The Long-Term Effects of the Covid-19 Crisis on Workers:

How Scaling Up the Workforce System Can Help

Till von Wachter[1]

UCLA and NBER

March 24 2020 [Click Here for Latest Version]

Abstract

Leading indicators and realistic scenarios of the economic impact of Covid-19 indicate the U.S. will experience a moderate to large recession with substantial increases in layoffs and unemployment unless immediate action is taken. Evidence from past recessions indicates that the costs of job loss and unemployment can reduce workers' earnings and raise their mortality for several decades. By keeping workers in their jobs, a well-designed Short-time Compensation (STC) program can help prevent the short- and long-term harm from layoffs. Preserving employment relationships will also help the economy restart once Covid-19 is contained. Existing evidence suggests that lack of take up may be due to lack of information, overly strict eligibility requirements, and lack of program funding. Federally funding and linking the participation in STC programs to short-time credit programs for businesses could substantially increase program take up, leading to substantial and sustained benefits for workers. In addition, federal and state governments should act fast to make other assistance programs more widely available and more generous, including partial unemployment insurance, unemployment insurance, and paid leave programs, and optimally harness their data to better understand the effects of the Covid-19 crisis and the success in assisting workers.

Mounting evidence indicates that containing the spread of Covid-19 may require increasingly stringent social distance measures in the U.S. and many other countries.[2] Already, seven states have shut down non-essential businesses, and numerous counties have implemented 'stay in place' orders. Real time indicators and realistic projections suggest such pervasive lock down will have substantial economic effects on the economy. Weekly claims to unemployment insurance have begun shooting up as of mid March.[3] If not contained, large-scale layoffs and an historical spike unemployment are increasingly likely. Several forecasters have predicted the U.S. economy is already in a recession, and short-time reductions in GDP on the order of ten to twenty percent are not out of the question.

[1] Contact: tvwachter@econ.ucla.edu. Preliminary – Comments welcome. I thank TJ Hedin for stellar research assistance and Katharine Abraham, Andy Atkinson, Francesco D'Amuri, Jonathan Heathcote, Heinrich Hock, Susan Houseman, Ed Leamer, Adriana Lleras-Muney, Jesse Rothstein, and Rob Santillano for helpful comments.

[2] See, e.g., Atkeson (2020) on estimates of the spread of Covid-19 in the United States.

[3] https://www.dol.gov/ui/data.pdf

Evidence from past recessions imply that those workers most directly affected – job losers and young labor market entrants – suffer persistent earnings losses and long-term increases in mortality. At current projections, the economic crisis induced by Covid-19 is predicted to lead to substantial losses in earnings, employment, and mortality for affected workers lasting for decades to come.

Taking estimates from the empirical literature and a recent forecast of a rise in the unemployment rate to 6% (approx. 3.6 million additional unemployed workers) as a possibly conservative 'best guess scenario,' back-of-the-envelope calculations suggests a loss of nine million years of earnings (corresponding to 225,000 working lives at a 40 year remaining work span).[4] The corresponding loss in life years, accruing over workers' lifetimes, is 5.4 million (or about 90,000 lives at a 60-year remaining life span).[5] A rise in the unemployment rate to 10% with 10 million additional unemployed workers would lead to even larger effects.

These projections are based on estimates for displaced workers – those that lose stable jobs at good employers, and thus may represent over-estimates of the effect for all the unemployed, some of which lose jobs in typically lower paying services sectors. Yet, the risks are substantial as well for individuals who are less connected to the labor market, who typically suffer from higher unemployment in downturns. This includes those with lower paying jobs, as well potential losses for young workers entering the labor market.

Over six million individuals will graduate high school or obtain a college degree this year, and about 13 million workers age 16-24 are currently in the labor force. Hence about 20 million young individuals are of particularly high risk of exposure to a recession. Existing evidence suggests that unlucky labor market entrants suffer losses in earnings that last 10 to 15 years, depending on the severity of the recession. Yet, it appears their socio-economic status declines again in middle age, and several studies have found that they experience higher rates of death over the long term.

Given the experience from past recessions about the cost of layoffs, and given that the current crisis did not arise from underlying economic forces, Short-time Compensation (STC, also known as work-sharing) programs have substantial promise as an effective policy tool. STC programs allow firms to reduce their payroll costs while keeping workers employed; firms reduce workers' hours, and the shortfall in earnings is made partly up by payments from the unemployment insurance system; in normal times STC programs require firms to keep some work ongoing, but nothing prevents an STC program to accommodating a 100% temporary work reduction in times of crisis.[6]

[4] Each of the 3.6 million unemployed lose can expect to lose 2.5 earning years on average, giving 9 million total earnings years. Dividing this by 40 remaining working years per life gives the equivalent of 225,000 working lives lost.
[5] Each of the 3.6 million unemployed can expect a life span shortened by 1.5 years, on average, giving 5.4 million total life-years lost. Dividing this into 60-year increments (representing average life remaining), gives us 90,000 total lives lost.
[6] STC covers both hourly and salaried workers. A summary of how STC programs work is available in Appendix B to this memo.

By helping businesses to cover their payroll costs and keep workers attached to businesses while they are not working, STC programs effectively put the workforce on standby until the Covid-19 outbreak is contained. Pandemics often happen in waves, so an appropriate policy response should provide employers the flexibility to adapt to a "wave-like" pattern- a feature STC programs handle exceptionally well. By preserving employment relationships, STC programs maintain knowledge and skills specific to job relationships, and avoid the costs of a massive turnover of the workforce that could result from large-scale unemployment. While some reorganization can be beneficial, it is likely much more effective and less damaging if it takes places gradually. Finally, STC programs preserve employees' existing employer-tied health benefits, a crucial benefit in the context of a pandemic.

The good news is that currently twenty-six states have existing STC programs that are integrated into their unemployment insurance (UI) programs.[7] These states cover over 70% of the U.S. work force. Hence, these programs are already being administered and can be scaled to serve additional employers. As a part of UI, STC is a program that inherently targets resources to those businesses and workers that need them, and hence automatically shifts support to hard-hit sectors as the economic crisis evolves.

STC programs are an integral part of states' UI programs, which are funded by firms' payroll taxes in normal times. Importantly, a shift towards STC from UI is revenue neutral in two important respects. First, the total benefits paid are likely to be about the same and possibly lower, if companies keep employing a fraction of workers' time, and if by preserving employment relationships, STC lowers the number of unemployment spells. Further, given that in recessions UI extensions are often paid for by the federal government (as is the case in the Families First Act passed in response to Covid-19) the same funding could be shifted to STC programs to keep the overall expenditure on UI-related programs the same. Finally, there already is legislative precedence of covering the entire STC costs of states in times of recession.[8]

Experience with STC programs during the Great Recession has indicated some important lessons worth heeding in the current environment. Hence, the extension in STC for the current environment proposed here would do the following:

- **Federally fund the cost of providing STC benefits**. This will make STC more attractive to firms and will help to increase take up, since otherwise participation in STC will increase firms' payroll tax rates (as is the case for UI). States receiving federal funds for STC should be barred from raising their firms' taxes.
- **Adjust STC programs so they do not affect workers' UI benefits.** STC can be unattractive to workers if benefits received from STC lowers their UI claim duration, or if it lowers the earnings on which UI benefits are calculated.

7 https://oui.doleta.gov/unemploy/docs/stc_fact_sheet.pdf; https://s27147.pcdn.co/wp-content/uploads/Fact-Sheet-Work-Sharing.pdf

8 In the aftermath of the Great Recession, from 2012-2015, states were able to reimburse the full cost of STC payments (Middle Class Tax Relief and Job Creation Act of 2012).

- **Increase take up by tying STC to federally subsidized emergency loans.** In the U.S., an important reason for low take-up of STC in the Great Recession was lack of knowledge of the program. Tying to business credits would raise awareness and take up.
- **Temporarily expand the eligibility for STC.** Limiting allowed reductions in time worked to at least 10% and at most 60%, as is currently the case in almost all states and the federal law, can dissuade firms from applying.

A federally funded STC program that does not affect payroll tax rates or UI benefits would bear significant promise to help U.S. workers and the U.S. economy to weather the economic crisis induced by Covid-19. Such a system would bear similarities to the federally funded STC program that Canada, Germany, and other European countries have rolled out during the Great Recession and which several countries are currently using in the Covid-19 crisis.[9]

This memo spells out a proposal for extending STC to deal with the current crisis (also summarized in Appendix A) and provides some basic cost estimates.[10] In the extreme case of a recession lasting one year, the amounts are predicted to be on the order $24-$60 billion with 3.6 million workers receiving STC and $57-$166 billion with 10 million workers receiving STC, depending on the work reduction that STC covers. Naturally, for a shorter recession, or smaller work reductions, the costs are substantially smaller. Hence, even for a long recession, the orders of magnitude are in the same ballpark to the amount that is currently proposed by some members of Congress to assist businesses.[11]

To overcome the problem that employers are typically not aware of the program, and that many states do not have appropriate outreach mechanisms in place, participation in an STC program could be linked to obtaining an extension in a federally supported credit line. Such an approach would work especially well for small and medium enterprises; larger employers who may be less in need of credit are smaller in number and hence could be directly contacted by federal or state labor offices.

