each week the US Department of Labor reports the number of workers who file unemployment insurance (UI) claims. This information is also published by states. The state reports first raised the alarm that a huge increase in claims was coming. Unemployment offices were overwhelmed with claims caused by 'unimaginable layoff numbers'.

"*In Michigan, the state unemployment filing system crashed this week because it was overloaded. In California, it may take much longer than usual for hundreds of thousands of jobless people to get their benefits. In New York, one laid-off worker says she called the state labour department 800 times before getting through…*

Among the most common problems workers are facing is an inability to get through on state offices' overloaded systems. Those filing online have said they're waking up early or staying up late to try to access the system outside of peak hours; the New Jersey Department of Labor, for example, is asking applicants to try to get through before 7 a.m. and after 10 p.m., when traffic is lightest.

Others who have to reach a live official by phone for any number of reasons — because they have a more complicated work history, say — recount days spent trying to dial in. For Tanesha Warren, who worked at an airline lounge and a rehearsal studio in New York City until both shut down in March, it took nearly a week and more than 800 calls to the New York State Department of Labor to be able to file a claim."[9]

In Ohio, the state reported that they received 78,000 claims for unemployment in three days during the week of 18th March up 2,579% from the prior week.[10] According to the Dayton Daily News from the Dayton metro area jobless claims rose 3729% in the week ending March 21st. New Jersey had 46,000 claims in a single week after Superstorm Sandy in November 2012. In the week ending March 21 there were 155,815 claims and 206,253 in the week ending March 28th.[11] New Jersey stepped up its efforts to serve the unemployed by temporarily suspending the "work search

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https://www.theguardian.com/commentisfree/2020/apr/03/recession-depression-data-coronavirus
and David Blanchflower, "Pandemic economics; 'much worse, very quickly'", New York Review of Books, March 26th 2020. https://www.nybooks.com/daily/2020/03/26/pandemic-economics-much-worse-very-quickly/
[8] Tony Yates helpfully pointed out to us that as the US and the UK are in lockdown, and we won't be doing much of any 'walking about' so what we really mean is the Economics of Walking About the Internet (EWAI)!
[9] Megan Casella and Katy Murphy, 'States overwhelmed by previously unimaginable layoff numbers,' Politico, April 1st 2020 https://www.politico.com/news/2020/04/01/unemployed-workers-benefits-coronavirus-159192
[10] https://www.daytondailynews.com/news/local/coronavirus-crisis-sparks-500-increase-ohio-unemployment-claims/1jalUcMSyP2dVnMM6g7NKO/
[11] https://www.insidernj.com/nj-labour-department-new-unemployment-insurance-claims-top-362k-past-two-weeks/

requirement" for laid off workers. North Carolina reported an average of 21,000 people a day claiming UI over the last two weeks in March and the first in April.

On March 18th Governor Newsom of California reported that the state typically received about 2,000 claims daily. "*Two, three days ago we saw about 40,000 … then 70,000.*" he said. "*Yesterday, 80,000 applications. It doubled in a 48 hours period.*"[12] There were numerous anecdotal accounts of phone lines to unemployment offices that are jammed, offices that are closed, or websites that have crashed.[13] Florida's website crashed and the state asked the unemployed to send their applications in by mail. In Florida, phone calls seeking advice on claiming benefits hit 3.8 million in a single week at the end of March. To staff the offices 250 people were added on Monday April 6th with another 500 staffers expected to be added the following day. The system is creaking at the seams and overwhelmed.

The national estimates of UI claims for the first four weeks of March show successive increases from 211,000 in the first week; 282,000 in the second; 3,307,000 in the third and 6,648,000 million claims in the week ending March 28th. On April 9th initial claims were 6,606,000 with an upward revision for the prior week taking it to 6,867,000.

As an indicator as to how high unemployment rates may go, we found that Wisconsin saw a 51 time rise in initial UI claims through April 4th, below the national average. Its Department of Workforce Development on April 9th updated that number for the period March 15 and April 6th the total number of new applications was 313,068, up 50,000 compared to the number in Appendix Table 1 (https://dwd.wisconsin.gov/news/2020/200409-total-number.htm) versus 17,748 for the same period in 2019. They estimate that their unemployment rate has skyrocketed to around 27%.[14]

We had some indication from the state of Pennsylvania's Office of Unemployment Compensation that there had been some slowing in claims in April although the numbers were substantial. During the seven days 15th-21st March they had 378,900 initial claims (average 54,000 per day) versus 405,789 (average 58,000 per day) for the week ending 28th March; 283,714 (average 40,500 per day) for the week ending 4/4/20 and 238,357 (average 34,000 per day) for the week ending 4/11/20 and 27,477 for Sunday 4/12/20 making a total of 1,334,327.[15] We have data from the State of Texas from the Texas Workforce Commission on the number of new claims filed which appears to also have slowed but remains substantial.[16] Claims by week were as in Figure 7, from around 7000 a week to a high of 314,000 for the week ending April 4th. For the following week Sunday 12th – Monday 13th April there have been 64,700 new claims. It seemed there was a decline in the numbers coming and so it proved.

On Thursday April 16th DOL released data for the week ending April 7th and showed an additional 5,245,000 initial claims, with the prior week revised up by 9,000 to 6,615,000. Over a three-week

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[12] https://www.sacbee.com/news/coronavirus/article241308656.html
[13] https://www.nytimes.com/interactive/2020/03/19/upshot/coronavirus-jobless-claims-states.html
[14] Mitchell Schmidt, 'State projects 27% unemployment rate due to COVID-19,' Wisconsin State Journal, 10th April 2020
[15] https://www.uc.pa.gov/COVID-19/Pages/UC-Claim-Statistics.aspx
[16] https://www.twc.texas.gov/news/unemployment-claims-numbers

period, UI claims in the US increased by 22 million. This is an unprecedented increase in unemployment.

We examined the change in the number of UI initial claims reported by the Department of Labour and took the starting level at the end of the week ending March 7th and then summed them for the following four weeks. That sum is then expressed as a multiple of the first week's value. For the US as a whole, the multiple is 80. There are seven states with multiples of 150 or more including Georgia (157); Indiana (171); Louisiana (155); Michigan (195); New Hampshire (193), North Carolina and Virginia (153). The full data are presented in Appendix Table 1.

The UI releases came as the Federal Reserve said it could pump $2.3 trillion into the US economy with new and expanded programs including municipal bonds and expand its corporate bond buying programmes to include riskier debt. This was unthinkable even a couple of months earlier when the Fed was limited to buying federally insured assets – Treasuries and Mortgage Backed Securities (MBSs). It could have bought short-term municipal bonds but never had. The Fed will also set up a business lending program that targets mid-size companies including those not eligible under a Small Business Administration loan program.

"*After firing its arsenal at funding markets last month to prevent a public-health crisis from morphing into a financial crisis, the Fed later said it would throw another kitchen sink at credit markets that have broken down. On Thursday, the central bank expanded those efforts and further unveiled a new generation of lending facilities to prevent a liquidity crunch from turning into a solvency crisis for American businesses, states and cities.*"[17]

Bureau of Labor Statistic Jobs Report- The Employment Situation?
On Friday April 3rd the BLS published its monthly jobs report which was based on survey evidence from establishment and households for the survey week of 8th-14th March just before the giant surge in UI claims, and it had bad news.

First, non-farm payrolls dropped by 701,000, the first decline since September 2009. This was comparable in size to monthly declines seen in the Great Recession.[18] Second, the employment drop was greater among more marginal workers such as private household workers. Employment on that measure fell by just under 3 million as the civilian noninstitutional population aged 16+ rose by 130,000. Third, unemployment rose by 1,353,000 and the unemployment rate jumped from 3.5% to 4.4%, the third largest increase since records began in 1948. Fourth, EPOP fell 1.1 percentage points during the month, the largest drop ever (Figure 3). Fifth, labour force participation fell by 1,633,000 and the LFPR fell by 0.7 percentage points. So, more people dropped out of the labour force than moved to unemployment. Sixth our underemployment measure, U7, had its biggest rise ever of 1.1 percentage points from 2.7% to 3.7% (Figure 1b). PTFER rose by 1.45 million.

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[17] Nick Timiraos, 'Fed expands corporate-debt backstops, unveils new programs to aid states, cities and small businesses', Wall Street Journal, April 9th, 2020.

[18] The biggest monthly drops in non-farm payrolls in the Great Recession were November 2008=-727; December=-706; January 2009=784; February 2009=-743; March 2009=-800 and April 2009=-695 ('000s). Source: BLS.

The broader U6 measure of labour market underutilization rose from 7.0% to 8.7%, driven almost entirely by the rise in PTFER. Those marginally attached to the labour force rose by 23,000, while the number of discouraged workers rose by 100,000. Seventh, the most marginal workers were already hardest hit with the biggest rises in unemployment rates of the least educated and Hispanics. The unemployment rate of the foreign born rose from 4.2% to 5.7% compared with 3.4% to 4.0% for the native born. Eighth, the unemployment rate of part-time workers increased from 3.7% to 6.1%. Lastly, the number of multiple jobholders fell by 689,000 while the multiple jobholding rate fell from 5.1% to 4.7%.

Between February and March 2020, seasonally adjusted EPOP declined particularly among the young and minorities, especially young African Americans who saw their employment rate drop by 3.8 percentage points as shown below (Source: BLS). Men appear to have been impacted more than women.

