Pandemic Layoffs [*]

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Abstract

Using CPS monthly data and high-frequency state-level data from the Federal Worker Adjustment and Retraining Notification Act, we find that the pandemic layoffs in March-April 2020 were predominately temporary. This is in contrast to job loss during the most recent recessions when most layoffs were permanent. Permanent job loss triggers a protracted re-employment process and is a key factor behind slow recoveries of unemployment. We discuss risks of the pandemic layoffs turning into permanent job loss.

JEL: E32, J63, J64.
Keywords: Pandemic. Layoffs. Unemployment. Recovery.

1 Introduction

The beginning of the 2020 pandemic in the US was accompanied by a job loss of catastrophic proportions. The unemployment rate jumped to 14.7 percent in April 2020 from its fifty-year low of 3.5 percent in February 2020. 9.4 million initial unemployment insurance claims were filed in March and another 19.0 million in April, as compared to 0.85 million in February 2020. How will the labor market recover from job loss of such an unprecedented magnitude?

Unemployment tends to rise like a rocket and fall like a feather (Figure 1) (most recently, see Dupraz, Nakamura and Steinsson (2019)). The main reason behind sluggish recoveries is a protracted re-employment process which takes place after a typical recession shock permanently destroys firm-worker relationships. The reemployment process involves multiple short-term employment spells before the unemployed find new permanent jobs (Pries (2004), Hall and Kudlyak (2020), Gregory, Menzio and Wiczer (2020)).

We examine evidence on the 2020 pandemic layoffs relative to layoffs during the previous recessions. The data comes from the Current Population Survey. We supplement aggregate data on layoffs from the Current Population Survey with high-frequency state-level data on layoffs from the Federal Worker Adjustment and Retraining Notification (WARN) Act. Under WARN, employers are required to notify workers (or their union representative) and state and local governments about an upcoming plant closing or mass layoff. There are specific requirements regarding what layoffs need to be reported under WARN. Thus, WARN layoffs represent only a subset of layoffs. One advantage of WARN data is that it is available on a daily frequency from state-level labor departments, typically before the layoff takes place. We collect data on the WARN notices from a number of states. For a subset of states, the data contains information on whether the reporting firm expects the layoff to be temporary or permanent.

We find that March and April layoffs during the 2020 pandemic are predominantly temporary. Between February and April 2020, the unemployment rate increased by 10.7 percentage points. Of this increase, 10.8 percentage points is due to temporary layoffs, 0.4 percentage points is due to permanent layoffs; unemployment due to other reasons declined. This is in contrast to the most recent past recessions when the majority of layoffs were permanent.

Temporary layoffs mean that firms give workers an indication that workers will be recalled to their jobs. Consequently, temporary layoffs avoid destruction of a firm-worker match capital and avoid a costly and protracted process of building new permanent firm-worker relationships (see, for example, a model on recall unemployment by Fujita and Moscarini

(2017)). The labor market recovery from temporary layoffs might be faster than a recovery from a typical historical recession.

However, there are risks that the pandemic might cause permanent destruction of firm-worker employment relationships. We discuss three such major risks. First, temporary layoffs may become permanent if firms go out of business. Second, some temporary layoffs might not be recalled if firms re-organize their production process. Third, some laid-off workers may leave the labor force permanently.

Our work is related to recent papers that discuss the temporary versus permanent nature of pandemic layoffs. Empirically, Groshen (2020) shows that most of the increase in the March unemployment rate comes from temporary layoffs. Cajner, Crane, Decker, Hamins-Puertolas and Kurz (2020) find evidence of a large number of temporary layoffs using payroll data. Conceptually, Fujita, Moscarini and Postel-Vinay (2020) argue that the COVID-19 policy response should balance facilitating reallocation of employment to essential activities during the emergency with maintaining workers' attachment to their previous employers, thereby preserving firm-specific human capital. Gregory et al. (2020)) study implications of temporary versus permanent layoffs for recovery from the 2020 pandemic in a model with heterogeneous transitions across states of unemployment, employment and across different employers. They argue that under reasonable parametrization of the model, the 2020 pandemic might lead to a permanent destruction of worker-employer relationships and a protracted recovery.