This would allow federal intervention to simultaneously assist businesses and workers. An alternative proposal currently being discussed also ties emergency loans to

[9] Canada has recently doubled the maximum duration of its STC program to close to 1.5 years, and relaxed eligibility requirements (https://www.canada.ca/en/employment-social-development/corporate/notices/coronavirus.html). German employees on short-time work receive 60-67% of their prior income, and Germany increased firms' eligibility and waved firms' social security contributions. Italy has recently increased the coverage of its short-time work compensation to include more industries, firms, and workers, while temporarily exempting businesses from increasing payroll taxes.

[10] See "The Smart Way to Save Jobs in the Time of Coronavirus", Abraham and Houseman, *Politico* for similar recommendations and further discussion.

[11] These costs are also comparable to what the federal government has spent on extended UI in other recessions. At the peak of the Great Recession in 2010, when unemployment stood at approximately ten percent, the total annual cost of the UI program was close to $160 billion dollars, roughly equally shared by the federal government and the states. http://www.cbo.gov/sites/default/files/cbofiles/attachments/11-28-UnemploymentInsurance_0.pdf

employment stability.[12] In the proposal, businesses would not have to repay their emergency loans if they kept their employees on the payroll. This proposal would also help avoid the immediate impact of the crisis on layoffs and their long-term cost. Each of the two proposals has advantages, and is likely to cover different groups of workers and firms.

STC programs are already available for close to three quarters of the work force, such it can be more easily scaled than a new program. STC can also flexibly adapt to the evolution of the labor market as the economy recovers. Since STC would be available to firms that do not receive emergency credit, it can cover a broader range of firms. Moreover by helping to keep people in their jobs, STC will lower further job destruction that commonly occurs in the economy during a recovery, and hence reduce crowding in the labor market and help the unemployed find jobs.[13]

Tying participation in STC programs to credit lines might also help with the potential concern that substantially scaling up STC could cause bottlenecks at state labor offices, given lenders could easily provide basic information about the program and direct firms to the necessary phone lines or internet portals to sign up.[14] It is worth highlighting that evidence from the Great Recession suggests bottlenecks are likely to be temporary. [15] Moreover, any program aiming to prevent widespread business closures and layoffs at a national level would need to be rolled out at a large scale.

Moreover, an important aspect of STC is that keeping workers in their jobs even temporarily would help to "flatten the curve" to avoid overwhelming the UI system with skyrocketing UI claims.[16] It would likely also help from flooding other social insurance programs with applications (such as Supplemental Nutrition Assistance Programs, formerly known as Food Stamps). Overall, given its usefulness and adaptability throughout the crisis, instituting functioning STC programs in every state is extremely valuable even if it complements other immediate measures.

12 A current republican proposal includes tying the forgiveness of emergency loan debts for small businesses to maintaining their payroll https://www.sbc.senate.gov/public/index.cfm/pressreleases?id=3B42CB4F-CF1C-4D6F-9212-290E6A19AB52&mod=article_inline. See also a related proposal by the American Enterprise Institute https://www.aei.org/wp-content/uploads/2020/03/hubbard-strain.pdf and https://www.aei.org/economics/how-to-help-american-businesses-endure-and-jobs-survive/.

13 During and after the Great Recession, this argument was made forcefully by Kevin Hasset, among others (https://www.latimes.com/archives/la-xpm-2010-apr-05-la-oe-baker5-2010apr05-story.html and https://www.cbpp.org/sites/default/files/atoms/files/4-2-14fe-hassett.pdf)

14 Considering supplementing traditionally used phone lines with temporary online sign ups that are then verified ex post may substantially reduce initial bottle necks and cast a wide net for participation especially initially when most applying firms are likely eligible (this could be limited to certain hard hit sectors).

15 Wandner, Stephen A., ed. 2018. Unemployment Insurance Reform: Fixing a Broken System. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research. https://doi.org/10.17848/9780880996532

16 The flattening the curve argument is made for trying to slow down the rate of infections to avoid overwhelming the health system https://www.npr.org/sections/health-shots/2020/03/13/815502262/flattening-a-pandemics-curve-why-staying-home-now-can-save-lives ”; reducing the growth of UI claims would similarly prevent UI systems from .

The remainder of the memo discusses estimates for the long-term costs of recessions for affected workers and gives an overview of the **suite of existing workforce programs** at the state level – including STC – that cover a large group of workers and could be scaled to address the crisis. Among others, the memo discusses reform proposals for partial UI, which may be a valuable option for workers whose employers do not sign up for STC. I discuss legislative steps required to further improve UI recipiency among the unemployed. All reform proposals for UI, STC and partial UI are summarized in Appendix D to this memo.

An important question is how aid is brought to those workers that are not covered by unemployment insurance, such as lower income workers, the self-employed, younger workers, or independent contractors. For those workers not covered by UI, tying job stability directly to emergency loans might be a good solution. Other strategies for the self-employed and young workers are briefly discussed at the end of the memo as well.

Last but not least, the memo concludes with a discussion and a proposal on how administrative data from the UI system can be used to monitor the economic effects of Covid-19 and the success of UI, STC, and related programs to aid workers in real time.

Long-Term Costs for Job Losers and Labor Market Entrants

A recession can have long-term effects lasting beyond the downturn itself, especially on directly affected workers. This note summarizes some of what we have learned about the long-term effects of job loss and unemployment for affected workers, clarifying the benefits of preserving employment relationships throughout the crisis. The focus is on individuals of working age and in the labor market – i.e., job losers and labor market entrants – and on economic outcomes. Yet, we also summarize the effects of other outcomes, chiefly on mortality and health.

Job Losers. The prospective of a deep and possibly prolonged economic shock for potentially affected workers and labor market entrants is dire. Existing estimates suggest that losing a stable job at a good firm during a recession can lead to long lasting reductions in employment and earnings. For example, analyzing job losers from several recessions, Davis and von Wachter (2011) find that such a job displacement leads to a cumulated loss of 2.5 years' worth of earning. In separate analysis, Song and von Wachter (2014) focus on employment and report a total loss of 1.5 years worked over their remaining lifespan after a job displacement in recessions. These numbers could partly overstate the loss, since the analyses typically focus on workers with a stable job and medium to large employers, and do not include information on self-employment. Yet, available evidence suggests that job loss during recessions has detrimental effects on earnings for broad groups of workers.

What implications do these findings have in the current economic environment? This is of course a very difficult question, since little is known for this type of sudden economic shock concentrating on primarily on services sectors that are usually more resilient in recessions. To nevertheless gauge the potential order of magnitudes of the long-term effects on affected workers, consider a range of current estimates of the potential loss in GDP. Without taking into account additional policy interventions, more optimistic estimates project GDP to contract at a 6.5% annual rate from the 1st to the 2nd quarter.[17] Other estimates point to potential losses of 10-20% over the year, while some predict as much as a 50% drop in GDP.[18]

For practical purposes, here we consider two scenarios. The first is a 'best current guess' scenario, with an effect of a rise in the unemployment rate from 3.7% in February 2020 to 6.5% by mid-year.[19] The second is a 'large recession' scenario with a rise of the unemployment rate to 10%, comparable to what it has been in 1982 and in the Great Recession. Given the rapidly worsening economic and increases in new UI claims, this is an increasingly likely scenario.

In the first scenario, the number of unemployed would rise by 3.6 million individuals. In the second scenario, the rise would be 10 million additional unemployed individuals. As a benchmark, the current total employment in sectors most likely to be immediately affected is 13.8 million.[20] Here, we follow common practice and use the standard unemployment definition by the Bureau of Labor Statistics.[21] The actual increase in the number of job seekers is typically higher than that predicted by the official unemployment rate, because many workers available and willing to work may not search for job. Yet, it is likely that not all individuals will suffer as large earnings losses as in the estimates above, for example if they lose jobs at smaller, lower paying firms. The total numbers presented below are not adjusted for either deviation.

Taking the potential insights into the long-term consequences of job loss on earnings and employment seriously, the first 'best current guess' scenario (3.6 million additional unemployed) would imply a loss of 9 million earnings-years lost, or the equivalent of 225,000 working lives (at 40 years per working life). At annual earnings of $50,000, the total amount of earnings capacity lost would be equal to $450 billion.

The 'large recession' scenario (10 million additional unemployed) would imply 25 million earnings-years lost, or the equivalent of 625,000 working lives. At annual earnings of $50,000, the total amount of earnings capacity lost would be equal to $1.25 trillion. [22]

17 https://www.anderson.ucla.edu/centers/ucla-anderson-forecast/2020-recession/the-sum-of-all-fears;
18 Federal Reserve Bank of St. Louis President James Bullard have even predicted an unemployment rate of 30% in the second quarter, coupled with a 50% drop in GDP.
19 For example, Bank of America predicts a rise in the unemployment rate to 6.3% and a loss of 3.5 million jobs https://markets.businessinsider.com/news/stocks/coronavirus-recession-already-hit-us-economy-pandemic-bank-america-gdp-2020-3-1029012857
20 These sectors are air transportation, performing arts and sports, gambling and recreation, hotels and other lodging, and restaurants and bars.
21 https://www.bls.gov/lau/stalt.htm
22 A rise in the rate of unemployment from 3.8% to approximately 6% entails about 3.6 million additional unemployed workers. If each of these loses 2.5 years' worth of earnings, this leads to 9 million earnings years lost. Dividing by 40 leads to 225,000. A number of 2.5 years is obtained by discounting the future stream of displaced workers' earnings losses with respect to a control group and dividing by pre-displacement earnings (see Davis and von Wachter 2011 for details).