	February	March.
All	61.1	60.0
Males	66.8	65.6
Females	55.9	54.7
Ages 16-24	52.4	49.3
Ages 16-24 – African Americans	44.3	40.5
Ages 16-24 – Whites	53.3	51.0
Ages 16-24 - Hispanics	50.3	47.5
Ages 25-54	80.5	79.6
Ages 55+	39.3	38.5
Blacks	59.4	57.8
Whites	61.3	60.2
Asians	62.8	61.1
Hispanics	64.6	62.7

About 28 million people in the US didn't have health insurance in 2019. Given that health insurance is typically arranged through employers, the total uninsured will likely rise by around 25 million, given increased jobless claims of 10 million and average household size of 2.5 people.[19]

Rinz (2020), in an important paper, notes that not everyone who loses a job or files for UI will be considered as unemployed. In particular, the concern is that stay-at home orders will prevent people from searching for jobs who will then be considered out of the labour force (OLF) rather than unemployed. Additionally, as Rinz notes, some people who remain attached to their employers but are not actively working will be considered employed but absent from work. The number of people in this category often spikes after major natural disasters that keep people away from their jobs, like Hurricanes Sandy and Katrina.

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[19] Thanks to Torsten Slok of Deutsche Bank for pointing this out to us, taken from Figure 6 of this report. See Jennifer Tolbert, Kendal Orgera, Natalie Singer, and Anthony Damico, 'Key facts about the uninsured population' Kaiser Foundation, December 13th, 2019.
https://www.kff.org/uninsured/issue-brief/key-facts-about-the-uninsured-population/

The Short-Term Compensation (STC) exists in 27 states and is an alternative to layoff. It allows employers to reduce hours rather than laying workers off.[20] STC pays pro-rated UI benefits based on the percentage hours reduction. The CARES Act provides federal dollars to pay STC benefits and to set up new programs. STC claims are reported in the weekly UI release and for the week ended March 28 (25,873) they were up by 57% (16,452) from the previous week (16,452) and 276% from the prior year (9,362), but the level of claims is still low. These numbers are also likely to continue to rise.[21]

Figure 5 reports results available from the March 2020 Federal Reserve Bank of New York's Consumer Expectations Survey on early evidence of the distributional consequences of the shock.[22] Mean unemployment expectations—or the mean probability that the U.S. unemployment rate will be higher one year from now—increased dramatically from 34.2% in February to a new series high of 50.9%. This reading is 14.8 percentage points above the 12-month trailing average of 36.1%. The mean perceived probability, of finding a job (if one's current job was lost) decreased from 58.7% in February to 53.0% in March, 6.5 percentage points below its 12-month trailing average of 59.9%. The probability declined most rapidly among those with the least education.

Consistent with that, the FT Peterson poll conducted in the US between March 24th and March 28th reported that the lowest income groups were feeling the biggest income hit from the coronavirus. When asked if the pandemic had reduced their family income, 29% of those with income of less than $50k said very significantly, versus 20% of those with income from $50k to $100k and 19% of those over $100k.[23]

In addition, we have data in the EU from its monthly business and consumer surveys including the UK, on what respondents think will happen to unemployment over the next month (Table 2).[24] We report the average for 2019 and then the most recent three months. In part a) we report the views of consumers on their fear of unemployment. The UK had seen some pick-up in that series during 2019 but there has been little change in the first three months of 2020. That contrasts with data for the EU as a whole, the Eurozone, Belgium, France, Germany, Italy the Netherlands and Sweden where there were pronounced upticks in March 2020. Similarly, part b) reports on service employers' views on employment over the next three months with marked drops in Europe but less so in the UK.

Figure 6 reports results for the UK from the March 2020 KPMG and REC, UK Report on Jobs, that shows a dramatic decline in permanent and temporary placements, to levels close to those observed in 2008. Demand for both permanent and temporary placements fell for the first time

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[20] The states are: Arizona, Arkansas, California, Colorado, Connecticut, Florida, Iowa, Kansas, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Texas, Vermont, Washington, and Wisconsin.
https://oui.doleta.gov/unemploy/docs/stc_fact_sheet.pdf
[21] We thank Kevin Rinz for his help with this.
[22] https://www.newyorkfed.org/newsevents/news/research/2020/20200406
[23] Lauren Feder and Christian Zhang, Income of 73% in US hit by outbreak – FT Peterson Poll', Financial Times, April 7th, 2020.
[24] https://ec.europa.eu/info/business-economy-euro/indicators-statistics/economic-databases/business-and-consumer-surveys_en

since 2009. Their Permanent Placement Index dropped from 52.9 in February to 31.7 in March while the Temporary Billings Index went from 49.7 to 35.6.

Table 3 shows the comparison with what happened in 2008, as other attitudinal measures were plunging. Note from the table though that by autumn 2008, these two indicators scores for temporary and permanent placements had been falling for nearly a year as noted in Blanchflower (2008) along with other indicators including consumer confidence and consumer's views on the state of the economy.[25] In contrast, this time around, the same drop occurred in the single month of March 2020. The table also shows that the decline in both permanent and temporary placements was most marked in London.

In Table 4 we report some US evidence on the ability to work at home that may be helpful to understand the size of the fall in employment and increase in unemployment that there will be if the shutdown continues. It shows those industries and occupations likely to be hardest hit. It shows BLS data on whether workers could, or do, work from home based on time use diaries in 2017-2018. The estimate is that 41.5 million workers, or 29% of the workforce, can work from home and most (25%) do. That does seem low though given that even university professors like one of us after forty-five years for the first time is teaching classes from home with students in their homes scattered all around the world. The ability to work at home is highest among the middle-aged, Asians (37%); the most educated (52%), full-timers (33%) and those with earnings in the top quartile (62%) and a flexible schedule (42%). It is highest in financial services (57%) and government (36%). It is least possible among high school dropouts (4%), in transportation (3%) and in production (4%).

Guyot and Sawhill (2020) have noted that many of those who worked from home did not have an official work-from-home arrangement but were instead taking work home with them (such as at night or over the weekend). Only 20% said they were occasionally paid to work from home, and just 12% worked from home at least one full day per month. They also estimate that by April 2020 around a half of employed adults are currently working from home.

Together this EWA evidence suggests that the US and UK labour markets are experiencing an unprecedented fall in demand that will have an immediate, negative effect on the experience of those already in the labour market, those seeking to join it, and their households. All of the indicators, whether derived from administrative data, survey data or informed opinion point downwards. Negative effects will not be evenly distributed across the populations but will disproportionately affect the young, ethnic minorities and the poorly educated. Unfortunately, largely as a result of decisions made by UK Government around the timing and coverage of official statistics in the UK, the UK picture is much less complete than that of the US. We discuss these issues in the next section.

4. **We don't know where we have been. We don't know where we are, and we don't know where we are going!**

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[25] The UK went into recession in April 2008, but this was not confirmed in GDP data until July 2009. As is clear from Figure 1a the UK unemployment rate started to tick up from a low of 5.2% in April 2008. See Blanchflower (2019).

The question is whether we are entering a depression? The Great Depression is the benchmark for depressions. We only have annual data but that shows that between 1929 and 1933, the US unemployment rate rose from 3.2% to 24.9%. Over this four-year period, the number of unemployed Americans increased from 1.6 million to 12.8 million. In the UK, the unemployment rate rose from 7.2% to 15.4% between 1929 and 1932 and an extra 1.9 million people were put on the dole. By comparison, the Great Recession of 2008-10 was a minor affair, at least as far as unemployment was concerned. We have monthly data available which shows that the US unemployment rate rose by five percentage points between January 2008 and October 2009, while the UK rate increased from 5.2% at the start of 2008 to 8% at the beginning of 2010. Up to February 2020 there had been 113 straight months of job growth.

On April 6th, 2020 ex-chair of the Federal Reserve and labour economist Janet Yellen warned that 2020 Q2 GDP could drop in the US by as much as 30% and that, "*if we had a timely unemployment statistic, the unemployment rate probably would be up to 12 or 13% at this point and moving higher*".[26]

US unemployment in March 2020 was 7.1 million, while the size of the labour force was 163 million and hence the unemployment rate was 4.4%. Adding the extra 22 million who signed up for UI during the last four weeks implies an unemployment rate of 17.8%. If the labour force shrinks as it well might, and/or unemployed who are not eligible for benefits are also included then the April rate could be even higher. This is close to the estimates of Bick and Blandin (2020) who have set up an online labour market survey of a sample representative of the US working age population and estimate that the unemployment rate had increased to 20.2% in the first week of April 2020.[27]

On April 10th, 2020 the first estimate of US inflation for March showed a 0.4% decline, as measured by the All Urban Consumers Index. This was largely driven by a fall in energy prices. Excluding food and energy, the index dropped by -0.1%. The US Commerce Department estimated that retail and food services fell 8.7% in March 2020, the biggest decline ever. The situation has almost certainly worsened since then. Most states didn't shut down nonessential businesses until late March or early April.[28] US industrial production fell 5.4% in March, the biggest drop since 1946.[29]

The St. Louis Fed on March 24th estimated that the unemployment rate for the US for Q2 2020 could reach 32% based on the number of workers with a high risk of layoff including food preparation; sales, installation and maintenance (67 million) and workers in high contact occupations (27 million). Assuming around half of those workers are laid off gets them to the

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[26] Jeff Cox, 'Janet Yellen says second quarter GDP could decline by 30% and unemployment is already at 12-13%', CNBC, April 6th, 2020. https://www.cnbc.com/2020/04/06/janet-yellen-says-second-quarter-gdp-could-decline-by-30percent-and-unemployment-is-already-at-12percent-13percent.html

[27] They also estimate from their sample of 1,118 respondents that 64% of hours were from home and hours worked per employed were down 12%.