Our evidence of the daily data from WARN notices complements recent papers using novel high-frequency data to supplement the BLS employment report. The pandemic-related developments are fast moving and require a rapid policy response. But the BLS data is typically monthly and only becomes available with a considerable lag (with the exception of UI claims, which are weekly). The availability of high-frequency and high-quality data is crucial to inform the decision-making process. Coibion, Gorodnichenko and Weber (2020) use a repeated large-scale survey of households in the Nielsen Homescan panel to characterize how labor markets are affected by the COVID-19 pandemic. GoldsmithPinkham and Sojourner (2020) use Google trends data to predict weekly UI claims. Bick and Blandin (2020) develop an online labor market survey resembling the CPS to capture a representative sample of the US working-age population and construct high-frequency aggregate labor market estimates. Baek, McCrory, Messer and Mui (2020) study the unemployment effects of stay-at-home regulations using high frequency claims data and find that the direct effect of these regulations accounted for a relatively small share of the overall rise in pandemic

unemployment claims. They find that vast majority of the rise in unemployment during this period would have occurred in the absence of these orders. Kurmann, Lalé and Ta (2020) use worker-firm daily data from a scheduling and time clock software provider, Homebase, to construct real-time estimates of the impact of the COVID-19 crisis on the US labor market. Brynjolfsson, Horton, Ozimek, Rock, Sharma and Ye (2020) report labor market results of a nationally-representative sample of the US population on how they are adapting to the pandemic. In a pre-pandemic paper, Krolikowski and Lunsford (2020) show that the data from WARN notices leads state-level initial unemployment insurance claims, changes in the unemployment rate, and changes in private employment, with strongest effects at one- and two- month horizons.

2   Layoffs during the 2020 Pandemic

2.1   Temporary versus permanent layoffs

Figure 2 shows temporary layoffs and permanent layoffs as share of the labor force, from the 1960s to present. In April 2020, temporary layoffs reached 11.5% of the labor force, dwarfing any previous levels on record.

Prior to the 1990s, the beginning of recessions were characterized by bursts in temporary layoffs. Temporary layoffs served as a way for firms to manage their workforce during economic downturns, effectively subsidized by the unemployment insurance system. However, by the end of the 1980s, most US states changed their unemployment insurance systems to link payroll taxes to the number of displaced workers more fully. This unemployment insurance experience rating imposes higher payroll tax rates on firms that have laid off more workers in the past. The increased proportionality of unemployment insurance experience rating made layoffs costly (Feldstein (1976), Topel (1983), Ratner (2014)). There were few temporary layoffs during the recent three recessions.

Figure 3 shows the contribution of temporary versus permanent layoffs to the level of unemployment. In April 2020, temporary layoffs constituted 78 percent of total unemployment. Prior to 2020, temporary layoffs reached a peak of only 25 percent of unemployment in 1975.

Figure 4 shows the contribution of temporary versus permanent layoffs to the increase in unemployment from February 2020. Between February and April 2020, the unemployment

rate increased by 10.7 percentage points (non-seasonally adjusted). Temporary layoffs contributed 10.8 percentage points to this increase, permanent layoffs contributed 0.4 percentage points, and unemployment due to other reason declined.

Additional data on layoffs comes from the Worker Adjustment and Retraining Notification Act (WARN), which requires employers to provide notice before a covered plant closing, covered mass layoffs, or sale of business that results in an employment loss. Only a subset of layoffs are reported under WARN. For some states, firms report whether they expect the layoff to be permanent or temporary. The WARN data over an extended period of time are publicly available for many states, but not all. See the data appendix for more details.