In terms of the more conservative effect job loss on employment (which ignores earnings losses after workers become employed again) the effect would be 5.4 million work years lost, or the equivalent of 135,000 working lives for the 'best guess scenario.' (At 40 years per working life). For the 'large recession' scenario, the effects would be 15 million work years and 375,000 work lives lost.[23]

Labor Market Entrants. Besides job losers, labor market entrants are another group of workers particularly affected in recessions. These are particularly vulnerable both because they are looking for a job and because they are 'newly minted' in terms of work experience, such that labor market conditions may affect their career trajectories. The existing research shows that unlucky individuals entering the labor market in recessions experience a large initial reduction in earnings and employment. In contrast to job losers, most research shows that on average earnings effect dissipate for labor market entrants within ten years, 15 years after large downturns. Yet, some work indicates that these unlucky cohorts see a worsening of socio-economic outcomes again in middle age – both in terms of earnings, but also in terms of marital status and completed fertility, among others, discussed further below.

Taking estimates from Schwandt and von Wachter (2019) for the effects of a large recession (which they define as an increase in unemployment of five percentage points, such as in the early 1982 and 2008 recessions), those with less than a college degree are predicted to lose 10% of the total present value of their earnings during their first ten years of the job market. College graduates are predicted to lose 5% of their total discounted earnings in their first ten years of the labor market. In terms of percentage losses of total discounted earnings, these estimates are in the same ballpark those for job losers, but the implied average loss in cumulated earnings years is smaller. This is partly because direct employment losses are smaller (some new graduates are still able to find work), and partly because earnings among young workers are lower – such that there are fewer total earnings years lost.

By June 2020, 2.835 million college graduates will be looking for jobs.[24] There are approximately 3.6 million individuals graduating from high school this year. In addition, BLS data indicates there were approximately 13 million individuals age 18-24 in the labor force in 2018. Adding these numbers implies approximately 20 million young workers will be at high risk of adverse effects from the recession.

The existing evidence shows that the effects are largest if a recession occurs in the year of graduation, but we know young job seekers, and young workers more generally, are at very high risk of unemployment and other adverse effects. Thus, if the economic crisis

[23] A rise in the rate of unemployment from 3.8% to approximately 6% entails about 3.6 million additional unemployed workers. If each of these loses 1.5 years' worth of employment, this leads to 5.4 million earnings years lost. Dividing by 40 leads to 135,000. A number of 1.5 years is obtained by estimating workers' average employment losses in each year after job loss with respect to a control group and summing over twenty years after the job loss (see Song and von Wachter 2014 for details).
[24] 842,000 Bachelor's degrees, 989,000 Associate's degrees, 820,000 Master's degrees, and 184,000 Doctor's degrees. (NCES)

resulting from the Covid-19 pandemic lasts well into the summer and the fall of 2020, a large number of young individuals will be subject to protracted earnings losses, increases in poverty, and, later in life, lower socio-economic status and increases in mortality.[25]

Mortality and Health. The existing evidence suggests that both job loss and an unlucky start can raise the long-term mortality rates for affected workers. As was the case for the earnings losses, the mortality effects can be expressed in terms of losses in life years. In what can be considered a scenario of a deep recession, Sullivan and von Wachter (2009) studied the mortality of job losers in a rust-belt state in the 1982 recession (Pennsylvania), and found effects of job loss on mortality for over 20 years. If these effects were sustained until the end of workers lives, job losers on average lost 1.5 life years. Results from other countries support the findings of both large short-run and smaller but precisely estimated long-run mortality effects.

Taking 2 million, the 'best guess scenario' for the number of job losers due to Covid-19, and applying the preceding estimate of 1.5 life years lost implies a total loss in life-years from job loss of 3 million. If the average job loser has 45 more years to live, that corresponds to a loss of 50,000 lives.[26] The 'large recession' scenario would imply a total loss of 15 million life years (or 334,000 lives) due to job loss.

These losses would occur gradually over the next twenty to thirty years and longer. The exact magnitude of mortality effects will likely be affected by the nature of the economic downturn and the type of industries and workers affected. Sullivan and von Wachter (2009) present evidence that the long-term mortality loss is proportional to the initial earnings loss – such that factors affecting the strength of the recession and the size of earnings losses would also be indicative of the long-term mortality effect.

Increasing evidence suggests that labor market entrants will also suffer increases in mortality once they reach middle age. While it is well-known that for young (and other) workers recessions tend to reduce mortality as they occur, the long-term effect on mortality in middle age turns negative. Schwandt and von Wachter (2020) find that entering the labor market during the large 1982 recession in the U.S. reduced life-expectancy between 6 and 9 months of an unlucky entrant. Cutler, Lleras-Muney, and Huang (2016) find similar results based on multiple cohorts from a broad range of countries.

If one takes 20 million, as the number of young individuals potentially affected by a covid-19 induced recession, this would imply a total of 10 million life years lost due to long-term effects of the economic crisis. Assuming an average remaining life span of 65 years, this would correspond to approximately 154,000 lives lost.[27] Given not all young

[25] A survey of this literature is available in von Wachter (2019), http://www.econ.ucla.edu/tvwachter/.
[26] A rise in the rate of unemployment from 3.8% to 5% entails about two million additional unemployed workers. If each of these loses 1.5 life years, this leads to three million earnings years lost. Dividing by 60 leads to 50,000.
[27] Schwandt and von Wachter (2020) estimate that a rise in the unemployment rate of about four points led to a loss of half a life year. For simplicity, we take this to be an estimate of the recession effect. Hence,

workers may be as affected as those graduating during the crisis, a more conservative estimate would consider approximately 6.4 million graduates at risk. This would imply 3.2 million life years lost corresponding to 50,000 remaining lives (at a remaining life span of 65). These adverse effects would slowly accrue over the course of many decades.

Besides mortality, there is ample research that job loss and adverse labor market entry affects a whole range of health outcomes, though the reliability of these estimates is not always as strong because of measurement issues. But an extensive literature in epidemiology, social work, and economics have shown that job loss leads to reductions in a broad range of indicators of both physical and mental health. Similarly, an increasing number of papers show that entering the labor market in a recession affects both specific health outcomes, such as the likelihood of heart disease in middle age, as well as health behaviors, such as drinking.[28]

In addition, both job loss and adverse labor market entries have effects on broader measures of well-being and socio-economic status beyond mortality and income. Over their life course, they face a higher risk of divorce, reduced fertility, and increase in criminal behavior, among others. Moreover, young labor market entrants' attitudes towards risk and the role of government, among others, appear to be shaped by initial labor market experiences.

Scaling Short-time Compensation to Address the Covid-19 Crisis

The existing research makes clear that the outcome of the next few months will shape the long-term outcomes of millions of individuals directly affected by the crisis. The policy choices made today will have a significant effect on the mortality, earnings, and socioeconomic outcomes of new labor market entrants and job-losers that will extend over the course of their lives. Ideally, policy efforts would immediately assist affected workers and businesses, help dampen the Covid-19 induced recession, and prepare the economy for a quick re-start once Covid-19 is contained.

With these goals in mind, the first recommendation made here is to immediately ramp up existing workforce programs that usually assist job losers, in order to be prepared for the possibility of a large and prolonged downturn. Chiefly among them, a large expansion of Short-time Compensation (also known as work sharing) programs that help prevent job losses appears particularly well suited to the current crisis, in which parts of the economy are 'put on temporary hold' due to the virus. Other existing programs cover employees not eligible for UI or the self-employed, but need to be expanded as well.

Past recessions have provided some potential insights how the existing workforce system could be harnessed and scaled to provide a safety net for unemployed workers. The key is that in many if not most states, the core programs required to assist individuals losing

twenty million times 0.5 implies ten million life years lost, at a remaining life span of 65 years for young workers, this would imply 154,000 lives lost.

[28] See von Wachter (2019) for an overview.

their jobs through Covid-19 – either because they were laid off, or because they contracted the virus, or because they are caring for a sick family member – are already in place. These programs should be expanded and financed to make them more effective for the current environment. An important distinction is that not all those defined by the standard definition as unemployed usually qualify for UI and related programs, something we will return to later on.

Unemployment Insurance. The bedrock of support for the unemployed in recession is the unemployment insurance (UI) system. UI pays workers that lost their jobs through no fault of their own a fraction of their past earnings (typically at most 50% of their earnings, less for higher earning workers) for a fixed duration. In legislation in response through the Covid-19 crisis, Congress has enacted temporary changes to the UI system:

- Congress has provided $500 million for states that experienced a sharp increase in unemployment insurance claims,[29] given that the receiving state commits to raise access to UI benefits, including easing eligibility such as waiving work search requirements and waiting period. Similarly, states receiving this funds should not raise the payroll taxes of firms whose employees received UI because they were affected by Covid-19.
- State trust funds paying for benefits regularly run out in recessions, and states borrow from the federal government to make up the deficits.[30] Hence, extensions of UI benefits in recessions are often enacted and financed by Congress. In case in the Families First Coronavirus Response Act,[31] congress decided to instead fully fund states' own Extended Benefit programs.
- Congress provided $500 million for assisting with the administration of states' UI programs.