[28] https://www.census.gov/retail/marts/www/marts_current.pdf

[29] https://www.federalreserve.gov/releases/g17/current/g17.pdf?mod=article_inline

unemployment of around 53 million or an unemployment rate of 32.1%.[30] The Congressional Budget Office on April 2nd, 2020 produced its forecast suggesting the economy will contract sharply in Q2 2020 by more than 7% or 28% annualized.[31] They suggest that the unemployment rate "*is expected to exceed 10% during the second quarter*", which looks much too low. The Bank of America sees 20 million jobs lost and 15.6% unemployment rate.[32] The PCSI Jobs index was down 14 points. The Indeed Hiring Lab's Job postings index were down 2.9% in the first two weeks of March and then the slowdown accelerated, down 7.1% as of March 21st; 15.1% as of March 27 and 23.6% on April 3rd. So far in 2020 the trend in their job postings is 30.8% lower than in 2019.[33]

The University of Michigan's consumer sentiment index posted its largest recorded monthly drop in early April. It fell from 89.1 in March 2020 to 79.1 in April 2020. When combined with the prior month's decline of eight points, the two-month drop of 30.0 Index-points was 50% larger than the prior record. Of the two Index components, the Current Conditions Index plunged by 31.3 Index-points, nearly twice the prior record decline of 16.6 points set in October 2008. The Refinitiv/IPSOS Primary Consumer Sentiment Index (PCSI) dropped 12 points in April 2020, which is the largest ever drop in the two decades of the existence of the index.

We know from the UK Department of Work and Pensions that 1.2 million individuals applied for Universal Credit in the three-week period starting 16th March 2020. In normal times there are around 55,000 applications a week. Between March 23rd and March 27th, there were 1.8 million calls to the Universal Credit hotline. March 30th alone saw the number climb to 2.2 million, so there are likely many more claims in train. Eventually the government had to scrap the requirement for Universal Credit applicants to telephone benefits staff, after applicants reported spending hours on hold trying to talk to someone.

The new fortnightly Business Impact of Coronavirus Survey (BICS) conducted among 4,600 UK businesses from 23rd March and 5th April found that 60% said they did not know or were not confident they had the financial resources to continue operating through the crisis. The proportion soared to more than 70 per cent for companies working in construction, arts and entertainment, and accommodation and food services. Nearly half of businesses also reported that their turnover was lower than normal, with only professional and ITC services reporting they were unaffected. Despite the government's job retention scheme, 29 per cent of businesses said they had to reduce staff numbers in the short term and a similar proportion reported cutting working hours (Appendix Table 2). Hours reductions were greatest in Accommodation and Food (57%) and Arts Entertainment and Recreation (46%). Half of firms said staff had work from home.

As indicated, we have little timely evidence from the UK in relation to what is happening, in the labour market due to the poor quality of the data produced by the Office of National Statistics.

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[30] https://www.stlouisfed.org/on-the-economy/2020/march/back-envelope-estimates-next-quarters-unemployment-rate
[31] https://www.cbo.gov/publication/56314
[32] https://www.businessinsider.com/economic-forecasts-bofa-slashes-us-coronavirus-unemployment-gdp-recession-jobs-2020-4
[33] https://www.hiringlab.org/2020/04/14/coronavirus-and-us-job-postings/

What we do know, based on official evidence from a series of data releases from the ONS on April 9th, is that the UK was close to recession just prior to the onset of the Covid-19 Crash. GDP growth was +0.1% in the three months through February; total production fell by 0.6%; construction output was down 0.2%, while services grew by only 0.2% over those three months. At turning points, revisions tend to be downward, as happened in 2008.[34] Also on April 9th, the Bank of England agreed to the monetary financing of government to fund the immediate cost of fighting coronavirus, by acceding to a Treasury demand to directly finance the state's spending needs on a temporary basis bypassing the bond market.

Canada also has timely labour market data. In March 2020 Statistics Canada from its Labour Force Survey for the week of March 15-21 reported that employment fell in the month by 1 million or by 5%.[35] Underemployment rose by 800,000. As in the US the number of self-employed declined only a little (-36k). The Canadian employment rate dropped 3.3 percentage points to 58.5%, the lowest since April 1997. The unemployment rate increased by 2.2 percentage points to 7.8%, the largest one-month increase since comparable data became available in 1976. The greatest employment declines were among the young whose unemployment rate jumped from 6.5% to 16.8%. the largest employment declines were recorded in industries which involve public-facing activities or limited ability to work from home. This includes accommodation and food services (-23.9%); information, culture and recreation (-13.3%); educational services (-9.1%); and wholesale and retail trade (-7.2%). The number of people working multiple jobs fell especially sharply, by 280,000 or 26%.[36]

Among advanced economies, the UK and Greece provide the least timely official labour market statistics. At the time of writing at the start of April 2020, the UK Labour Force Survey data covers the rolling quarter Nov 2019-Jan 2020, that we report as the midpoint of December 2019. These data were published on March 17th, 2020. Data for December-February (January) will be published on April 21st. We will not have data for the crucial three months of March-May until mid-July.

The ONS does, however, publish single month data estimates on its website in a spreadsheet called X01 that it warns are 'variable' and are not 'national statistics'. Of note is the drop in the unemployment rate from 4.0% in September 2019 to 3.5% in October 2019, then back to 3.9% in November, to 3.8% in December 2019 and up to 4.0% in January 2020. The most recently reported unemployment rate for Nov-Jan 2020, or December, of 3.9% is the average of 3.8%; 3.8% and 3.9%.

We have looked at estimates of the UK occupational structure using similar methods to those used by the St Louis Fed, by judging which occupations are most at risk from Covid-19 and assumed that in the short-run around 50% of the workers in these occupations will lose their jobs or be furloughed. Based on that, what is coming in the labour market looks horrendous. We estimate that unemployment will rise by around 5 million workers from 1.34 million to over 6 million by the end of May. This assumes furloughed workers are unemployed: official statistics may describe

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[34] The first estimate of GDP growth for q22008 in July 2008 was +0.2%. At the time of writing it has been revised to -0.6%.

[35] https://www150.statcan.gc.ca/n1/daily-quotidien/200409/dq200409a-eng.htm

[36] Canada was also slowing at the start of 2020 – Q22019 GDP growth was 0.9% versus 0.28% in Q3 and 0.09% in Q4.

them as employed, but not working. Given that they are not allowed to work for their employer, this is a rather novel definition of employment. That will take the effective unemployment rate to around 20% – more than five times its current rate of 3.9% – and quickly.

Some of these workers will be furloughed and may return to work if and when there is a recovery, but this will only happen if their companies are solvent and have a market to sell into. This becomes a tougher call the longer the lockdown persists. In short: unemployment is set to rise in the UK by a lot. And we should be tracking this on a daily basis, not six months after it has happened. Canada and the US, for example, have timely data for us to work out what is going on their labour markets. The UK doesn't, so we are left to make back-of-the-envelope calculations.

RIWI (https://riwi.com) asked respondents in the US (n=2614), the UK (n=1925) and Canada (n=3635) between March 21 and April 13th, "If you lost your current source of income, for how long can you pay your bills?".[37] A quarter in each country said they 'wouldn't be able to pay their bills" and a further 19% in Canada, 16% in the UK and 19% in the US, said less than a month.[38]

The following question was put into the field on April 11th, 2020 in these three countries plus China. They were asked 'How has your income source had been impacted by Covid-19?' The unpublished answers that RIWI gave me permission to report are as below.

	Canada	UK	USA	China
Lost most or all income	22	15	21	26
Lost about half of income	13	8	13	18
Lost about a quarter of income	14	16	14	15
No change	47	57	47	37
Income increased	4	6	5	4
N	1043	1100	1067	2627

In China 45% said they had lost at least a half of their income while in Canada and the USA around one in three said that compared with one in four in the UK.

The evidence from the Federal Reserve's Report on the Economic Well-Being of U.S. Households in 2018, published in May 2019 that if faced with an unexpected expense of $400, 61 percent of

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[37] RIWI (www.RIWI.com) collects data using machine-learning technology that randomly engages respondents from the Web-using population, in this case in the US, UK, and Canada. As a result of this method, the RIWI data are broad-based, come from across all regions of each country, and draw daily from non-habitual survey respondents. More than 60 percent of RIWI survey-takers in the US have not taken a survey of any other kind in the prior month and more than one-third self-report they have never taken a survey. RIWI data are collected 24/7 avoiding time of day bias and are agnostic to respondent device. RIWI's unweighted data nearly match U.S., UK, and Canadian census data by age, gender, and geographic distribution, though tend to skew a bit younger, more educated, and more urban. Data reported here are weighted by age and gender according to latest country census data.

[38] Consistent with that Charles Swasey, Ethan Winter and Ilya Sheyman from Data for Progress in 'The staggering economic impact of the Coronavirus pandemic,' dated April 9th, 2020 reported that because of the coronavirus 52% of workers under 45 had lost a job, been put on leave or had hours reduced compared with 26% over age 45. Overall 31% of respondents said they could go for only two weeks or less with their current source of income before they were unable to pay their bills. The numbers were 36% of non-college graduates and African-Americans and 47% for those under age 45. http://filesforprogress.org/memos/the-staggering-economic-impact-coronavirus.pdf

adults said they would cover it with cash, savings, or a credit card paid off at the next statement—a modest improvement from the prior year (page 2). Similar to the prior year, 27 percent would borrow or sell something to pay for the expense, and 12 percent would not be able to cover the expense at all. Seventeen percent of adults were not able to pay all of their current month's bills in full. Another 12 percent of adults would be unable to pay their current month's bills if they also had an unexpected $400 expense that they had to pay. One-fifth of adults had major, unexpected medical bills to pay in the prior year. One-fourth of adults skipped necessary medical care in 2018 because they were unable to afford the cost. That was in the good times.

As an indication of how hard people in the US have been hit 10,000 showed up to seek San Antonio, Texas food bank help.[39] "*It was a rough one today,*" said Food Bank president and CEO Eric Cooper after the largest single-day distribution in the nonprofit's 40-year history. "*We have never executed on as large of a demand as we are now*."

