

The pandemic has changed the future of work

Remote work is ensconced. A 'Great Resignation' is underway in the US. Neither might last.

On 8 January 2020, a 61-year-old woman from Wuhan landed in Thailand's capital Bangkok. Within five days, she became the first recorded case of covid-19 outside China. On February 20, the mayor of Daegu, South Korea's fourth-largest city, became the first official beyond locked-down China to appeal to people to stay home due to mounting infections. Later that day, authorities in the Iranian city of Qom called on inhabitants to limit movements. On February 22, Italy's cabinet placed 50,000 people in 11 municipalities in the northern Lodi region under quarantine. On February 25, San Francisco became the first US city to instigate a state of emergency. On March 12, France declared a lockdown, the same day the Philippines ordered a partial shutdown of the Manila region. On March 23, Cuba, Nigeria, the UK and Zimbabwe announced lockdowns. The next day, India did likewise. Two days later, so did Bangladesh. Ditto South Africa the following day.[1]

By the end of March, most of the world was under some form of lockdown. The International Labour Organisation estimated that 2.7 billion workers, 81% of the world's labour force, were under restrictions.[2] In advanced countries, where most of the 1.1 billion households and businesses with solid internet connections are found, a large minority could work from home. For the US, the percentage of teleworkers was 30%.[3] For Australia, the level was 40% compared with 2% pre-pandemic, when working from home had slacker overtones.[4]

During the pandemic, the higher paid and better educated – knowledge workers in comfortable homes – were best placed to work remotely. In the US, 73% of households with an annual income of at least US\$200,000 could work from home. But only 32% of households with income between US\$50,000 and US\$74,999 could telework. (The US median income is US\$65,712.)[5]

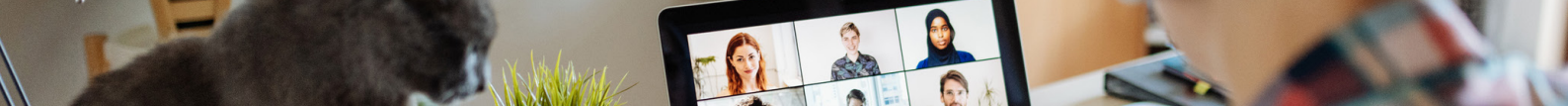
Governments provided generous emergency relief for people who couldn't work. The US passed the Cares Act worth US\$2.7 trillion.[6] But it came with perverse effects. Stimulus cheques of US\$1,200 and an extra US\$600 in jobless benefits a week meant millions of Americans who couldn't perform their low-paid jobs enjoyed an income boost.[7]

The lingering pandemic, remote working, lavish-but-temporary welfare and rebounding economies have altered work, for now anyway, in two ways. The most obvious change is the era of working five days in the office is suspended because bosses recognise many workers prefer to stay home and work well there.[8] A survey of 188 large employers in New York in October found only 8% of workers were in the office full time while 54% were at home all week. The other 38% worked 'hybrid' office-home splits that are likely to be the default in time. The biggest change to working conditions in living memory throws up issues.

Management and workers, for starters, have more to argue about when it comes to pay and conditions. What will be the hybrid mix? Will teleworkers living in cheaper areas receive the same pay as those living in expensive areas closer to offices? Companies including Google and PricewaterhouseCoopers are adjusting remote pay for the local cost of living.

Issue number two is that management has fresh challenges. To ensure efficiency and sustain company culture, employers must somehow integrate newcomers over Zoom, keep open the knowledge sharing that drives innovation, ensure younger staff learn the 'soft skills' absorbed in offices, and preserve the lunchtime and after-work bonding that influences morale. They will need to iron out office-home inefficiencies such as siloed teams or people in the office forced to Zoom all day with colleagues at home. Managers might need to rethink how to assess remote workers and how to avoid favouritism towards the office-bound. In some countries, company occupational health and safety liabilities extend to homes. In all places, management will need to invest in secure remote technology to limit cyber (ransomware) attacks.