Figure 5 shows layoffs from the notices given under the Federal Worker Adjustment and Retraining Notification (WARN) Act for New York, Washington and California. We aggregate layoffs by the year they are effective, except for year 2020 when we show layoffs up to the recent data point available. Temporary layoffs make up 87 percent of all mass layoffs and plant closures reported under WARN since the week of March 11 in these three states. For New York and Washington our data goes back to the early 2000s allows us to compare the 2020 pandemic to the 2007-09 recession. During the 2007-09 recession, the rise in the WARN mass layoffs was entirely from permanent layoffs. The 2020 spike in the WARN mass layoffs is entirely from temporary layoffs.

2.2 Layoffs timing

Figure 6 plots the number of days of advanced notice given to a state prior to the effective WARN layoff date. In normal times, firms give employees and state officials several months of advanced notice before a plant closure or a mass layoff. The average employer in the states we have data for went from giving workers and government officials 60 days notice to no advance notice. In March and April, the average employer notified the state departments after their mass layoff. In Washington state, except for recently, advanced notice averaged just under the required 60 days by the federal WARN laws. In New York state, advance notice initially averaged 60 days in the early 2000s. Following the New York WARN act implemented in 2009, advance notices inched up to the newly required 90 days for both New York and New Jersey. At the onset of the 2020 pandemic, there was essentially no advanced notice given for mass layoffs. Data extending back to the early 2000s for Washington and New York show that firms still provided substantial advanced notice during the 2007-09 recession.

Mass layoffs reported under WARN lead initial UI claims (see Krolikowski and Lunsford (2020)). Figure 7 shows weekly WARN mass layoffs and initial unemployment claims during the 2020 pandemic.

Figure 8 shows daily layoffs from February 25 through May 8 for a number of states with a red line marking the date of each state's stay-at-home order. The figure shows increases in mass layoffs before state-wide stay-at-home orders. One possibility is that cities or counties implemented their own measures related to business closures before the state-wide orders.

Baek et al. (2020) find that only 4 million of the 16 million UI claims between March 14 and April 4 are attributable to stay-at-home orders. Using credit card data, Chetty, Friedman, Hendren and Stepner (2020) find the decline in consumer spending largely occurred before state-wide stay-at-home orders.

3   Discussion

Unlike permanently laid off workers, temporarily laid off or furloughed workers do not need to search for a job, nor retrain for a job, both of which are time consuming and expensive processes. Blatter, Muehlemann and Schenker (2012) estimate total hiring costs range from 10 to 17 weeks of wage payments. Using Swiss administrative-level survey data, they account for both pre-match expenses, such as recruitment and interviews, and post-match expenses, such as training and low initial productivity. Dube, Freeman and Reich (2010) also find that hiring costs are substantial, but even more so for high-skilled workers. Using the California Establishment survey, they estimate total hiring costs average $2000 (in 2003 dollars) for blue collar workers and $7,000 for professional and managerial employees. The bulk of hiring costs seem to come from formal training and the initially low productivity of new hires, however, Muehlemann and Leiser (2018) find disruption costs from informal instruction and search costs each account for about a quarter of total hiring costs. Because firms have already incurred these costs for their furloughed employees, once recalled, workers can hit the ground running.

It is costly for a worker and firm to go through a hiring process just once, but after recessions, displaced workers are more likely to go through the hiring process multiple times until they find a long-term match. A typical recession shock permanently destroys firm-worker relationships and the reemployment process involves multiple short-term employment spells before the unemployed find new permanent jobs (Pries (2004), Hall and Kudlyak

(2020), Gregory et al. (2020)). Most of the pandemic layoffs in March through April 2020 were temporary, so the firm-worker relationships might still be in tact. However, there are downside risks that the pandemic might cause permanent job loss.

There is uncertainty about how long the public health crisis will last. After states lift stay-at-home orders, consumers and firms might not return to business as usual until the infection risk substantially declines. Keppo, Quercioli, Kudlyak, Smith and Wilson (2020) show that an epidemiological model where people endogenously change their behavior to infection risk better predicts the number of cases during the Swine Flu and COVID-19 pandemics.