There are several other temporary reforms that would go beyond what is currently in the federal legislation. These are summarized here and listed also in Appendix D:

- A key step is that states actually follow-up and use their new degree of flexibility. Congress should consider tying further steps to increase benefit recipiency to explicit incentives as done for example for the job search requirement.
- States should clarify that workers are eligible UI if they lost their job because of Covid-19, or if their hours were reduced because of Covid-19.
- Low-earning workers or labor market entrants often do not qualify for UI, and states have adopted alternative benefit criteria in the past. Lowering benefit criteria and raising benefit levels would be one way to reach low-wage workers (extending paid leave is another option, see below).

29 I.e., for states where unemployment insurance claims increased by at least 10% over the same quarter in the previous calendar year.

30 Once a trust fund is in deficit, the federal government imposes a mandatory surcharge on a state's payroll tax until the debt is repaid.

31 The law provides 100% federal funding for states' Extended Benefit programs (rather than a 50% match) for states that experience a 10% or higher unemployment rate compared to the previous year, and comply with other beneficiary access requirements through December 31, 2020.

- A key feature of the UI program is that it is financed by employer-specific payroll taxes, such that those firms see tax increases that have a higher number of UI applications. Federal funding for UI during the crisis would allow exempting certain sectors from payroll tax increases during Covid-19.[32]
- Often, determination of eligibility can take time, and ways should be considered of speeding up eligibility determination in response to Covid-19.

***Short-time Compensation (Work Sharing)*.** A lesser known feature of the UI program in many states, STC allows firms to reduce the hours of their workforce, while having the UI system pay these workers a fraction of their lost earnings. Hence, workers can get paid while they remain officially employed, and the firms' payroll is reduced. The typical features of a state STC programs are the following:

- Participation in STC programs allows firms to reduce their payroll costs through reduction in hours while keeping workers employed.
- The shortfall in earnings is made partly up by payments from the UI system. Workers receive the same benefits as they would under UI, but proportional to the amount of lost earnings (e.g., at most 50% of the lost earnings, depending on state law).
- In regular times, to qualify firms have to reduce time worked by a minimum amount and cannot reduce it beyond a maximum amount.
- As for regular UI, the system is funded through payroll taxes. Hence, firms using STC experience increases in payroll taxes.

There are some clear benefits of STC vis-à-vis regular UI. STC is particularly well suited for an economy affected by a pandemic-induced recession that in principle could 'turn back on' once infection subsides.

- STC would help to prevent costly layoffs, preserve productive job matches, and avoid time-consuming processes of job search by workers and vacancy filling by firms as well as costs of training and on-the-job learning once the economy went back to normal.
- By design, STC targets benefits to those businesses and workers most in need, and hence is able to adjust to the changing economic environment as the crisis evolves.
- STC preserves the feature of UI that it can act as an automatic stabilizer since it buffers shortfalls in earnings while supporting firms that need to cut costs.
- If the crisis is deeper and wages have to be cut, the burden can be spread more easily among many workers instead of concentrating them on job losers.

Expanding this system was proposed and ultimately approved during the Great Recession, but adoption among employers in states with STC programs was found to be was low, partly because of a lack of information, partly because it raised firms' payroll

[32] Instead, the Act provided for interest-free loans for states to assist with payment of unemployment compensation benefits through December 31, 2020. That is, if a state trust fund runs out of money and needs to borrow money from the federal government, there will be no interest. However, automatic payroll tax increases for repayment of these loans will still occur.

taxes (Abraham and Houseman, 2010). The experience in the Great Recession and other countries suggests some key lessons for implementing an STC program during the Covid-19 induced recession:

- Functioning STC programs in Europe are typically subsidized and financed separately from UI benefits. To increase take-up of STC, avoid burdening states' UI trust funds, and avoid damaging increases in payroll taxes, an expansion of STC should be financed directly by the federal government.
- Lack of information was identified as another hurdle for take up of STC in the Great Recession. A concerted effort to incorporate STC with other relief effort for firms, such as emergency credit lines, and scaling and funding outreach programs to employers and workers should accompany an extension of STC programs.
- Eligibility should be temporarily increased so even firms with smaller or very large employment reductions can participate.
- States not currently having an STC program should receive incentives to adopt a program with assistance from the U.S. Department of Labor.

Short-time Compensation programs help to preserve valuable job matches and prevent a costly massive turnover of the work force.[33] Evidence from European countries suggests STC is an effective tool for stabilizing employment.[34] Given the research on the significant negative outcomes faced by job losers during a recession, an expansion of these programs provides a clear opportunity to improve outcome for affected workers, and can help effectively put the economy 'on hold' while the virus is contained.

To overcome the problem that employers may not be aware of the program, and that many states do not have appropriate outreach mechanisms in place, participation in an STC program could be linked to obtaining an extension in a federally supported credit line. This would work for small and medium enterprises; larger employers who may be less in need of credit are smaller in number and hence could be directly contacted by federal or state labor offices.

A potential concern with scaling STC programs could be that state labor offices may have difficulties in sufficiently expanding their operations. Yet, this is not unusual when UI is expanded in recessions, and the federal government has already provided funding to improve UI administration during the Covid-19 crisis. Such an effect would also likely be temporary as state labor offices adjust. More importantly, other proposals also face similar hurdles. STC has the advantage that it is already in place in the majority of states. Similarly, state labor offices have access to the necessary data and have experience with

[33] In the Families First Coronavirus Response Act the law provides that the Secretary of Labor will give states technical assistance and guidance in establishing, implementing, and improving employer awareness of short-time compensation programs to help avert layoffs.

[34] Two studies using quasi-experimental research designs find beneficial employment effects for France and Italy in the Great Recession. For example, Giupponi and Landais (2018) show that STC programs implemented in Italy during the Great Recession helped to stabilize employment and calculate positive welfare effects. Cahuc, Kramarz, and Nevoux (2018) obtain similar findings from France. Estimates from other studies are mixed (reviewed in Giupponi and Landais 2018), but generally support positive employment effects.

verifying employment of workers and firms. Finally, strategic abuse of STC has been found to be low in the U.S. and in other countries, and is likely to be less of a concern in times of a large economic downturn as the one triggered by Covid-19.[35]

Funding Proposal for STC Expansion. An important question is how much increasing coverage of STC programs in the current crisis would cost, and how it would be paid for. There are several important considerations that make STC attractive from this point of view:

- Expanding STC programs could actually lower total outlays for UI, since workers receive at most as much as under UI, and lower since preserving job attachments lowers unemployment, and if companies keep paying workers for a fraction of their time. Existing research implies they will if STC is available.
- The current federal relief bill already finances 100% of extensions of UI beyond 26 weeks; hence, direct federal funding for UI benefits is already in place.[36]
- To ensure widespread take up, the STC extension proposed here covers the entire cost of STC, not only those benefits that go over 26 weeks. There is legislative precedence for the U.S. being willing to fully fund the complete cost of STC payments from the Great Recession.[37]
- The current federal relief bill has allocated $500 million for the cost of administering expansions of the UI program in face of Covid-19; part of this funding could assist states to expand STC.[38]

How would an expansion of a fully funded STC program compare to the proposed support for individual incomes in the current relief bill? The exact numbers depend on the depth of the recession and the parameters of the program. The magnitudes lie within the range of what is typically spent on UI in recession and are on the same orders of magnitude as some proposed support packages for businesses.[39]

Suppose the approximately 13.8 million employees (in 2018) of particularly affected sectors are most at risk of unemployment and most likely to receive STC.[40] Combined, these employees received annual $574 billion in compensation in 2018. The amount of STC benefit (and hence the majority of the cost of the program) depends on how many employees will have their hours reduced, by how much these hours will be reduced, how long they are receiving benefits, and how large the replacement rate of the UI system is.

35 See, e.g., Wandner and Balducchi (2010). Abraham and Houseman (2014) mention that states put regulations in place to prevent abuse, but that these tend to discourage participation. See also https://www.nelp.org/wp-content/uploads/2015/03/Lessons-Learned-Maximizing-Potential-Work-Sharing-in-US.pdf.

36 Families First Coronavirus Response Act; Section 4105

37 Middle Class Tax Relief and Job Creation Act of 2012

38 Families First Coronavirus Response Act; Section 4102

39 Hubbard and Strain (https://www.aei.org/wp-content/uploads/2020/03/hubbard-strain.pdf) obtain substantially larger numbers for their proposed business support program because they focus on total revenues (which is larger than just the wage bill) of a broader group of sectors.

40 These sectors are air transportation, performing arts and sports, gambling and recreation, hotels and other lodging, and restaurants and bars.