Management might need to prepare for further staff demands. Remote working has prompted more companies to experiment with a four-day (32-hour) week.[9] Microsoft tested the concept in Japan in 2019 and apparently productivity increased.[10] Unilever is nearing the end of a year-long such trial in New Zealand that could go worldwide if it passes productivity tests. [11] In the US, a Democrat congressman in July introduced legislation to reduce the working week from 40 to 32 hours.[12]



For workers, telework means home comforts, no commute and more flexibility. UK thinktank, the Resolution Foundation, found female participation rose 0.4 percentage points over the first 18 months of the pandemic, which includes a 5.4-percentage-point boost for women with children under three.[13] But remote work helped only white-collar females, is not necessarily a global phenomenon, and is not as key for working parents as affordable and available childcare.

While enjoying the benefits, remote workers might want to avoid paying for firm costs, unpaid overtime, being hounded all hours and being surveilled.[14] An Australia Institute report in November found Australians worked an average 6.1 hours unpaid overtime a week in 2021, a jump from 4.6 hours in 2019, 'time theft' worth A\$125 billion a year. About 39% of respondents said they were being monitored remotely.[15] As such, more countries might follow Portugal, which in November became the first country to legislate to protect teleworkers. The left-leaning government's laws impose penalties for companies that disturb the privacy of staff or their families, and force employers to compensate staff for work-related expenses incurred at home such as electricity and internet bills.[16]

Even with better protections, however, home workers should note they are vulnerable to outsourcing and their salary is exposed to wider competition. If a task can be done from the suburbs, why not from a different city or another country where wages are cheaper? People opting for 'work-cations' in foreign lands only underscore this temptation for companies.

For policymakers, remote work presents two concerns. One is what the practice means for cities, especially central business districts. US research firm, CBRE Group, reports that US downtown vacancy rates increased each month over the pandemic to 16.3% in October, their highest since 1994, from about 10.2% pre-pandemic.[17] Commercial properties in city centres might struggle if enough firms shrink or close offices. Challenged too is downtown retail, already hit by the pandemic's accelerant to online shopping, and commuting services. One solution might be to convert office buildings to residential but then authorities would need to provide services such as schools. The opposite problem is that remote working has boosted housing values in the suburbs, often beyond the reach of young adults.

The other issue for policymakers is what remote working might mean for inequality. They might need to monitor wage reductions for remote workers in cheaper suburbs when cost-of-living measures are so vague. If remote work becomes the default for carers, single parents and women, they could disproportionately suffer from outsourcing and pay competition. So too could the middle class with universal skills if outsourcing (the coming 'teleshock')[18] becomes covid-19's legacy for labour.

RECORD 'QUITS'

The pandemic's second change to work goes by the name of the 'Great Resignation'. The term is derived from two events. One is the greatest-ever drop in the US labour force 'participation rate', which is the percentage of people of working age (16 to 65 years old) who are employed or looking for work. The rate fell from an average 63.3% in the fourth quarter of 2019 to an average of 60.8% in second quarter of 2020, the lowest since 1973 (which was before married women stayed in the workforce). The equation's decline since the pandemic struck meant 5.3 million Americans had left the workforce by the end of October (though

another 1.1 million joined it in November, according to the latest jobs report).[19]

The other, more obvious, inspiration for the term is that US workers are quitting at record rates. Resignations reached a record high of 3% of workers in September (4.4 million leavers) and November (4.5 million quit) compared with 2.3% at the end of 2019 when the jobless rate signalled full employment.[20]

Anthony Klotz from Texas A&M University, who coined the Great Resignation phrase, says there are four reasons people are quitting jobs or leaving the workforce.[21] One is that a backlog of people wanting to resign built up over covid-19. A second is that people who kept working over the plague are burned out. (Perhaps the 'Lie flat' labour protest movement that started in China to protest against burnout has gone global.) A third is "pandemic epiphanies" have prompted people to choose less-hercic lifestyles or strike out on their own.[22] Last is some people have had enough of office working – as in, they like working but dislike the office. Others offer that many families have opted for one parent at home to care for children.[23]