5. Concluding Remarks

We are likely to see continuing falls in employment and participation rates in the UK and US labour markets accompanied by increases in the unemployment and underemployment rates. In the UK, the self-employed seem especially exposed to underemployment as the available work declines. Long-term unemployment rates may well rise especially among the least skilled; the longer the duration of an unemployment spell the worse the impact. Nominal earnings growth is likely to slow and real take home pay will inevitably fall not least as hours, and especially paid overtime hours, are likely to fall.

Even universities are in trouble with the Spring term cancelled and students no longer on campus. Ivy League universities with giant endowments including Harvard, Yale, Cornell, Brown,[40] Princeton and Dartmouth along with Duke, Stanford, Chicago, Southern California, Purdue, Minnesota, Rice, Rutgers and Iowa to name but a few have already announced layoffs, hiring and pay freezes.[41] Some university presidents and senior officers including athletic coaches have even said they will take 20% pay cuts. The bailout package provided $14 billion for higher education that may not be enough.[42] The University of St Andrews in the UK has announced it will have to look for cost savings as it has lost £25 million in research grants, along with the loss of conference and accommodation rentals. Aberdeen University warned that its income was going to fall

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[39] Tom Orsborn, 'In biggest turnout yet, 10,000 hit hard by economic effects of coronavirus seek San Antonio Food Bank help', San Antonio Express News, April 9th 2020.

[40] https://www.browndailyherald.com/2020/04/08/university-enact-salary-wage-freezes-upcoming-fiscal-year-2021/ and
https://cornellsun.com/2020/03/30/freezing-finances-cornell-halts-hiring-salary-increases/ and

[41] Princeton University Provost Debbie Prentice wrote to staff on April 8th, 2020. '*Departments can continue to use their temporary hourly, casual, and contract employees through the end of the semester, but the university won't be able to guarantee support for all of the positions over the long term. Understanding that our operating picture will look very different heading into the summer, we are asking managers to start planning now for a decreased dependence on these positions beginning June 2.*"
https://planetprinceton.com/2020/04/08/princeton-university-freezes-salaries-asks-departments-to-cut-non-essential-spending-in-response-to-covid-19-crisis/

[42] Erica L. Green 'Colleges get billions in coronavirus relief, but say deal falls short of needs,' New York Times April 15th 2020

substantially and will pause building work and staff recruitment in response to the 'calamitous' effect of the shutdown.[43] This didn't happen in 2008.

Hank Paulson Jr., Treasury Secretary under Bush in 2008, noted in early April 2020 *"The pandemic crisis has laid bare the fact that while our economy was fundamentally strong before the crisis hit, we have unsustainable levels of income disparity in the United States, with too many people living paycheck to paycheck, afraid of the wolf at the door."[44]* He went on to argue the number one need in response to the virus is to that we need to protect those most in need by significantly upgrading our social safety net while maintaining incentives to work. He is right: already there are signs that there will be serious distributional consequences of the coronavirus which in the US is taking a disproportionate impact on African Americans, Hispanics especially in the inner cities. London has seen the biggest drop in hiring. The lowest paid, the least educated, the young and minorities as well as those in construction, manufacturing and transportation seem less able to work from home and they are the most vulnerable to lay-offs as a result of lockdowns and social distancing. Already their unemployment rates have surged the most in the US and Canada where we have good early data. Minorities and the foreign born have seen bigger increases in their unemployment rates than whites or the native born.

The distributional consequences are likely to be especially high. We have already seen 10,000 families lined up at a foodbank in Texas. Websites are swamped and phones are ringing off the hook across the US trying to deal with UI applications, and it may be a long time before those most in need receive help. Stimulus money has started to appear in people's bank accounts but many will have to wait for months. Those who did badly in the non-existent boom will now do even worse.

Will the US and the UK economies come roaring back as President Trump suggested in a big boom? We suspect not; even when a cure is found. Pandora's box has been opened. The shape of the recovery, especially in labour markets, will depend on the extent to which the lockdowns are held in place and the speed with which a vaccine becomes available. It will also depend on the extent to which people change their behaviour long-term. Will it be a V shape or even an L-shape recovery? Josh Lehner of the Oregon Office of Economic Analysis has suggested plausibly a possibility that it might be a square root shaped recovery with an initial bounce back after the restrictions are lifted and then a slower recovery with the path dependent on pent-up demand and the amount of permanent damage done to the economy.[45]

The Office for Budget Responsibility in the UK has forecast that a three-month lockdown will result in GD dropping 35% in Q22020 and the unemployment rate rises to 10% but assume no lasting economic hit.[46] The unemployment rate they argue will declines more slowly than GDP

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[43] Alastair Gossip, 'Aberdeen University under 'very serious financial pr5essure' due to 'calamitous' coronavirus,' The Press and Journal, April 10th, 2020.sti
https://www.pressandjournal.co.uk/fp/news/aberdeen/2136898/aberdeen-university-under-very-serious-financial-pressure-due-to-calamitous-coronavirus/
[44] Henry Paulson Jr. '7 principles for a post-coronavirus economy,' The Washington Post, 10th April, 2020.
[45] Josh LehnerCOVID-19 'The Square Root Recovery', Oregon Office of Economic Analysis, April 7th 2020.
https://oregoneconomicanalysis.com/2020/04/07/covid-19-the-square-root-recovery/
[46] 'Commentary on the OBR Coronavirus reference scenario', OBR, 14th April 2020.
https://cdn.obr.uk/Coronavirus_reference_scenario_commentary.pdf

recovers. NIESR in its monthly tracker is forecasting that the UK could see a 5% growth decline in 2020 Q1 and if the lockdown continues by around 15% to 25% in the second quarter. This follows a decline of 0.1% in February, mainly due to a fall in construction.[47]

On April 14th the IMF released its 2020 World Economic Outlook, projecting the global economy will contract by 3% as a result of the COVID-19 pandemic, a steeper decline than the 2008-2009 financial crisis. That amounts to a cumulative loss to global GDP from 2020 to 2021 as a result of the pandemic of approximately $9 trillion, or more than the economies of Japan and Germany combined. The IMF are forecasting that GDP in the UK drops 6.5% in 2020 and only partially recovers in 2021 with +4.2% and similarly for the US with -5.9% in 2020 and +4.7% in 2020. In terms of unemployment rates they see the UK hitting 4.8% in 2020 and 4.4% in 2021 and 10.4% in the US in 2020 and 9.1% in 2021 and Canada at 7.5% and 7.2% respectively which all seem wildly optimistic.

Plausible possibilities though are that it will impact LR growth are that there is an increase in precautionary savings, fewer people may go on vacations and especially on cruises. Will old people continue to be sent to retirement homes in the same numbers? Will big crowds at sports events and concerts be a thing of the past and will there be restrictions on travel to virus hotspots? Will health insurance costs rise? It remains unclear, whether the retail stores in the US including Macy's, J.C. Penney; Kohls, Gap, Dick's Sporting Goods and Nordstroms in full or in part will ever open again? Will commuting, a major source of unhappiness[48] decline as people decide they can work from home. Maybe the dreaded cubicle is a thing of the past? That would be good. The concern though is that the weakest do the worst.

Harvard professor Richard Freeman taught us that "*those that gain most in the boom are the same people that did worst in the slump*". The concern is that this time around there has not been a boom for many and those who have done badly in this non-existent boom will now do even worse. The young, the lower income and least educated groups who generally do well in a boom but didn't in the last "boom" are thus even more vulnerable than usual in the coming downturn. The COVID-19 crisis will certainly meet the classic definition of a recession – two quarters of negative growth – we suspect that the UK was already close to this outcome even before this latest crisis. Whether it will turn into a depression akin to that of the 1930s, will depend on how long excess supply persists in the labour market and how much human suffering and misery that causes.

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[47] https://www.niesr.ac.uk/publications/april-2020-gdp-tracker
[48] Kahneman and Krueger (2006).

Table 1. Employment rates by state.

	2000	2008	2019		2000	2008	2019
Alabama	60	57	56	Montana	65	64	61
Alaska	69	66	60	Nebraska	72	71	68
Arizona	63	60	59	Nevada	67	64	61
Arkansas	60	60	56	New Hampshire	71	68	67
California	67	64	62	New Jersey	64	63	61
Colorado	70	69	67	New Mexico	60	60	55
Connecticut	66	65	64	New York	60	60	58
Delaware	67	63	60	North Carolina	65	61	59
DC	64	65	67	North Dakota	69	72	68
Florida	61	60	58	Ohio	64	63	60
Georgia	67	64	60	Oklahoma	62	61	59
Hawaii	64	63	59	Oregon	65	62	59
Idaho	66	63	63	Pennsylvania	62	62	60
Illinois	67	64	62	Rhode Island	64	63	62
Indiana	66	62	62	South Carolina	63	58	57
Iowa	69	69	69	South Dakota	71	71	67
Kansas	68	68	65	Tennessee	63	59	60
Kentucky	61	58	57	Texas	65	63	62
Louisiana	59	59	56	Utah	70	68	67
Maine	66	62	61	Vermont	68	67	65
Maryland	68	66	66	Virginia	66	67	64
Massachusetts	66	63	66	Washington	65	65	62
Michigan	66	58	59	West Virginia	54	54	52
Minnesota	73	68	68	Wisconsin	70	67	65
Mississippi	60	56	53	Wyoming	69	63	63
Missouri	67	62	62	USA (January)	65	63	61

Source: BLS https://www.bls.gov/lau/rdscnp16.htm

Table 2. EU Consumer and Services Survey Responses

a) Consumers "What do you think will happen to unemployment over the next twelve months?"