Finally, it depends on how many employees are eligible to receive UI benefits. While here we assume for simplicity that all then unemployed are eligible. At least in past recessions, not all the unemployed have received UI – the peak in the Great Recession was 70%. Yet this might be different in the Covid-19 crisis, since Congress has specifically encouraged states to widen their access requirements. Since it is likely that despite these efforts not everyone will qualify or receive UI, the total costs will be lower than what follows.

The replacement rate is the fraction of prior income that is paid if a worker receives either STC or UI benefits. The replacement rate varies by state and by income. For simplicity, assume a 40% average replacement rate.[41] Also assume that all the newly unemployed in our two scenarios come from these sectors.

The 'best guess scenario' implied 3.6 million additional potential unemployed. Currently, under STC, a firm has to reduce work time by at least 10% and no more than 60%. Here, we also consider a more extreme scenario in which firms are allowed to reduce hours by up to 80%. In addition, given the potential goal of keeping all employees 'in place' during this recession, in principle this could be raised to 100%, which would yield STC benefits that are the same as UI benefits. Even in this case, STC would likely be preferable since workers stay nominally employed at the firm, and the economy could more easily 'jump start' after the pandemic is over.

As a benchmark, start with the extreme case that these employees received STC benefits for 100% of their incomes (i.e., their employer had no work for them to do). The annual income of these newly unemployed in 2018 was $150 billion.[42] If every claimant received STC benefits for three months, the total outlays of an STC program would be $37.5 billion (=150/4) times the replacement rate of 40%, i.e., $15 billion.

This would be the same amount if all these individuals were receiving UI. Under STC, the total benefit amount would likely be smaller, since STC allows employers the flexibility to keep some employees at reduced time. Current evidence suggests that this will induce some employers to keep employees working some time at a reduced work time.

Suppose that instead of not working, these two million employees received STC of 80% of their incomes (i.e., their employer reduced work time by 80%). The annual income of these newly employed in 2018 was $150. If they received STC benefits for three months, the total outlays of an STC program would be $37.5 billion times 80% times the replacement rate of 40%, i.e., $12 billion.

The current law allows employers participating in STC programs to lower time worked only up to 60%, i.e., workers keep working at 40% of their previous time. If they

[41] Benefit Accuracy Measurement; Prepared by OUI Div. of Performance Management on 20 Mar 2020.
[42] Since 3.6 million are roughly 26% of 13.8 million, the earnings amount is 0.26 times $574 billion, which rounds to $150 billion.

received STC benefits for three months, the total outlays of an STC program would be $20.5 billion times 60% times the replacement rate of 40%, i.e., $6 billion.

These amounts grow if the crisis takes longer or if more workers enter STC. For example, under our 'large recession' scenario, there are ten million additional potential unemployed. If all of these received 100% benefits under STC, the total cost would $41.6 billion (again, the same as cost of regular UI payments). If instead, all of those remained at 40% (20%) time, this would lower the cost to $16.6 ($33) billion.

Under a severe scenario of a 6 months recession, these costs would double. Hence, including both the 60% reduction scenario and the 100% reduction scenario, the costs would range from be on the order of $12-$30 billion with 3.6 million additional workers on STC, and $33-$83 billion for 10 million additional workers on STC, depending on the amount of partial employment that firms are allowed to choose. In the extreme case of a recession lasting one year, the amounts would be $24-$60 billion with 3.6 million unemployed and $66-$166 billion with 10 million unemployed on STC, depending on the amount of partial work.

Even for a six- to twelve-month recession, these orders of magnitude are in the same ballpark as the amount that is currently proposed by some members of Congress to assist businesses. For a shorter recession or fewer unemployed, the costs are substantially smaller. As another point of comparison, at the peak of the Great Recession in 2010, when unemployment stood at approximately ten percent, the total cost of the UI program was close to $160 billion dollars, roughly equally shared by the federal government and the states.[43]

Extend Partial Unemployment Insurance During the Crisis

Partial UI is another mechanism traditionally available to workers that experience a reduction in hours worked, or that take up short-time jobs while unemployed. The program provides workers partial UI benefits for the lost earnings, but allows workers to earn a basic amount on top of these UI benefits. Any earnings beyond this so-called 'earnings disregard' reduce the partial UI benefit dollar for dollar. A common concern is that in many states the resulting benefits are very low, dissuading workers to apply for partial UI (see Appendix C for an overview of partial UI programs and an example).

Typically, this mechanism complements STC, since it allows workers to obtain partial earnings replacement if their firms to not apply or do not qualify for STC. For example, these may be workers with a reduction in hours in firms that do not need to reduce hours across the board, or that have very large employment reductions, neither of which would qualify for STC. Hence, weakening the eligibility criteria for STC would partially replace the need for partial UI.

However, partial UI is likely to remain relevant for some workers, or in the case that STC is not extended. An important consideration for policy in the Covid-19 crisis is to provide

43 http://www.cbo.gov/sites/default/files/cbofiles/attachments/11-28-UnemploymentInsurance_0.pdf

incentives to states to temporarily change their benefit structure to make partial UI more attractive to workers. While in normal times a low earnings disregard can strike a balance between providing incentives to take up any work (i.e., the worker gets to keep the amount up to the earnings disregard) and the need to transition workers able to find a job off the UI program, the risk of subsidizing workers that could pursue full time work is less of a concern during the current crisis.

Scaling Other Workforce Programs Including Programs for Non-Employees

In addition to UI and STC, in many states there are several existing programs that can be scaled to better assist workers who contracted Covid-19 themselves or have to care for a sick family member. It is well known that not all unemployed receive UI.[44] Among employees, especially low-wage workers, workers with interruptions in their earnings history, or young workers often do not receive UI. In some states, eligibility requirements for parental leave and state disability insurance programs are lower than that for UI. Nevertheless, it is not clear how many of these workers are actually covered by these programs. Even fewer options exist for those that are not employees, such as self-employed individuals and independent contractors. In some cases, such as in California, these programs can be extended to cover the entire workforce. Currently no programs addressing employment problems for young labor market programs exist.

State Disability Insurance (SDI). Many states have short-time disability insurance programs that can cover workers that cannot work either due to having or having been exposed to Covid-19. Yet, typically self-employed and certain lower-earnings employees do not qualify. For example, in California 70% of the labor force is covered.

Paid Leave (PL). Many states have paid leave programs but differ in who they cover. For example, in California individuals that care for a family member sick due to Covid-19 can apply for Paid Family Leave.[45] Yet, typically self-employed and certain lower-earning employees do not qualify. For example, in California, again only 70% of the labor force is covered.

Self-Employed Workers. In some states, self-employed workers can opt to contribute to obtain coverage by SDI and PL. For example, in California offers the optional Disability Insurance Elective Coverage (DIEC)[46]. In times of crisis, such programs provide an institutional means to temporarily cover self-employed workers who contract Covid-19 or have to care for a family member with Covid-19.

[44] In recessions the recipiency rate (the fraction of the unemployed that receive UI) can rise to 70%, but in expansions it can be as low as 25% (https://www.nelp.org/blog/presidents-budget-proposes-unemployment-insurance-reforms-as-share-of-unemployed-receiving-jobless-aid-remained-at-record-low-in-2015/).
[45] https://www.edd.ca.gov/about_edd/coronavirus-2019.htm
[46] https://www.edd.ca.gov/disability/Self-Employed.htm

As of the writing of this memo, the federal government passed a federally funded leave program, providing up to 12 weeks of paid family leave to parents with children whose schools have closed, and 2 weeks of paid sick leave for those experiencing symptoms of COVID-19 or those who have been advised to self-quarantine. For self-employed and gig-economy workers, the bill provides a similar tax credit of up to 2 weeks of sick pay and 12 weeks of family leave pay.[47]

Typically, young workers entering the labor market in a recession fall through the cracks of federal and state labor force programs. While there are federally funded programs for low-income youth under the Workforce Investment Opportunity Act, these are not meant to deal with cyclical unemployment among young workers. It is urgent to consider creative policy options for young workers entering the labor market during the Covid-19 crisis and its aftermath. This could include targeted hiring subsidies to employers to employ young workers, it include subsidies to obtain further education, or it could include opportunities for paid social service activities, including for example serving as teaching assistants or teachers in schools or being trained to assist the public in times natural and other disasters.

Use Data from the Workforce System to Monitor Crisis in Real Time

The nature of the pandemic will make collecting crucial labor market data difficult. Continuously collected data from states' unemployment insurance (UI) and related programs can provide a highly accurate and detailed source of information to guide state policy during the crisis.

Here, I propose to use administrative data from the states workforce system to real time monitoring of two key policy areas. This includes using the data to monitor the economic effects of the Covid-19 crisis in real time. In addition, the data can be used to assess the success of efforts to support workers and businesses, and to better understand where there are gaps in coverage and where outreach is necessary at a very granular level.

Real Time Monitoring of Economic Conditions. A first recommendation is that states and their research partners begin using the administrative data from the UI system to monitor which sectors, local labor markets, occupations, and demographic groups are most affected by Covid-19 and the economic crisis using daily new claims to UI.

While the standard sources of labor market information – the Current Population Survey and the Current Employment Survey – could be adversely affected by the crisis, the primary high-frequency, leading indicator of economic activity – weekly new UI claims – is produced by the UI system as unemployed individuals claim for benefits.