Federal Reserve Bank of St Louis research found "excess retirements" explains more than three million of US ex-workers (using data to August). Perhaps people 55 years and older have quit to protect their health as covid-19 lingers.[24] They could more easily retire because asset prices soared over the pandemic.[25]

An interesting twist to the Great Resignation (even if it extends to CEOs) [26] is the lower-paid seem to be reluctant to stay with, or return to, jobs they loathe that come with little vacation time and scant benefits such as sick and parental leave.[27] The quest of the lower-paid to snare higher-paid jobs is creating labour shortages,[28] kinking supply[29], stirring industrial unrest, and, naturally, driving up nominal wages.[30]

While US nominal wage gains lag inflation (real average hourly wages fell 2.4% in 2021),[31] the lower paid are attaining the biggest, and often real, increases.[32] Leisure and hospitality workers, amid shortages and job switching, secured a 16% pay increase in 2021.[33] The US hosted about 1,040 strikes and incidents of labour unrest in 2021, according to the School of Industrial and Labor Relations at Cornell University,[34] which would include disputes at farm-machinery maker Deere, Kellogg's, and Volvo's operations in Virginia.[35]

The Great Resignation comes with economic fallout. If prime-age workers are reluctant to work, employers may need to boost wages to lure them back. That might spell faster inflation and higher interest rates. "Quits and job openings and wages ... are signalling a tight labour market," Federal Reserve Chair Jerome Powell acknowledged in November.[36]

But the trend is more likely to be just a temporary rebalancing in the profit-wages scramble, where profit's split was around record highs in the decade before the pandemic. The frenzied labour market more reflects the Biden stimulus of early 2021 that boosted the fiscal injection over 2020-2021 to about 27% of one year's output.[37] A worsening economy that loosened job security would likely disempower labour and calm resignations.

Working from home, even if the economy slowed, however, looks in place for the foreseeable future, especially as covid-19 lingers. But longer term it will endure only if people like remote working and feel safe from outsourcing, and business thinks it boosts productivity. Remote working, thanks to technological advances and cheaper communications, was an option before



the pandemic. Yet few saw any efficiency gains in its pursuit. Nor does any theory about the firms as economic agents purport scattered staff would outperform glued ones. The OECD says teleworking is “ambiguous” for productivity due to its risks for “innovation and worker satisfaction” while some surveys show it’s harmful.[38] It’s probably too soon to judge. The verdict in time will decide the future of work. Poor results and the Great Office Return might begin.

To reiterate, the Great Resignation is largely a US problem – and it’s hard to pinpoint exactly why – and remote work’s fate could be divorced from productivity if economic circumstances demand. Any soaring in unemployment would prompt remoters to rush to the office, perhaps in suits, to prove they were crucial. Retirees could unretire when it’s safe healthwise, especially if their savings ever get hammered. Plenty of companies oppose remote work. Younger workers, who want to network, socialise and learn from colleagues, seem less keen on staying home; same for the ambitious. Remote working will probably only ever be for a minority because much, even most, work requires presence.

But for those who can telework, welcome to a productivity experiment unexpectedly triggered by lockdowns. The future of remote work depends on you working hard, your boss calculating how easy it might be to replace you for less, and the severity of the next downturn. As to the mix of days at home and in the office, capitalism will sort that out in time.

PROS AND CONS

US economist Robert Gordon has perhaps written the most recent seminal book on productivity. The Rise and Fall of American Growth of 2016 proffered that the surge in living standards from 1920 to 1970 was due to breakthrough innovations and peerless growth in productivity, best defined as output per hour worked. More controversially, Gordon said the computer era that began around 1970 has failed to deliver the productivity gains and leaps in living standards predicted by technophiles.[39] Gordon’s book added more evidence to US economist Robert Solow’s put-down of 1987 that: “We can see the computer age everywhere but in the productivity statistics.”[40] Could technology-enabled remote working add weight to this view (even if it’s not correct)?[41]

Economists see that productivity growth derives from three sources: the extent to which firms use capital and labour, the amount of capital invested per worker, and the usefulness of innovation. The first two sources are readily understood and didn’t necessarily change much when remote working took off in 2020.