It is possible not all temporary laid off workers will be recalled. Firms might restructure. Because of government regulation, consumer demand, or concern for their employees safety, firms might automate away or shift in-person customer service to remote service.

Another downside risk is that in the wake of the pandemic, workers might leave the labor force permanently. Figure 9 shows that between February and April the labor force participation rate dropped 3 percentage points to 60 percent, the lowest it has been since 1973. Coibion et al. (2020) document that the drop in March is largely from new retirees. In general, there is substantial weakness in the labor market. Figure 10 plots the headline unemployment rate along with three extended definitions of unemployment (U4, U5, and U6). All measures show unprecedented increases during the 2020 pandemic.

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Appendix

Worker Adjustment and Retraining Notification Data

The Federal Worker Adjustment and Retraining Notification (WARN) Act requires employers to notify workers and state and local governments 60 days before a plant closing or mass lay off. According to the US Department of Labor "Advance notice provides workers and their families some transition time to adjust to the prospective loss of employment, to seek and obtain alternative jobs and, if necessary, to enter skill training or retraining..." Advance notice to government officials allows state dislocated worker units time to provide assistance.[1]

Employers are covered by the Federal WARN Act if they have 100 or more employees, not counting employees who have worked less than 6 months in the last 12 months and not counting employees who work an average of less than 20 hours a week. The term *employment loss* means (1) an employment termination, other than a discharge for cause, voluntary departure, or retirement; (2) a layoff exceeding 6 months; or (3) a reduction in an employee's hours of work of more than 50 percent in each month of any 6-month period. A plant closing occurs if an employment site will be shut down, and the shutdown will result in an employment loss for 50 or more employees during any 30-day period. A mass layoff occurs without a plant closing if the layoff results in an employment loss at the employment site during any 30-day period for 500 or more employees, or for 50-499 employees if they make up at least 33 percent of the employer's active workforce.

Some states have their own more restrictive WARN laws. The New York WARN Act, effective as of February 2009, applies to establishments with 50 or more full time workers in New York State and covers plant closings and layoffs of 25 or more full-time workers constituting at least 33 percent of all the workers at a site. Layoffs involving 250 or more full-time workers are covered regardless of percentage. The New York WARN Act also has a more stringent notice policy, requiring firms to notify workers and officials 90 days in advance. The California WARN Act applies to establishments with at least 75 full- and part-time employees in California laying off 50 or more employees regardless of percentage of the workforce.

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[1]https://www.govinfo.gov/content/pkg/CFR-1998-title20-vol3/pdf/
CFR-1998-title20-vol3-part639.pdf

The Federal WARN Act exempts firms from filling in advance if a closure is due to "unforeseeable business circumstances."[2] States may modify this exemption. For example, the California WARN Act typically does not include this exemption and so on March 17, 2020, California suspended its advance notice requirement.[3]

We collect data on the number of WARN notices filled by every firm in a subset of states. The degree of detail varies by state. For a subset of states, the data includes the date the state was notified about the layoff, the date the layoff took effect, whether the layoff was expected to be temporary or permanent, and whether it was from a plant closing or mass layoff.

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[2]https://www.edd.ca.gov/Jobs_and_Training/Layoff_Services_WARN.htm
[3]https://www.dir.ca.gov/dlse/WARN-FAQs.html