Moreover, new UI claims typically have sufficient sample sizes that they can be used to monitor unemployment conditions at the regional level by industry, by worker

[47] "Families First Coronavirus Response Act"

demographic characteristics, and sometimes by occupation. This can provide an invaluable diagnostic device for the impact of the crisis.

Similarly, data on take up of Short-Time Compensation (STC), State Disability Insurance (SDI) or Parental Leave (PL) programs can be used to localize the hot-spots of the Covid-19 crisis.

Real Time Monitoring of Support Efforts and their Effect. Key questions that policy makers are grappling with throughout the country is whether individuals and businesses are receiving the assistance they need, and whether core programs are effective at providing that assistance. State administrative data allows one to calculate three key metrics used to assess needs, program success, and gaps in program coverage: program eligibility (or coverage), program take-up, and program recipiency rate.

Coverage. Administrative data is able to calculate fraction of workers are eligible for programs such as UI, Short-Term Compensation, Paid Leave, or State Disability Insurance, and calculate how coverage differs by region, industry, or possibly demographic group. Eligibility, or coverage, shows the maximum possible fraction of individuals that can be reached by a program. Besides being a useful metric to gauge success of the program in the next step, together with data on other available assistance programs it is also crucial for assessing which groups of individuals falls needs additional assistance, and whether program eligibility has to be extended.

Take Up or Benefit Receipt. Among those eligible, administrative data can be used to assess which workers take up these programs (indicating program success), where increasing take up rates indicate hot-spots of Covid-19 infection and Covid-19 induced layoffs, and which workers do not receive benefits or take up programs, indicating a need for policy intervention to raise program take up or receipt.

Recipiency Rate. Finally, the data can be used to calculate what fraction of a given population receives the program. The recipiency rate is the final measure of the ability of a given program to provide assistance to a group of individuals. The recipiency rate can be calculated at as fine a level as the data allows, for example by region, industry, occupation, or demographic groups. If the recipiency rate is low, this can be due to a lack of coverage (i.e., program eligibility), or due to a lack of take up or program receipt.

Together these metrics allow for a detailed, often real time assessment of which populations are well served by a group of existing programs and where coverage is lacking. While most of the focus of these programs is on workers, the data can also be used to track firm outcomes. This is directly relevant for a firm-level program such as Short-Time Compensation. But the data can be generally used to assess the health of businesses in the state.

References

Abraham, Katharine and Houseman, Susan, "Short-Time Compensation as a Tool to Mitigate Job Loss? Evidence on the U.S. Experience during the Recent Recession," *Upjohn Institute Working Paper*, 2010.

Abraham, Katharine and Houseman, Susan, "Encouraging Work Sharing to Reduce Unemployment," Hamilton Project Policy Proposal, 2014.

Atkeson, Andy, "What Will be the Economic Impact of COVID-19 in the US? Rough Estimates of Disease Scenarios," Federal Reserve Bank of Minnesota Staff Reports 595.

Cahuc, Pierre, Francis Kramarz, and Sandra Nevoux. "When Short-Time Work Works." *CEPR Working Paper* 13041, 2018.

Cutler, David M., Wei Huang, and Adriana Lleras-Muney. "Economic Conditions and Mortality: Evidence form 200 Years of Data," *Working Paper*, 2016.

Davis, Steven J and Till von Wachter, "Recessions and the Costs of Job Loss.," *Brookings Papers on Economic Activity*, 2011, (2).

Giupponi, Giulia and Camille Landais, "Subsidizing Labor Hoarding in Recessions: The Employment & Welfare Effects of Short Time Work," *CEP Discussion Papers* dp1585, Centre for Economic Performance, LSE, 2018.

Houseman, Susan Frank Bennici, Susan Labin, Christopher O'Leary, Katharine Abraham, and Richard Sigman, "Modest outreach increases employer awareness and use of Short-Time Compensation (STC)." *Study Brief*, Upjohn Institute, 2017.

Schwandt, Hannes and Till von Wachter, "Unlucky Cohorts: Estimating the Long-term Effects of Entering the Labor Market in a Recession in Large Cross-sectional Data Sets," *Journal of Labor Economics*, 2019, 37 (S1), S161–S198.

Schwandt, Hannes and Till von Wachter, "Socioeconomic Decline and Death: Midlife Impacts of Graduating in a Recession," *NBER Working Paper No. w26638*, 2020.

Song, Jae and Till von Wachter, "Long-Term Nonemployment and Job Displacement.," Evaluating Labor Market Dynamics, A Symposium Sponsored by the Federal Reserve Board of Kansas City, Jackson Hole, Wyo., August 2014.

Sullivan, Daniel and Till von Wachter, "Job Displacement and Mortality: An Analysis Using Administrative Data", *The Quarterly Journal of Economics*, Volume 124, Issue 3, August 2009, Pages 1265–1306

von Wachter, Till, "The Persistent Effects of Initial Labor Market Conditions and Their Sources," requested from *Journal of Economic Perspectives*, 2019.

Wandner, Steve, and David Balducchi, "Work Sharing," in: *Solving the Reemployment Puzzle: From Research to Policy*, Upjohn Institute, 2010.

Appendix A: A Proposal for Federally Funded Expansion of Short-time Compensation

The memo outlined a proposal to extend Short-time Compensation (STC) programs to help workers and businesses to confront the economic crisis triggered by public health measures to contain the Covid-19 pandemic. The specific features of the proposed STC expansions are as follows:

- **Maintain the core structure of existing STC programs.** The basic structure of existing state STC programs can be harnessed to roll out the program quickly, subject to temporary modifications listed below.

- **Federally fund the cost of providing STC benefits.** This could either be achieved by reimbursing states for their STC payments, or fund STC payments directly. The law should stipulate that as a result firms' payroll taxes will not increase as a result from STC participation.

- **Increase take up by tying STC to federally subsidized emergency loans.** To rapidly expand take-up of STC and secure valuable employment relationship while simultaneously supporting businesses, STC should be tied to federally subsidized emergency loans for struggling businesses.

- **Provide recommendations and funding for direct outreach campaigns.** Research has shown that outreach is effective in increasing STC utilization.[48] Public service announcements, mailings and targeted outreach in industries especially hard-hit by coronavirus can be and effective way to increase program participation.

- **Adjust STC programs so they do not affect UI benefits available to workers if they later become laid off.** In the US, unlike other countries, when individuals use work share programs, it reduces the amount of UI benefits available should the worker subsequently be laid off from the job. This could make employees less willing to accept STC agreements.

- **Make the inclusion of a work-sharing provision in the state's law be a conforming requirement for participation in the federal-state UI system.** Currently, only 28 states have work-sharing provisions.[49] Making these programs available in all 50 states could provide benefits to hundreds of thousands of Americans, potentially having a significant effect on employment.

- **Temporarily increase the eligibility for STC.** Temporarily allow firms that have small employment changes (e.g., an hours reduction of 10%) or large employment reductions (temporarily up to 100%) to participate in STC.

[48] Houseman et al. (2018).
[49] List of States with work sharing programs available here.

Other modifications have been proposed that are worth considering to further support businesses and workers and enhance the success of the program:[50]

- Work sharing spreads the burden of a recession across a larger number of workers rather than concentrating that burden on the minority of workers who lose their jobs.
- Employees who can expect to maintain employment through this crisis, while knowing their co-workers are also less at risk, are likely to have better morale.

Who pays for STC?

- Employers are charged for work sharing unemployment insurance (UI) benefits in the same manner as regular UI benefits (the benefits are charged to the reserve account of employers)
    - The program allows businesses to transition staff on and off the program and change their hours/percent time worked from week to week.
    - This gives employers greater control over their UI charges by allowing them to reduce schedules only as they deem fit in any given week, which could change rapidly as society adapts to COVID-19.
- **Eliminate the requirement to maintain full contributions to employees' retirement plans. Instead, only require that employers provide prorated retirement benefits to employees on work share based work on the fraction of regular hours their employees work.** The requirement to maintain full contributions may dissuade employers from using STC programs, as choosing instead to lay off workers would shed the cost of the worker's retirement plan.

- **Provide Federal funding to cover half of the benefits paid under approved employer work-sharing plans be triggered whenever extended UI benefits are triggered.** This would act as an automatic stabilizer, increasing the support for STC programs when they are needed most.

- **Use the Department of Labor's statutory authority to modify the formula for allocating UI administrative dollars to states to ensure that adequate support is provided for operating a work-sharing program.** A key part to successfully ramping up STC programs is having the staff and administrative support to ensure the program runs smoothly.

- **Directly Support Administrative Costs of Expanding STC.** Congressional action to raise the total funding available for UI administrative expenses might be needed to ensure that increased funding for the administration of work-sharing programs do not lead to other UI operations being shortchanged and that states have the capacity to take appropriate steps to make employers aware of the work-sharing option

[50] See Abraham and Houseman (2014).

- **Prohibit States from excluding employers from participating in work sharing based on their past use of the UI system.** Expanding the pool of potential program utilizers is essential if STC is to have a stabilizing effect on employment.