Innovation’s role in productivity is less tangible. Economists assess innovation’s influence on output by accrediting to it any increases in productivity that can’t be attributed to capital and labour inputs. This measure of innovation, which is called total factor productivity, is broadly defined to capture improvements such as gains from better work practices. This is where sits the productivity test for remote working.

The OECD, while undecided about teleworking’s overall benefits for productivity, grants that remote working boosts efficiency in two ways.[42] The first is that remote work can boost worker satisfaction due to the better work-life balance, less commuting and fewer distractions. And happier workers are generally more productive and less prone to absenteeism. A poor home setup, loneliness, unpaid overtime and a feeling that people are ‘living at work’, however, can reduce worker satisfaction. The second way telework helps drive efficiencies is via cost savings for companies. Remote work can reduce the office space needed, enlarge the pool of potential labour (thus drive down pay), lower resignations if workers are happier at home, and might prompt some workers to accept less pay.

Remote working, however, can sap productivity, the OECD says, because reduced in-person interactions come with three drawbacks. One is impaired communications because personal meetings are the most efficient ways to communicate. Second, the lack of people interaction hampers the knowledge flows that drive innovation. The other drawback is that managerial oversight is hindered, which essentially enlarges opportunities for workers to slack off.

Before too long the verdict will be delivered on the productivity benefits of the tech-enabled experiment that was triggered when covid-19 escaped China. If ever the results support Solow’s sledge of technology, the future of work is more likely to be at home for a couple of days a week for those able and inclined.

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[1] Adam Tooze. 'Shutdown. How covid shook the world's economy.' Allen Lane. 2021. See chapters three and four. See also 'Timeline of the covid-19 pandemic in January 2020.' Wikipedia. [wikipedia.org/wiki/Timeline_of_the_COVID-19_pandemic_in_January_2020](https://www.wikipedia.org/wiki/Timeline_of_the_COVID-19_pandemic_in_January_2020). Hong Kong and Macau, which are part of China, are the territories.

[2] International Labour Organisation. 'ILO monitor: Covid-19 and the world of work. Second edition.' 7 April 2021. [ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_740877.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_740877.pdf)

[3] US Census Bureau. 'Working from home during the pandemic.' 13 March 2021. [census.gov/library/stories/2021/03/working-from-home-during-the-pandemic.html](https://www.census.gov/library/stories/2021/03/working-from-home-during-the-pandemic.html)

[4] Productivity Commission. Research paper. 'Working from home.' September 2021. [pc.gov.au/research/completed/working-from-home/working-from-home.pdf](https://www.pc.gov.au/research/completed/working-from-home/working-from-home.pdf)

[5] US Census Bureau. Op cit. Only 23% of households earning between US\$35,000 and US\$49,999 could work remotely.

[6] Other advanced countries paid emergency relief through companies (such as Australia's Jobkeeper), which kept workers linked to their jobs.

[7] Historian Adam Tooze reckons: "The Cares Act was America's first experiment since the 1960s with welfare on a scale befitting a rich country." Tooze. Op cit. Page 139

[8] See this calculator for how much time people lose commuting to and from work. 'How much of your life will you lose by going back to the office? Try our calculator.' The Washington Post. 9 November 2021. [washingtonpost.com/opinions/interactive/2021/commute-calculator-pandemic/](https://www.washingtonpost.com/opinions/interactive/2021/commute-calculator-pandemic/)