	Average 2019	Jan-20	Feb-20	Mar-20
EU	10	13	13	22
Eurozone	11	13	13	23
Belgium	10	8	10	18
Germany	16	19	22	29
France	9	7	-1	12
Italy	15	16	19	35
Netherlands	-7	4	1	10
Sweden	16	25	24	33
UK	24	20	19	18

b) Employers "What do you think will happen to employment in services next 3 months?"

	Average 2019	Jan-20	Feb-20	Mar-20
EU	9	8	8	-2
Eurozone	9	9	9	-1
Belgium	16	9	21	-6
Germany	14	12	10	0
France	4	5	7	-3
Italy	-1	-1	1	-13
Netherlands	13	12	10	4
Sweden	18	18	15	-2
UK	7	9	13	5

Source: https://ec.europa.eu/info/business-economy-euro/indicators-statistics/economic-databases/business-and-consumer-surveys/download-business-and-consumer-survey-data/time-series_en

Table 3. KPMG and REC UK Jobs Report, 2008 and 2020

a) Great Recession

	Permanent Placements	Temporary Placements
Jul-07	64.1	59.1
Oct-07	57.4	58.8
Mar-08	48.6	55.8
Jun-08	48.2	54.3
Jul-08	44.1	50.7
Aug-08	41.5	46.4
Sep-08	41.2	45.3
Oct-08	33.2	38.6
Nov-08	28.9	31.7

b) Covid-19 Crash

	Permanent Placements	Temporary Placements
Oct '19	51.1	47.1
Nov '19	50.5	48.8
Dec '19	52.2	51.9
Jan '20	49.8	52.3
Feb '20	49.7	52.9
Mar '20	35.6	31.7

c) Permanent Staff Placements

	London	South	Midlands	North
Oct '19	45.9	45.6	44.8	53.3
Nov '19	50.6	45.3	47.0	51.7
Dec '19	51.7	48.4	52.9	54.1
Jan '20	48.0	52.4	48.2	56.7
Feb '20	47.5	53.9	52.5	57.3
Mar '20	20.3	32.0	35.1	35.3

d) Temporary Staff Placements

	London	South	Midlands	North
Oct '19	47.7	48.9	56.5	52.2
Nov '19	50.2	47.6	54.9	52.4
Dec '19	52.3	51.3	57.1	51.4
Jan '20	48.5	49.1	53.4	50.9
Feb '20	45.0	53.6	48.9	53.7
Mar '20	27.2	36.1	33.9	40.1

Table 4. Workers in the US who work at home, 2017-2018 from the American Time-Use Survey
https://www.bls.gov/news.release/flex2.t01.htm

	% who could	% who do
Total, 15 years and over	29	25
15 to 24 years	7	5
25 to 34 years	31	26
35 to 44 years	36	32
45 to 54 years	33	29
55 to 64 years	32	28
65 years and over	26	22
Men	29	25
Women	28	25
White	30	26
Black or African American	20	18
Asian	37	32
Hispanic or Latino ethnicity	16	13
Non-Hispanic or Latino	31	27
Less than a high school diploma	4	3
High school graduates, no college	13	9
Some college or associate degree	24	20
Bachelor's degree and higher	52	47
Full-time workers	33	28
Part-time workers	14	12
Earnings <= 25th percentile	9	7
Earnings 25th- 50th percentiles	20	16
Earnings from 50th- 75th percentiles	37	32
Earnings >=75th percentile	62	56
Had flexible schedule	42	37
Did not have flexible schedule	12	10

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https://www.brookings.edu/research/former-fed-chair-janet-yellen-on-why-the-answer-to-the-inflation-puzzle-matters/

Figure 1a. UK monthly unemployment and U7 underemployment rate, 1992-2019

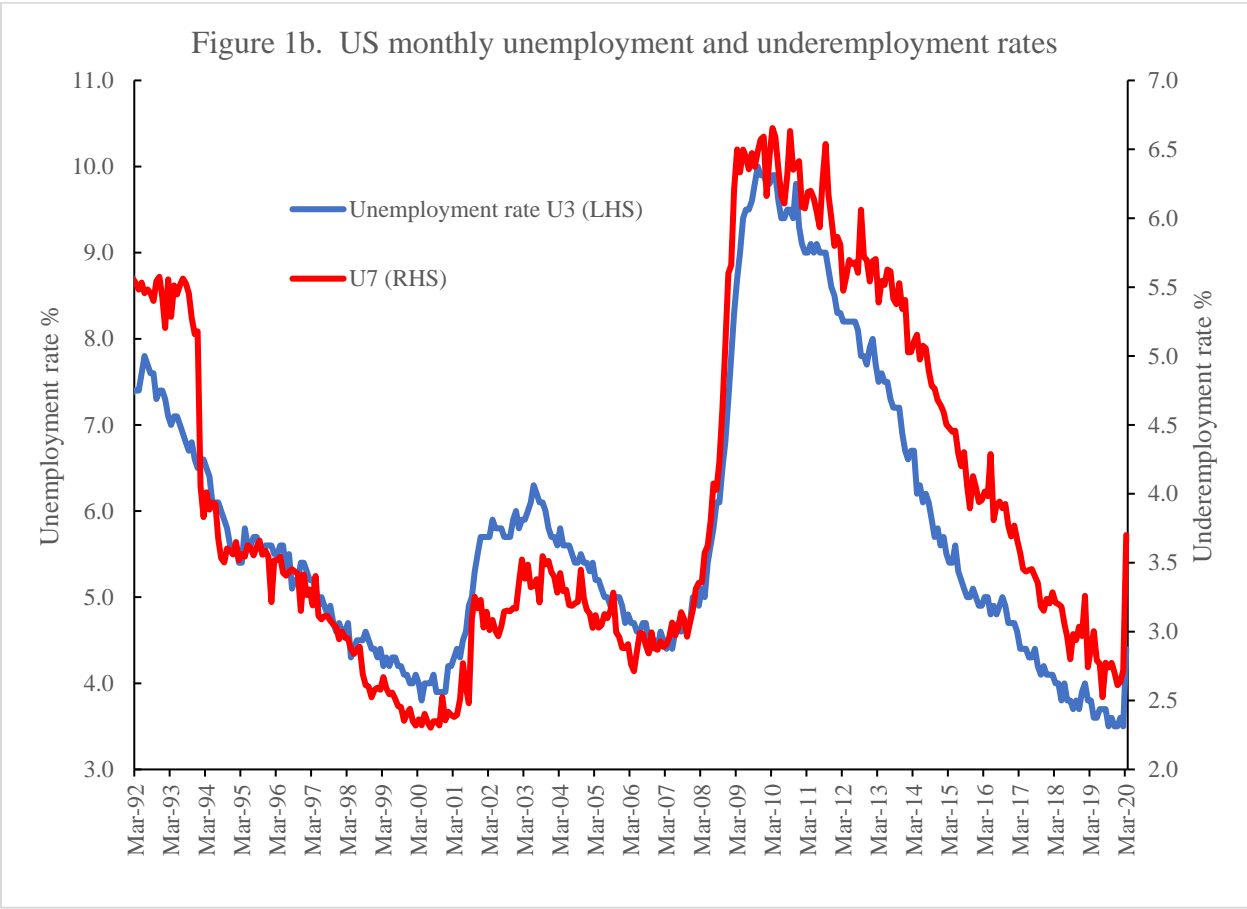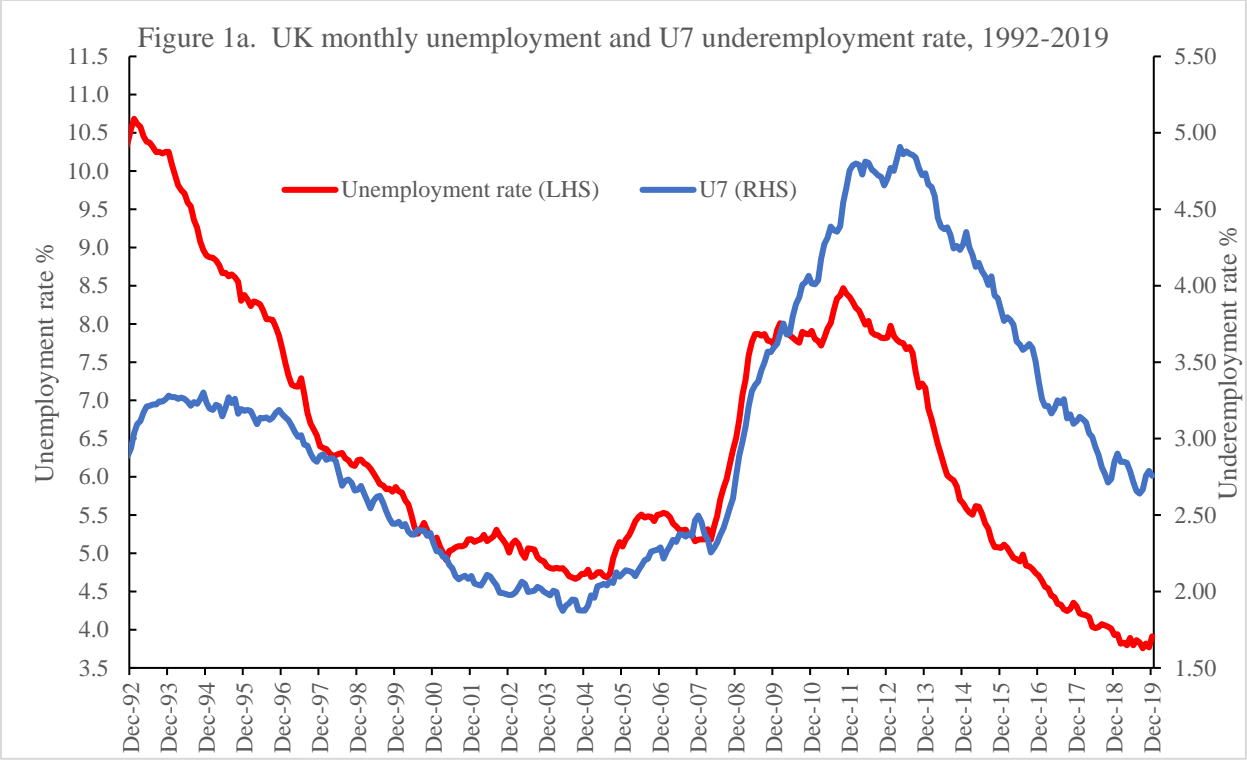Figure 1b. US monthly unemployment and underemployment rates