Appendix B: Short-Time Compensation (STC) Plans

Short-Time Compensation programs (also called "Work Sharing") allow employers to seek an alternative to layoffs — keeping trained employees on staff by reducing their hours and wages, but allowing the payment of partial unemployment insurance benefits to the individuals seeing reduced work.[51] Workers of employers who are approved to participate in an STC Program receive a share of UI benefits. This fraction of regular UI benefits is directly proportional to their reduction in work.[52]

Example

Suppose an employee normally works a five-day workweek and is paid $500. If this employee's workweek is reduced to four days, the employee's weekly wages would be $400. This is a 20 percent reduction in wages and hours. The STC benefits for this employee would be 20 percent of the Unemployment Insurance benefits the employee would receive if the employee were totally unemployed. If the employee's weekly Unemployment Insurance benefit amount were $300, the employee would qualify for $60 in Work Sharing benefits. This results in a reduction in gross wages of only $40 for that week ($400 + $60 = $460).

What are the Benefits of STC?

- Businesses forced to cut costs can use work sharing to retain already-trained employees and avoid the expense of recruiting, hiring, and training new employees when demand recovers.

Who can participate in STC Programs?

- Any Employer who has a reduction in production, services, or other conditions who meets the following requirements:
    - At least 10% of the employer's regular workforce (or a unit of the workforce), and at least 2 employees, must be affected by a reduction in hours or wages
    - The reduction in hours and wages must be at least 10%, but not more than 60%, though some states have refined these limits.
    - The health benefits and retirement benefits of employees must be continued under the same terms and conditions as before.

Policy Considerations Around STC Programs

- Work sharing programs have been shown to have a stabilizing effect on employment, and when implemented during the Great Recession in Italy, helped to bring about welfare gains. (Giupponi and Landais, 2018)
- Research shows that utilization of work sharing programs was highest during the early stages of the Great Recession, but is hindered by lack of information.[53] This

[51] For an overview of the STC program, including differences across states, see https://oui.doleta.gov/unemploy/docs/stc_report.pdf

[52] E.g., Guide for Work Sharing Employers (California)

[53] Brusentev and Vroman, "Stabilizing Employment; The role of Short-Time Compensation"

can be mitigated by increasing outreach through information campaigns, as shown in a random controlled trial conducted by the Upjohn Institute.

- Charges to a reserve account (through work sharing claims) can increase the potential for a higher Unemployment Insurance tax rate in future years. However, states set minimum and maximum UI tax rates, and for employers at these minimum or maximum rates, the cost of an additional layoff may be very low or zero.

Other Details

- STC plans in most states are approved for a 12-month period. If the employer continues to require work sharing in order to avoid layoffs, an application may be submitted for a subsequent plan.
- Work Sharing plans generally begin on a Sunday. Employers must apply for work sharing by submitting *a Work Sharing (WS) Unemployment Insurance Plan Application.*[54]
    - This should be submitted no later than the week of the requested effective date in order for the plan to begin that Sunday.
- To be eligible for work sharing, the employee must be part of the employer's permanent regular workforce, and not a temporary or seasonal employee.

54 California's Application: Form DE 8686.

Appendix C: Partial Unemployment Insurance[55]

Partial Unemployment Insurance is a feature of Unemployment Insurance (UI) that traditionally complements Short-time Compensation (STC) programs. This program can be used by workers that experience a reduction in work time due to Covid-19 in firms that do not qualify or apply for STC. Under current rules, this includes firms that seek to reduce employment across the board or businesses that have very large reductions in time worked. Similarly, workers who *have* been laid off may find short-time work while they search for a new permanent, full-time job. These circumstances characterize partial unemployment. The UI system is set up to permit benefit receipt by these individuals as long as they meet all eligibility requirements. However, the weekly benefit amount payable differs from state-to-state, and in many cases is low, such that eligible workers may have little incentives to take up partial UI benefits.

Eligibility:

In most states, an individual is deemed partially unemployed in a week of less than full-time work and earnings of less than a given threshold. For most states, that threshold is the weekly UI benefit amount the worker would receive. In some states, the threshold is the weekly benefit amount plus an allowance is earned, either from odd-job earnings or from any source.

Benefit Amounts:

The individual's benefit will generally equal the difference between the weekly benefit amount and actual weekly earnings. In determining benefits, states generally disregard a portion of earnings when computing the weekly benefit for partial unemployment. This is meant to incentivize individuals to find what employment they can, lessening the trade-off between income earned and partial UI benefits received. However, every dollar earned beyond this disregard decreases the benefits received on a dollar for dollar basis.

The earnings disregard for partial UI can vary significantly across states. For instance, the State of Connecticut disregards 1/3 of base period wages before decreasing benefits on additional dollars earned. Arizona, on the other hand, disregards just $30, and Mississippi just $40. Minnesota, meanwhile, instead reduces weekly benefit amounts by 50 cents for *every* $1 earned.[56]

Recommendation:

The federal government should provide incentives to states to temporarily increase their disregard amounts. Low disregard amounts, while reducing costs to the system by avoiding that workers 'double-dip' by receiving both earnings and UI benefits, make partial UI programs less attractive to those experiencing reduced work hours. During the current crisis, there is less need to prevent such double-dipping. Instead, focus should be

[55] See: US DOL Comparison of State Unemployment Laws 2019, Monetary Entitlement

[56] A full list of State's disregard policies can be found in Table 3-8 of Monetary Entitlement

on increasing the amount of benefits received by those filing for partial UI, which can be immediately increased by raising the amount of disregarded earnings.

Example of Increasing Earnings Disregard:

As an example of how raising the earnings disregard can make a difference to workers, consider for example the case of California (low earnings disregard) and Vermont (higher earnings disregard). UI benefits are typically expressed in terms of a base period (typically average weekly earnings in the four highest earning quarters among the five completed quarters before the start of the UI spell). If California were to raise the amount of earnings disregarded when computing the weekly benefit from the greater of ¼ of base period wages or $25, which it has now, to ½ of wages in the base period, which is the current policy in Vermont, the increased benefits to workers could be substantial.

Under the current policy in California, if a worker with $600 in base period wages were earning just $300 due to hours reductions, they would face trade-offs on every dollar after the first $150 they earn. If the threshold were raised to ½ of base period income ($300 for our example worker), they would not be subject to any trade-offs for their current income level since UI benefits are 50% of weekly earnings in the base period. This gives them $150 more per week than the current scenario. Over a month, this adds to $600, enough to possibly make the difference between being able to pay rent or not.

Appendix D: Summary of Policy Proposals for the UI System

(1) Unemployment Insurance (UI)

Proposed Changes at the Federal Level

The Emergency Unemployment Insurance Stabilization and Access Act of 2020[57] provides for the Secretary of labor to make emergency administration grants to states in the Unemployment Trust Fund. States are directed to demonstrate steps toward easing eligibility requirements and expand access to unemployment compensation for claimants directly impacted by COVID-19. Specifically, the key UI-related provisions of the Act are as follows:

- Congress has provided $500 million for states that experienced a sharp increase in unemployment insurance claims,[58] given that the receiving state commits to raise access to UI benefits, including easing eligibility such as waiving job search requirements and waiting period. Similarly, states receiving these funds should not raise the payroll taxes of firms whose employees received UI because they were affected by Covid-19.[59]s
- For the states satisfying these requirements, the law provides 100% federal funding for states' Extended Benefit programs (rather than a 50% match) for states that experience a 10% or higher unemployment rate compared to the previous year.
- Congress provided $500 million for assisting with the administration of states' UI programs.

In addition, the federal government should consider the following:

- **Pass federally funded benefit increases.** Many individuals and families may find it difficult to make ends meet over an extended period of time at an average replacement rate of earnings of 40%. Since in times of crisis the risk of making job search less attractive is low, in previous recessions the federal government has funded benefit increases, and it is worth considering in the Covid-19 crisis.[60]

57 Section D of the Families First Coronavirus Response Act

58 I.e., for states where unemployment insurance claims increased by at least 10% over the same quarter in the previous calendar year.

59 In order for States to receive emergency transfers for unemployment compensation administration, a State must demonstrate steps it has taken or will take to ease eligibility requirements and access to unemployment compensation for claimants, "*including waiving work search requirements and the waiting week, and non-charging employers directly impacted by COVID–19 due to an illness in the workplace or direction from a public health official to isolate or quarantine workers*." (§4102-3-B)

60 The Federal Additional Compensation program offered an extra $25 per week to all UI benefit recipients between February 22, 2009, and December 11, 2010, and was 100 percent funded from Federal general revenues.

Proposed Changes at the State Level

In order to receive federal funds allocated through the Families First Coronavirus Response Act, states should:[61]

- **Waive job search requirements:** States should waive requirements that workers be able and available to work. Among others, states should increase the allowed number of hours each week claimants can report being unable to work while still maintaining eligibility for benefits, and also expand the scope of allowed search to include part-time work.[62]
- **Waive the waiting period** between when an individual loses employment and the state processes their UI claim, as was recently done in California.[63]
- Do not charge firms UI accounts whose workers applied for UI because they were unable to work due to Covid-19.