[9] See advocacy group 4 Day Week Global. [4dayweek.com/](https://www.4dayweek.com/) See also 'Can a four-day week be the key to solving the productivity puzzle?' David Smith. The Times of the UK. 10 November 2021. [thetimes.com.uk/article/can-a-four-day-week-be-the-key-to-solving-the-productivity-puzzle-kc3w0lrj6](https://www.thetimes.com.uk/article/can-a-four-day-week-be-the-key-to-solving-the-productivity-puzzle-kc3w0lrj6)

[10] Forbes. 'What Microsoft Japan's successful 4-day week suggests about work-life balance.' 4 November 2019. [forbes.com/sites/lisettevooytko/2019/11/04/what-microsoft-japans-successful-4-day-week-suggests-about-work-life-balance/](https://www.forbes.com/sites/lisettevooytko/2019/11/04/what-microsoft-japans-successful-4-day-week-suggests-about-work-life-balance/)

[11] Unilever. 'Unilever NZ to trial four-day work week at full pay.' 1 December 2020. [unilever.com.au/news/press-releases/2020/unilever-nz-to-trial-four-day-work-week-at-full-pay/](https://www.unilever.com.au/news/press-releases/2020/unilever-nz-to-trial-four-day-work-week-at-full-pay/)

[12] Website of US Congressman Mark Takano (D-Calif). 'Rep Takano introduces legislation to reduce the standard workweek to 32 hours.' 27 July 2021. [takano.house.gov/newsroom/press-releases/rep-takano-introduces-legislation-to-reduce-the-standard-workweek-to-32-hours](https://www.takano.house.gov/newsroom/press-releases/rep-takano-introduces-legislation-to-reduce-the-standard-workweek-to-32-hours)

[13] Resolution Foundation. Media release for a report. 'Pandemic-driven shifts have made the workforce smaller, younger and more female.' 23 November 2021. [resolutionfoundation.org/press-releases/pandemic-driven-shifts-have-made-the-workforce-smaller-younger-and-more-female/](https://www.resolutionfoundation.org/press-releases/pandemic-driven-shifts-have-made-the-workforce-smaller-younger-and-more-female/)

[14] See 'I don't like Mondays – or Fridays: City workers decide three days a week in the office is enough.' The Telegraph of the UK. 19 November 2021. [telegraph.co.uk/business/2021/11/19/dont-like-mondays-fridays-city-workers-decide-three-days-week/](https://www.telegraph.co.uk/business/2021/11/19/dont-like-mondays-fridays-city-workers-decide-three-days-week/)

[15] About 17% of those surveyed said they were unsure if they were being monitored. The Australia Institute. 'Working from home, or living at work? Hours of work, unpaid overtime and working arrangements through covid-19.' 17 November 2021. Overtime statistics from page 21 and monitoring results on page 6 of downloaded report found at: [futurework.org.au/working_from_home_or_living_at_work](https://www.futurework.org.au/working_from_home_or_living_at_work)

[16] Associated Press. 'Portugal protects employees with new rules on home working.' 6 November 2021. [apnews.com/article/coronavirus-pandemic-business-lifestyle-europe-health-3ac9da7707ce270d98d392c94154b909](https://www.apnews.com/article/coronavirus-pandemic-business-lifestyle-europe-health-3ac9da7707ce270d98d392c94154b909)

[17] CBRE Group. 'Q3 2021 US office figures.' Figure 5 from downloaded report. 'Downtown vs suburban vacancy rates.' (Undated but report released November 2021.) [cbre.us/research-and-reports/Q3-2021-US-Office-Figures](https://www.cbre.us/research-and-reports/Q3-2021-US-Office-Figures)

[18] See Tyler Cowen. 'The coming shock that will transform the US economy.' Bloomberg News. 5 November 2021. [bloomberg.com/opinion/articles/2021-11-04/the-coming-teleshock-will-transform-the-u-s-economy](https://www.bloomberg.com/opinion/articles/2021-11-04/the-coming-teleshock-will-transform-the-u-s-economy)