Figure 1: Unemployment Rate
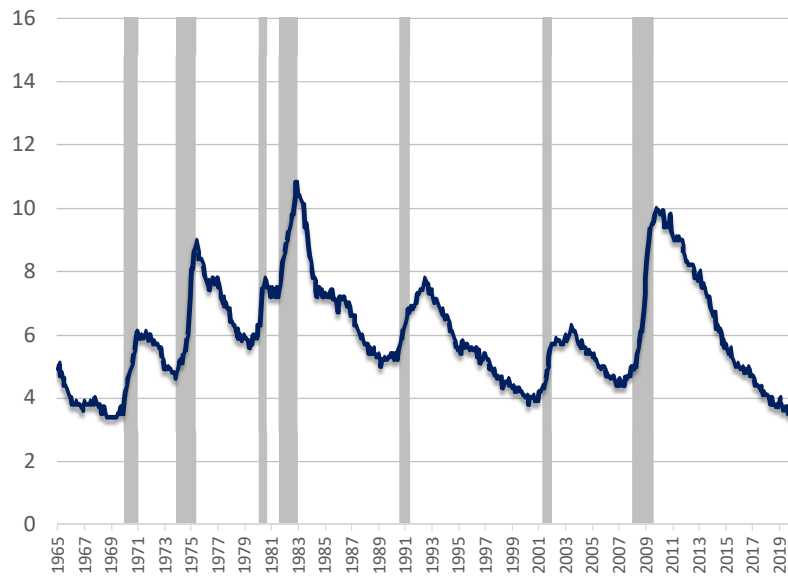
Figure 2: Temporary and Permanent Layoffs, Share of Labor Force
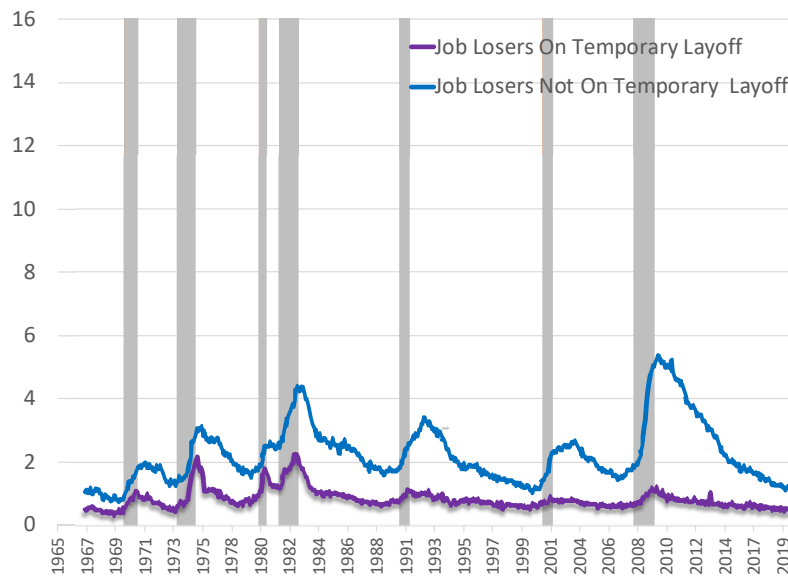
Figure 3: Composition of Unemployment, by Reason
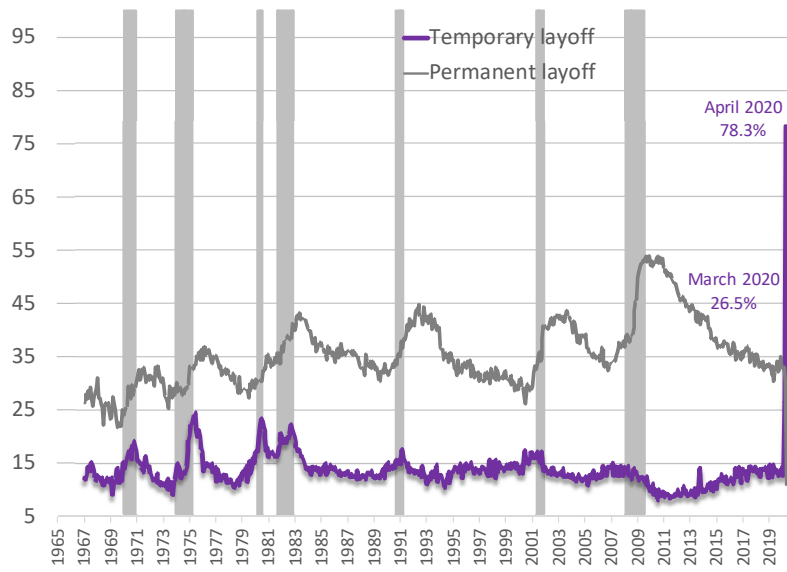
(a) Temporary and Permanent Layoffs as Percent of Unemployment
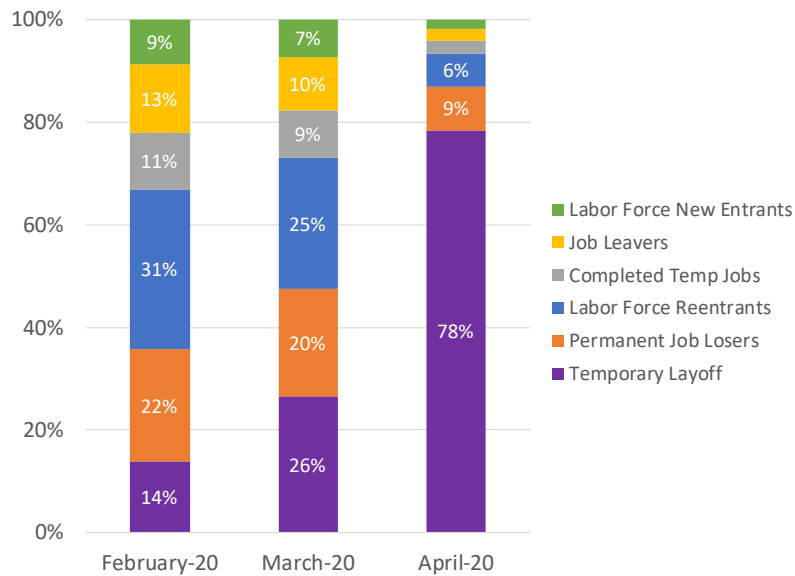
(b) Composition of Unemployment in 2020