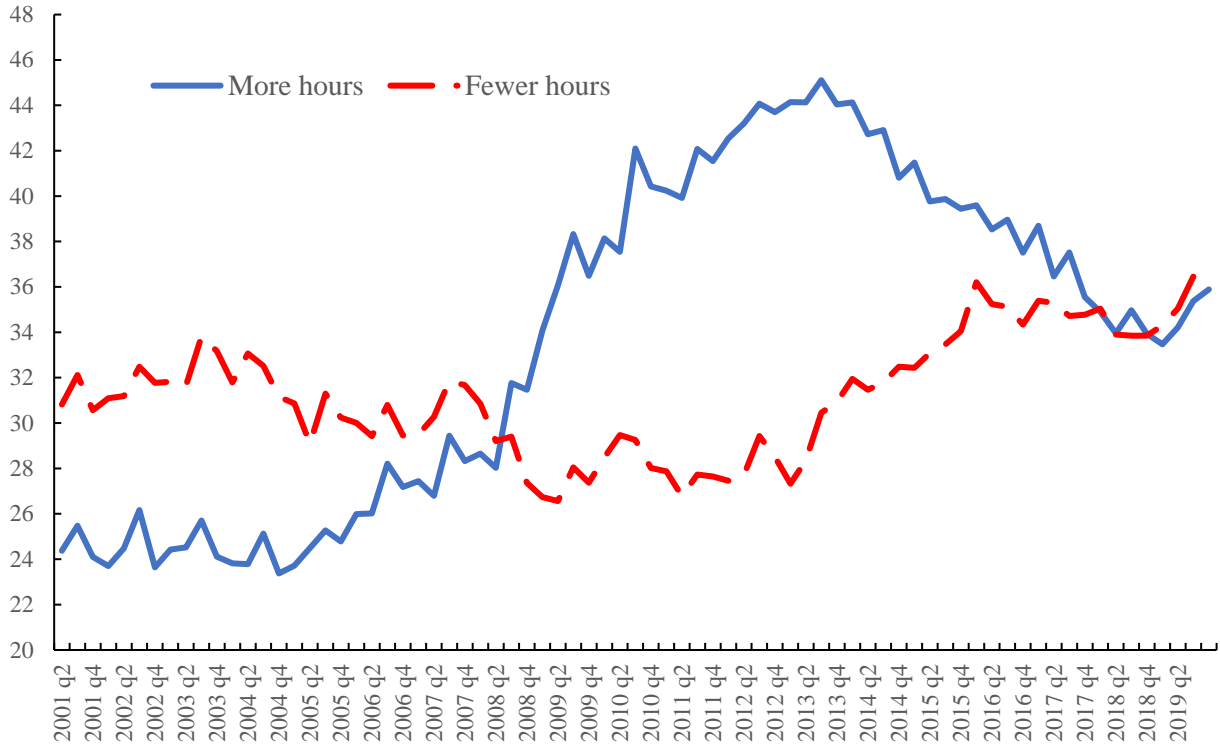Figure 1c. Under and over hours, UK, 2001-2019 (in millions of hours)

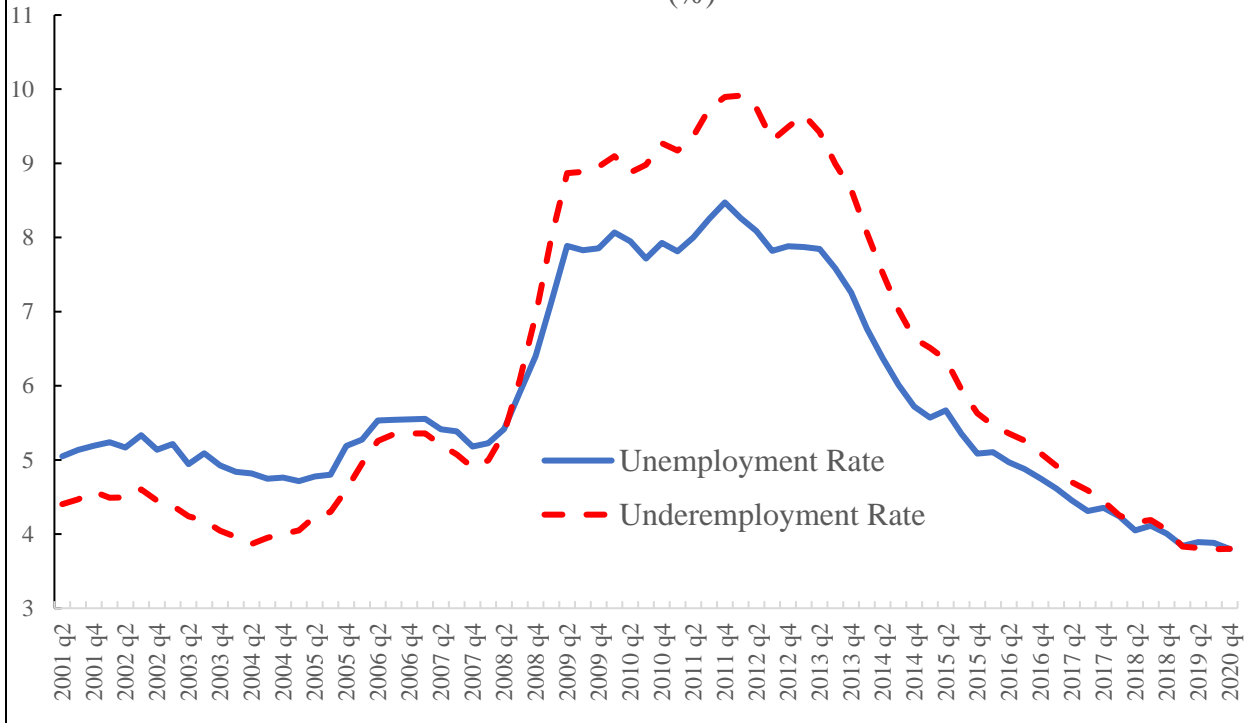Figure 1d. Bell-Blanchflower underemployment index UK 2001q3-2019q4 (%)