Changes in the Generosity of UI Benefits:

- **Temporarily increase the "replacement rate" for benefits.** States calculate a weekly benefit amount using a variety of formulas, calculating a base period wage, and paying benefits equal to some fraction of that (for example, California replaces about 45% of weekly wages, on average[64]). Research suggests that an optimal replacement rate exceeds 50% of the wage.[65] Given the current state of the economy, states should aim to raise their average replacement rates to *at least* this level.
- **States not already providing allowances for dependents when calculating benefits should consider doing so.** Given many families in areas affected by Covid-19, they may face difficulties taking on full-time work and may require additional support. Though base period wages are the primary factor in determining the size of the payment a claimant receives each week, some states' laws provide for a dependents' allowance above and beyond the basic benefit amount payable.

61 The Act gives states flexibility in modifying their UI programs with respect to "work search, waiting week, good cause, or employer experience rating on an emergency temporary basis."
62 In determining if a claimant is "able and available", some states require the individual to be unavailable no more than 4 hours per week. Currently, part-time work is only an option for people whose UI claim is based on part-time work and reasonable demand exists for the claimant's part-time services
63 A comparison of States' waiting periods is available in Table 3-7 of the Comparison of State Unemployment Insurance Laws.
64 https://oui.doleta.gov/unemploy/ui_replacement_rates.asp
65 http://www.rajchetty.com/chettyfiles/mh_liq_ui_jpe.pdf

Changes in Eligibility Criteria for UI Benefits

- **Temporarily expand benefit eligibility to additional types of workers not traditionally covered by Unemployment Insurance.** Examples include: real-estate agents, students laid off from work-study jobs, and other types of casual labor excluded from coverage. For example, in California, Assembly Bill 5, passed in 2019, classified many gig-economy workers (such as Uber and Lyft drivers) as employees, as opposed to independent contractors, thus entitling them to UI and other benefits, while placing the burden of proof on the employer to demonstrate otherwise.[66] Other states should consider following suit.

Lower Administrative Burden of Processing Claims:

- **Reduce administrative burden by fast tracking certain claims.** Help reduce administrative burden of processing rapidly increasing numbers of claim caused by Covid-19 by not reviewing claims that are deemed very likely to be eligible. Claims could then be reassessed and if need be corrected through the tax system when the crisis has subsided. There are multiple options to choosing which claims are fast tracked, including claims coming from certain industries, firms, or region, depending on the experience with prior claims and the administrative needs of the UI agency.
- **Consider temporarily waiving repayment of any overpayments made due to (non-fraud) errors at the time of the initial claim.** The process for dealing with over-payments can take multiple weeks, contributing to bottlenecks at UI departments.[67] As initial jobless claims rise rapidly, and these UI departments become overloaded with cases, the costs associated with such processes (diverting resources away from processing other claims) rises significantly. Given these costs, and the changing eligibility restrictions for UI and other benefits, we recommend that in cases where overpayments are not due to willful misrepresentation, waivers are automatically granted (up to a certain amount) until the economy has recovered.

Proposed Changes if Crisis Lasts Longer

- **Instate (or Re-Instate) State Self-Employment Assistance Programs (SEAs).** SEA programs help unemployed workers generate their own jobs through small business creation. SEA waives state UI work search

[66] https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201920200AB5

[67] In most cases, if a claimant receives overpayments that are not due to willful misrepresentation, the state will ask for repayment, or deduct money from future UI benefits. The claimant may then make an appeal, and if that appeal is denied, may ask for a waiver, which would forgive all or part of the benefits the claimant is asked to repay. A list of overpayment waiver policies by state is available here

requirements for those individuals who are working full time to establish their own small businesses. SEA programs provide a weekly allowance in the same amount and for the same duration as regular UI benefits, available only to individuals who would otherwise be entitled to UC benefits but have been determined likely to exhaust their UC benefits. These programs could provide people with additional options or flexibility when aggregate demand returns.

- **Consider options for expanding participation in education and training.** In California, for example, this would involve expanding occupational training via the California Training Benefits program. States should ensure that eligible training providers list is up-to-date and increase awareness for UI claimants. Given significant labor market re-allocations, States should consider subsidizing education and training programs, allowing workers stuck in low-growth industries, who now face lower opportunity costs of investing in new skills, to change trajectories.

- **Temporarily allow UI recipients to be exempt from the "able and available" requirement if enrolling in traditional or online schools** (outside of the standard training benefits system). Currently UI recipients attending schools must technically be searching for work; in the course of the Covid-19 crisis, workers should be allowed to pursue short-term full time schooling, whether online during the crisis or in person during the economic recovery.

- **Consider Raising the Tax Base to Avoid Mandatory Payroll Increases**. UI is paid for by state UI payroll taxes. These taxes are not imposed on all wages, but on a portion of wages referred to as the "taxable wage base", which varies significantly by State.[68] States with a low tax base risk exhausting trust funds very quickly in times of economic distress. This leads to federal loans, which trigger costly automatic payroll tax increases. These mandatory increases are likely to hit during the recovery period, hindering needed employment growth. Instead, states should replenish trust funds through expanding tax base, To avoid raising taxes in a recession, states could consider delaying tax base increases until after the economy has recovered.

[68] A comparison of states' tax bases is available here. For example, in VA, the taxable wage base is $8,000, while in WA it is $49,800.

(2) Partial Unemployment Insurance

Proposed Changes at the Federal Level

- **The federal government should provide incentives to states to temporarily increase their disregard and offset amounts**, increasing the total income of partial UI claimants and incentivizing participation.

Proposed Changes at the State Level

- **Increase benefits by temporarily raising earnings disregard.** Earnings disregard amounts vary drastically between states, and should be increased for States towards the bottom of the distribution.[69]
- **Increase benefits by temporarily lowering earnings offset.** Instead of offsetting benefits at a dollar for dollar basis after earning above the disregard amount, temporarily change the offset to the weekly benefit amount by 50 cents per dollar earned, as Minnesota and Michigan do.
- **Spread greater awareness through information campaigns and cross-program outreach.** There is recognition at the Federal level that UI and SNAP have overlapping participants and that actions taken at local offices can facilitate cross-program access for eligible participants.[70]
- **Temporarily suspend experience ratings for partial UI claims,** which may prevent firms from providing the documentation necessary for workers to file claims.
- **Temporarily allow workers to self-attest to earnings reductions, which can later be reconciled through tax returns.** Currently, employers must verify the earnings reductions, and have little incentive to do so, potentially leading to costly delays in the receipt of benefits.

(3) Short-Time Compensation (STC)

Proposed Changes at the Federal Level

- **An expansion of STC should be financed directly by the federal government.** While the Families First Coronavirus Response Act provides technical assistance and guidance for states wishing to establish STC programs, the Federal government should go further to encourage implementation.[71] For instance, expansive STC programs in Europe are typically subsidized and financed separately from UI benefits, which avoids burdening states' UI trust funds and damaging increases in payroll taxes.

[69] A comparison of different states' disregard amounts is available in Table 2-1 here.
[70] https://www.ers.usda.gov/webdocs/publications/45143/40626_err157.pdf?v=0
[71] Emergency Unemployment Insurance Stabilization and Access Act of 2020; §4104

- **Do not use STC funds to relieve UI trust fund.** States receiving federal funds for STC should have to commit to not raise the payroll tax rates of firms participating in STC.
- **Increasing awareness and take-up of the program.** Lack of information was identified as a major hurdle for take up of STC in the Great Recession. This could entail.
    - A concerted effort to incorporate STC with other relief effort for firms, such as emergency credit lines.
    - Funding outreach programs to employers and workers should accompany an extension of STC programs.
    - Extensions of STC should be tied to states ability to increase participation.
- **Federal eligibility should be temporarily increased so even firms with very large employment reductions can participate.** Currently, federal law only permits employees with work reductions between 10% and 60% of regular work to participate.
- **The Federal government should provide incentives for states to adopt STC program with assistance from the U.S. Department of Labor.**

Proposed Changes at the State Level

- **States that do not have an STC program should adopt it.**
- **States with an STC program should engage in outreach campaigns.**
- **States which have further restricted eligibility beyond the federal policy of 10%-60% work reduction should remove such restrictions.** For instance, to be eligible for Colorado's work-share program, employers cannot have reduced weekly work hours by more than 40 percent.[72]
- **States should remove or weaken restrictive participation criteria aimed to stem abuse.** Out of concern for abuse, several states have put in place criteria that in the current environment risk being overly restrictive.[73] These criteria should be waved temporarily.

(4) Disaster Unemployment Assistance (DUA)

Proposed Changes at the Federal Level

- **The President should declare a nation-wide disaster for purposes of Disaster Unemployment Assistance.**
    - Individuals can become eligible for DUA if they have lost a majority of income or revenue because the employer or self-employed business was

[72] https://www.colorado.gov/pacific/cdle/layoffassistance

[73] Examples include: excluding employers with negative employment experience from participation, excluding employers paying the maximum tax rate from participation, and excluding employers that are subject to a "new employer" tax rate from participation (NELP).

damaged, destroyed, or closed by the federal government.[74] The widespread closing of non-essential businesses due to the risks associated with Covid-19 should qualify as a disaster, and this program is particularly well suited to provide relief to the self-employed. a population largely missed by the safety net UI provides.

74 https://www.fema.gov/media-library-data/1528984254955-49515ab3f8eeca0627f777a8abe4347a/DisasterUnemploymentAssistance.pdf