[19] US Bureau of Labor Statistics. 'Labor force participation rate.' Series id: LNS1130000. The ratio had recovered to only 61.8% by November 2021. The record high is 67.3% in 2000. 'Employment level.' Series id: LNS120000. Found at: data.bls.gov/cgi-bin/survey/most

[20] US Bureau of Labor Statistics. Economist news release. 'State job openings and labour turnover survey.' See Table D 'States with significant changes in quits from Jul 2021 to Aug 2021. 22 October 2021. [bls.gov/news.release/jltst.nr0.htm](https://www.bls.gov/news.release/jltst.nr0.htm). Statistics for November from 'Job openings and labor turnover summary'. 4 January 2022. [bls.gov/news.release/jolts.nr0.htm](https://www.bls.gov/news.release/jolts.nr0.htm)

[21] 'Transcript: The Great Resignation with Molly M Anderson, Anthony C Klotz, PhD & Elaine Welteroth.' The Washington Post. 24 September 2021. [washingtonpost.com/washington-post-live/2021/09/24/transcript-great-resignation-with-molly-m-anderson-anthony-c-klotz-phd-elaine-welteroth/](https://www.washingtonpost.com/washington-post-live/2021/09/24/transcript-great-resignation-with-molly-m-anderson-anthony-c-klotz-phd-elaine-welteroth/)

[22] See 'Workers quit jobs in droves to become their own bosses.' The Wall Street Journal. 29 November 2021. [wsj.com/articles/workers-quit-jobs-in-droves-to-become-their-own-bosses-11638199199](https://www.wsj.com/articles/workers-quit-jobs-in-droves-to-become-their-own-bosses-11638199199)

[23] See 'Are Americans starting to embrace one-earner households again?' Henry Olsen. The Washington Post. 12 November 2021

[24] US infections reached a seven-day average of 164,000 in September from fewer than 15,000 in June. 'Coronavirus in the US: Latest map and count case.' Updated daily. The New York Times. [nytimes.com/interactive/2021/us/covid-cases.html](https://www.nytimes.com/interactive/2021/us/covid-cases.html)

[25] Economic research of the Federal Reserve Bank of St Louis. 'The covid retirement boom.' Miguel Faria e Castro. 15 October 2021. [research.stlouisfed.org/publications/economic-synopses/2021/10/15/the-covid-retirement-boom](https://www.research.stlouisfed.org/publications/economic-synopses/2021/10/15/the-covid-retirement-boom). See also Sarah O'Connor. 'Covid retirees show work-from-home revolution has not benefited everyone.' 9 November 2021. Financial Times. [ft.com/content/cebbe0b0-8102-4331-b409-1a6d336cb346](https://www.ft.com/content/cebbe0b0-8102-4331-b409-1a6d336cb346). Another reason could be these older workers might have benefited most from inheritances, as those in their parents' age group formed the majority of the 850,000 who died with covid-19.

[26] US executive search firm Heidrick & Struggles tracking shows in the first half of 2021 76 CEOs were appointed to the 1,095 largest companies from 14 countries, a record for any six months since the survey began in 2018. Heidrick & Struggles. 'Route to the top 2021.' Undated. [heidrick.com/en/insights/chief-executive-officer/route-to-the-top-2021](https://www.heidrick.com/en/insights/chief-executive-officer/route-to-the-top-2021)

[27] It's especially so for blue-collar 'essential workers' who were pushed to do extra hours (truck drivers, stevedores and sailors) or those who risked their health (supermarket staff) during the pandemic.