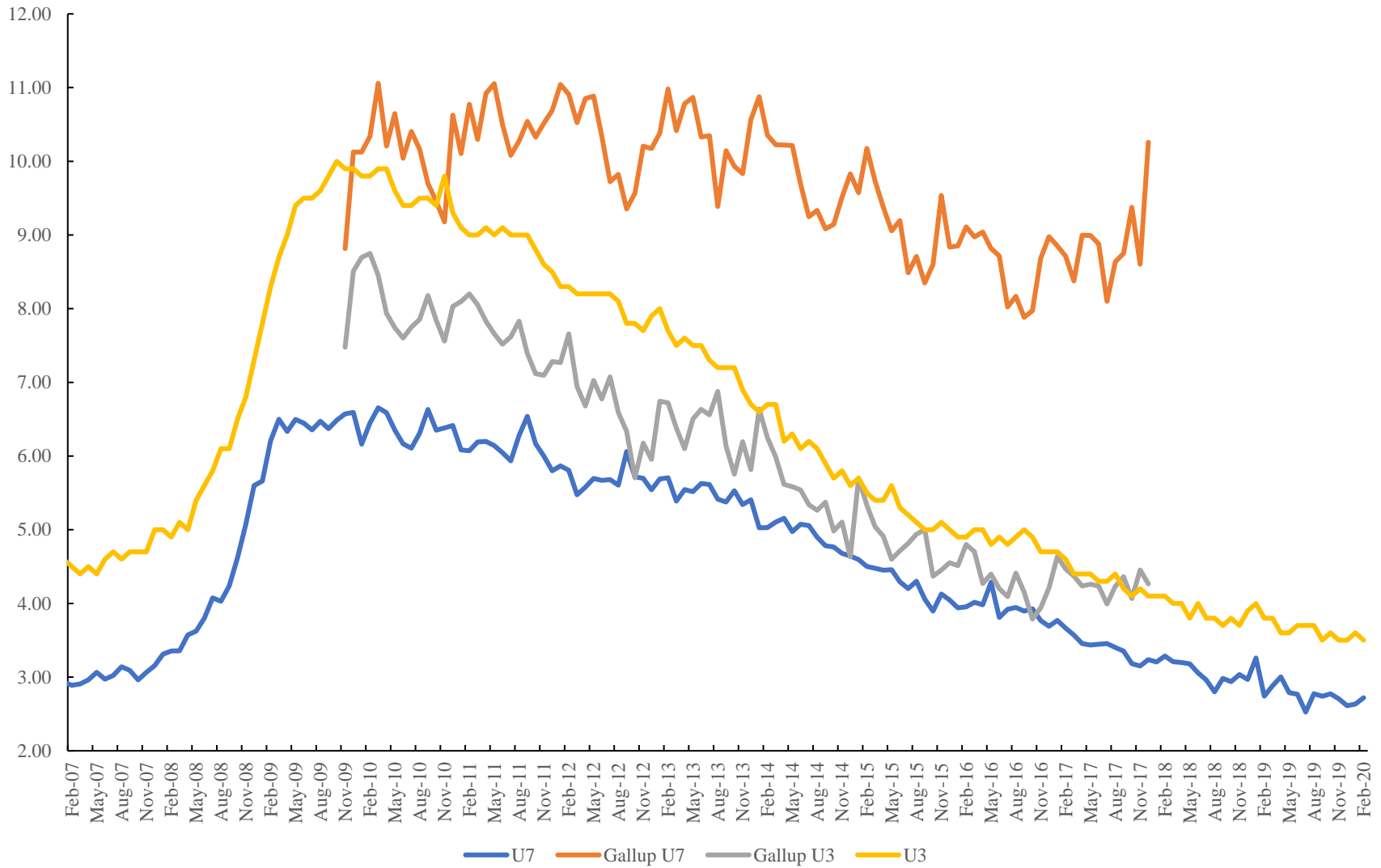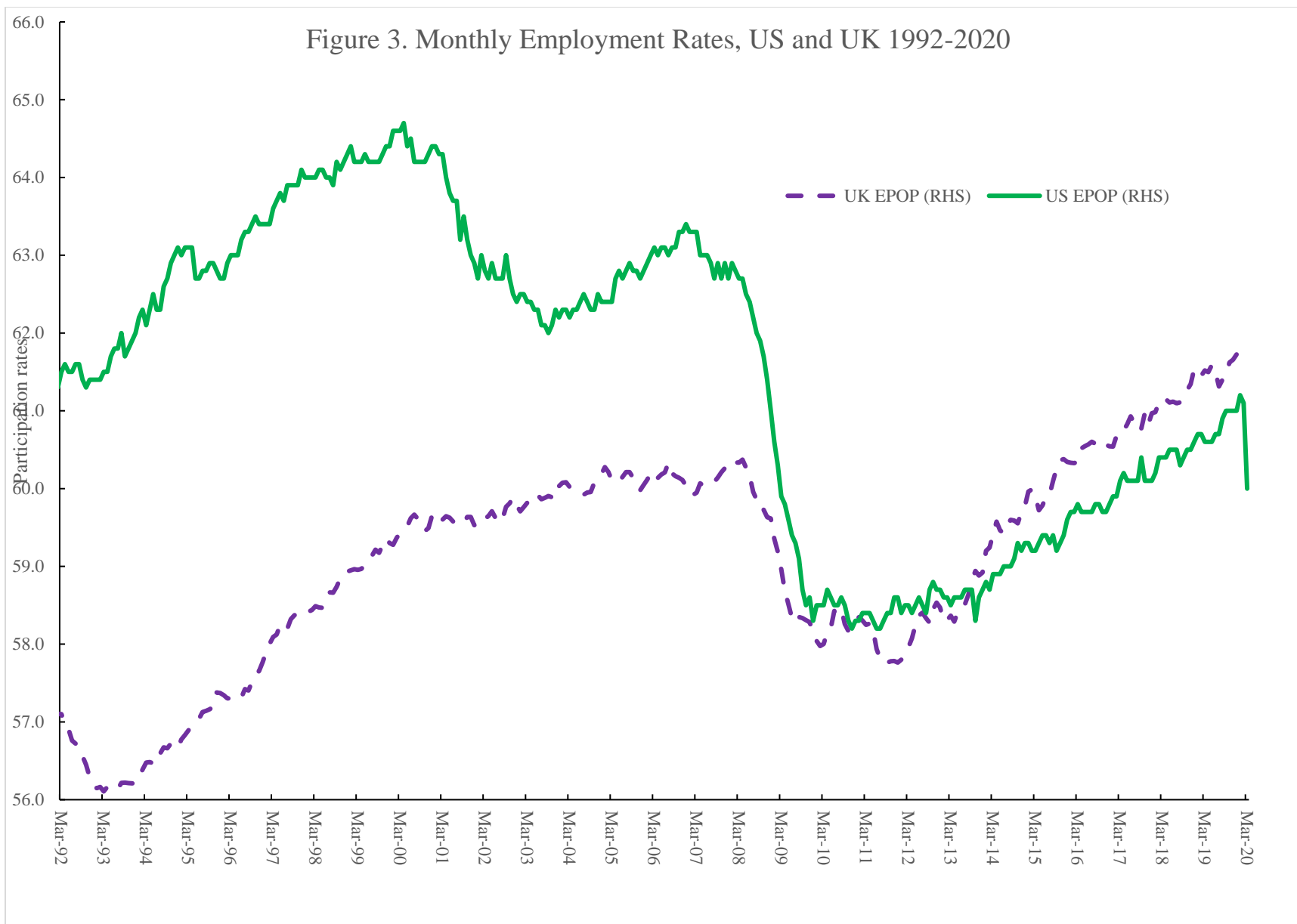Figure 2. Gallup Daily Tracker Unemployment and Underemployment Rates, USA, 2007-2020
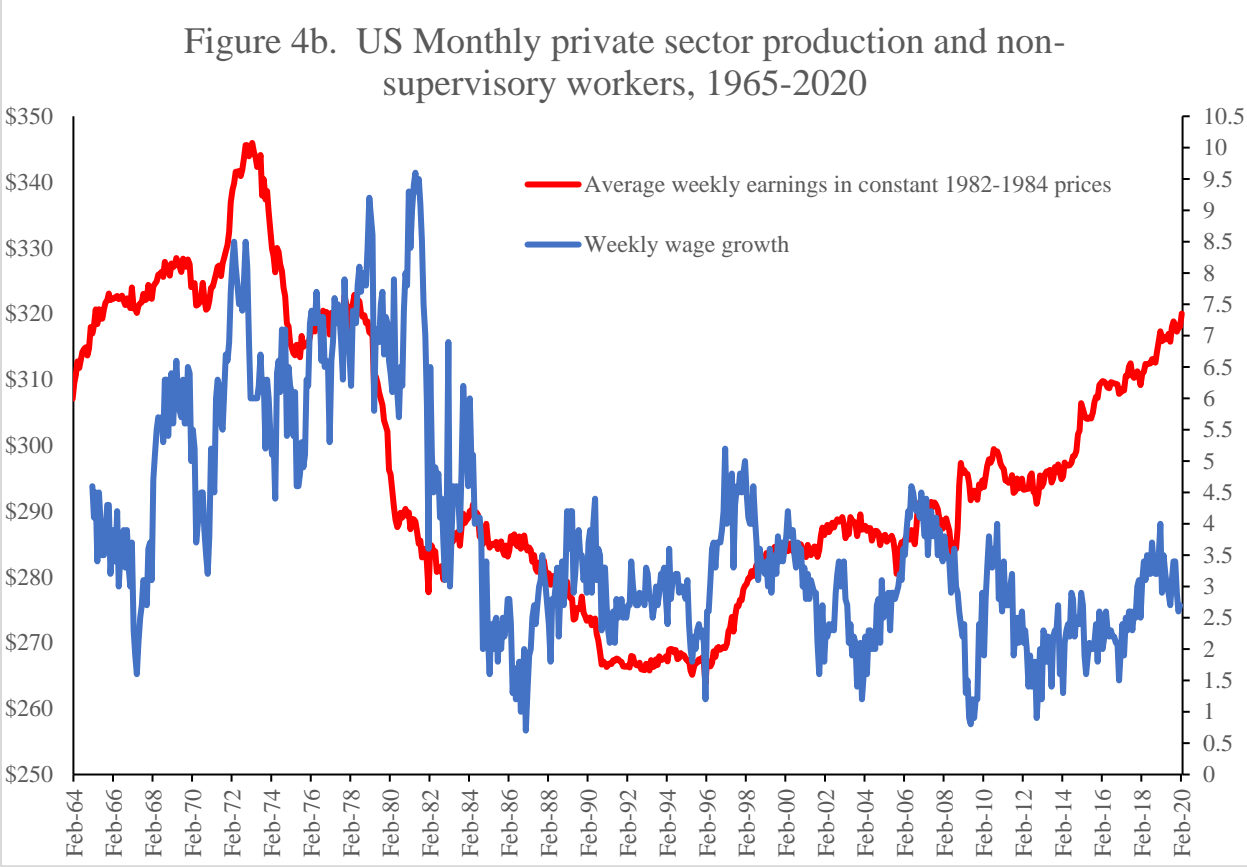
Figure 3. Monthly Employment Rates, US and UK 1992-2020