[28] See The Washington Post. 'Fast-food customers are back, but workers are not. It's triggering major change.' 17 September 2021. [washingtonpost.com/business/2021/09/17/fast-food-labor-shortage/](https://www.washingtonpost.com/business/2021/09/17/fast-food-labor-shortage/)

[29] See CNBC. 'Lack of workers is further fuelling supply chain woes.' 28 September 2021. [cnbc.com/2021/09/28/companies-need-more-workers-to-help-resolve-supply-chain-problems.html](https://www.cnbc.com/2021/09/28/companies-need-more-workers-to-help-resolve-supply-chain-problems.html)

[30] See 'The Great Resignation is great for low-paid workers.' Bloomberg. 18 November 2021. [bloomberg.com/opinion/articles/2021-11-18/the-great-resignation-is-great-for-low-paid-workers](https://www.bloomberg.com/opinion/articles/2021-11-18/the-great-resignation-is-great-for-low-paid-workers)

[31] US Bureau of Labor Statistics. 'Real earnings summary.' 12 January 2022. [bls.gov/news.release/realer.nr0.htm](https://www.bls.gov/news.release/realer.nr0.htm)

[32] The median US worker in the lowest 25% wages bracket scored gains of 4.9% in the 12 months to September (when inflation rose 5.4%) compared with 3.6% for all workers. Federal Reserve Bank of Atlanta. 'Wage growth tracker.' Those in the lowest 25% of average wages are in the first quartile. [atlantafed.org/chcs/wage-growth-tracker](https://www.atlantafed.org/chcs/wage-growth-tracker)

[33] US Bureau of Labor Statistics. 'Table B-8. Average hourly and weekly earnings of production and non-supervisory employees on private non-farm payrolls by industry sector seasonally adjusted.' Leisure and hospitality pay increased from US\$14.66 an hour in December 2020 to US\$16.97 in December 2021. Last modified 7 January 2022. [bls.gov/news.release/empsit.t24.htm](https://www.bls.gov/news.release/empsit.t24.htm)

[34] School of Industrial and Labor Relations at Cornell University. IRL 'Labor tracker.' [striketracker.ilr.cornell.edu/](https://www.striketracker.ilr.cornell.edu/)

[35] The US Bureau of Labor Statistics, though, records only 13 'major' strikes (1,000 workers or more) so far in 2021. This compares with eight major strikes in 2020 but 25 in pre-pandemic 2019 (against a post-World War II high of 470 in 1952). See US Bureau of Labor Statistics. 'Work stoppages.' [bls.gov/wsp/](https://www.bls.gov/wsp/). The figure for 2021 will be released in February 2022.

[36] Federal Reserve. 'Transcript of chair Powell's press conference November 3, 2021.' Page 14. [federalreserve.gov/mediacenter/files/FOMCpresconf20211103.pdf](https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20211103.pdf)

[37] Inflation reached a 39-year high of 7.0% in 2021. In December 2021, the jobs rate fell to 3.9%, a pandemic low. Any rate under 5% is considered full employment.

[38] OECD. 'Productivity gains from teleworking in the post covid-19 era: How can public policies make it happen?' 7 September 2020. [oecd.org/coronavirus/policy-responses/productivity-gains-from-teleworking-in-the-post-covid-19-era-a5d52e99/](https://www.oecd.org/coronavirus/policy-responses/productivity-gains-from-teleworking-in-the-post-covid-19-era-a5d52e99/)

[39] Robert Gordon. Rise and Fall of American Growth. Princeton University Press. 2016. [press.princeton.edu/books/paperback/9780691175805/the-rise-and-fall-of-american-growth](https://www.press.princeton.edu/books/paperback/9780691175805/the-rise-and-fall-of-american-growth). See 'Paul Krugman reviews 'The rise and fall of American growth by Robert J Gordon.' 25 January 2016. [nytimes.com/2016/01/31/books/review/the-powers-that-were.html](https://www.nytimes.com/2016/01/31/books/review/the-powers-that-were.html)

[40] Robert Solow. 'We'd better watch out.' (A book review.) 12 July 1987. Found at: standupeconomist.com/pdf/misc/solow-computer-productivity.pdf

[41] Analysing recent productivity growth comes with one caveat. The methodology used to compile GDP might undervalue output because it appears to undervalue services, especially those provided by governments and those offered over the internet at no cost. GDP fails to accurately measure the benefits of technological advances to consumers, especially the abundance of choice it offers.

[42] OECD. Op cit.

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