Figure 4a, UK Monthly Average Weekly Earnings pay growth, 2001-2019

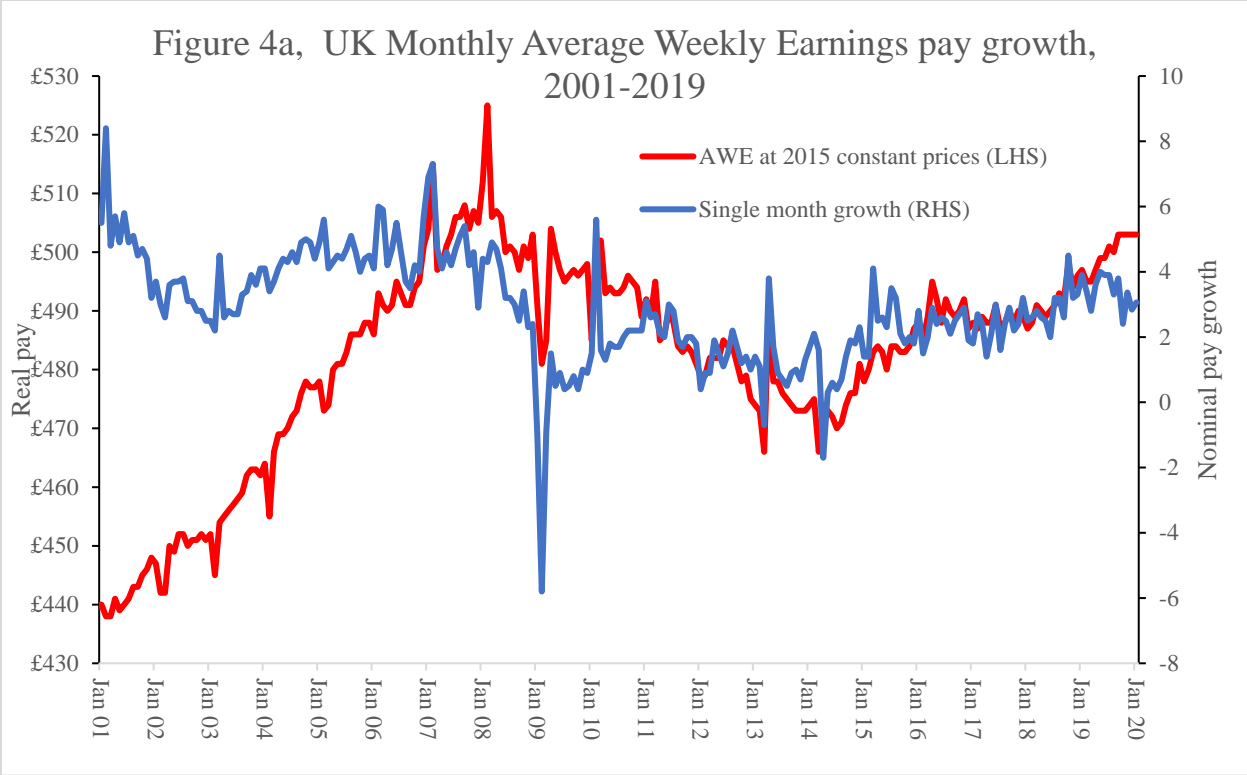Figure 4b. US Monthly private sector production and non-supervisory workers, 1965-2020

Figure 5. US Survey of Consumer Expectations, June 2013-March 2020. Mean probability of finding a job in the next three months if one loses a job today

Education High School or Less

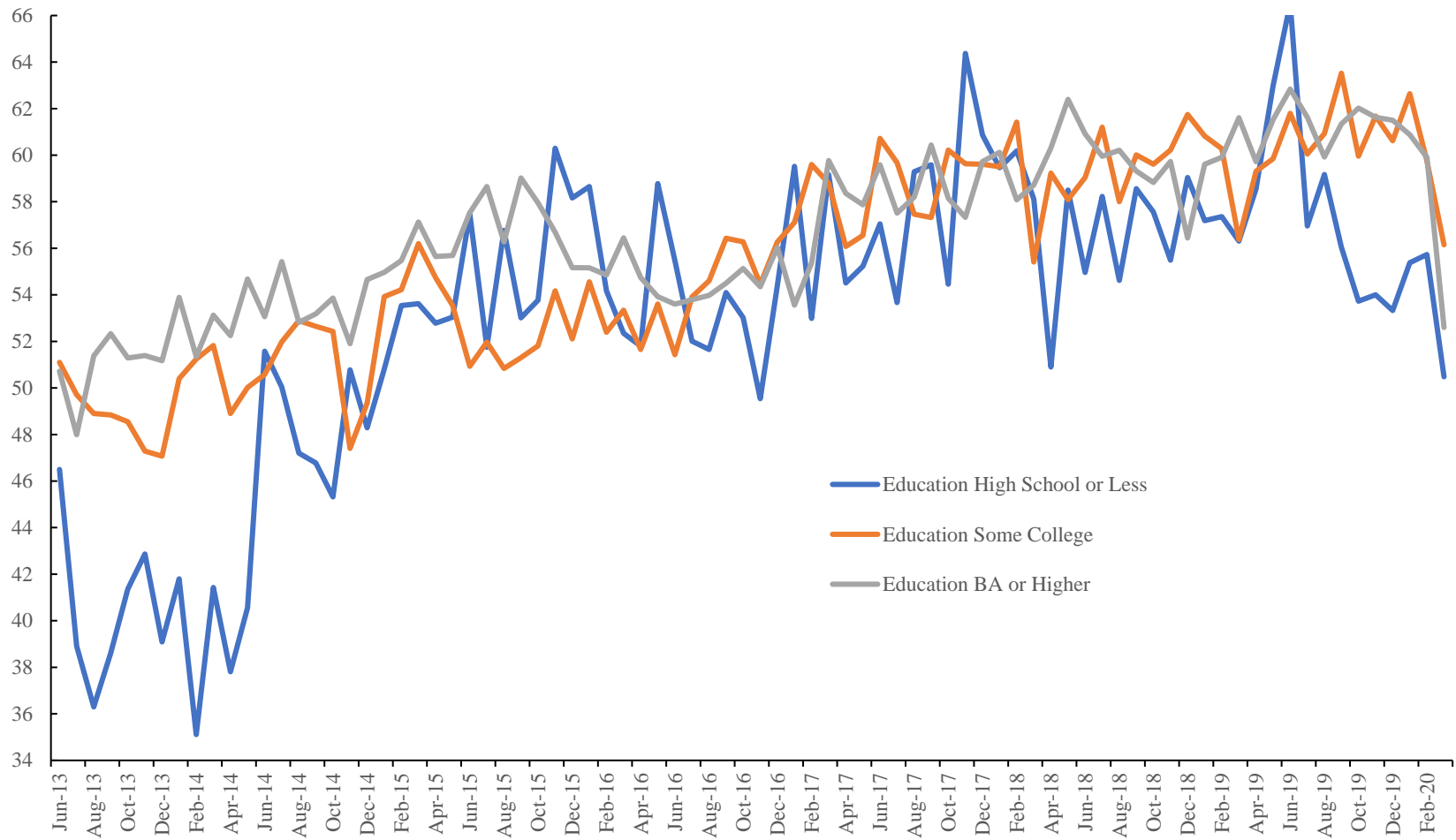Education Some College
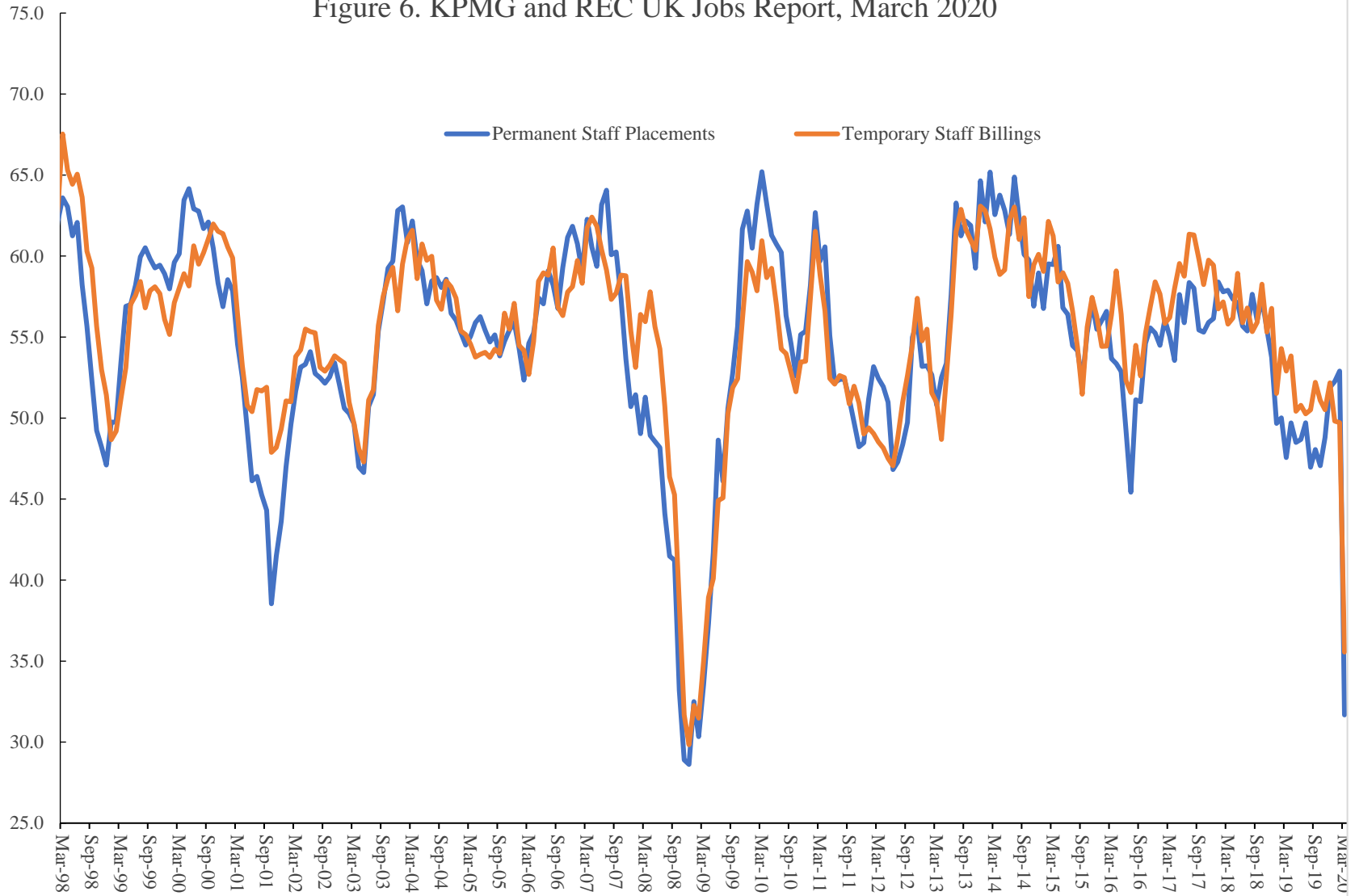
Education BA or Higher

Figure 6. KPMG and REC UK Jobs Report, March 2020

Figure 7. UI Claims in Texas (Dates based on week ending)