Note: Data from the BLS, monthly SA.

Figure 4: Contribution of Temporary Layoffs to Change in Unemployment Rate from February 2020, NSA
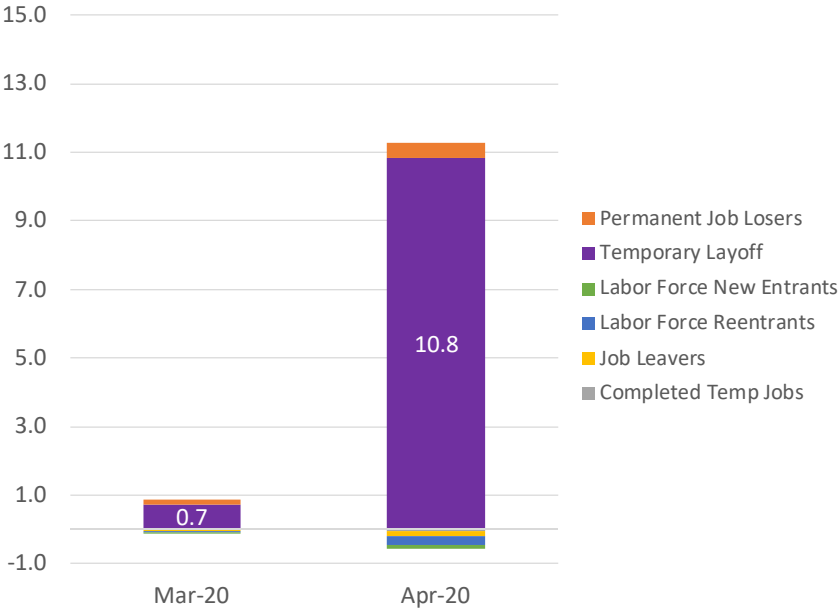
Note: Figure shows the change in the unemployment rate relative to February 2020 using data from the BLS, monthly, NSA, percent of labor force.

Figure 5: Mass Layoffs from Worker Adjustment and Retraining Notification Data
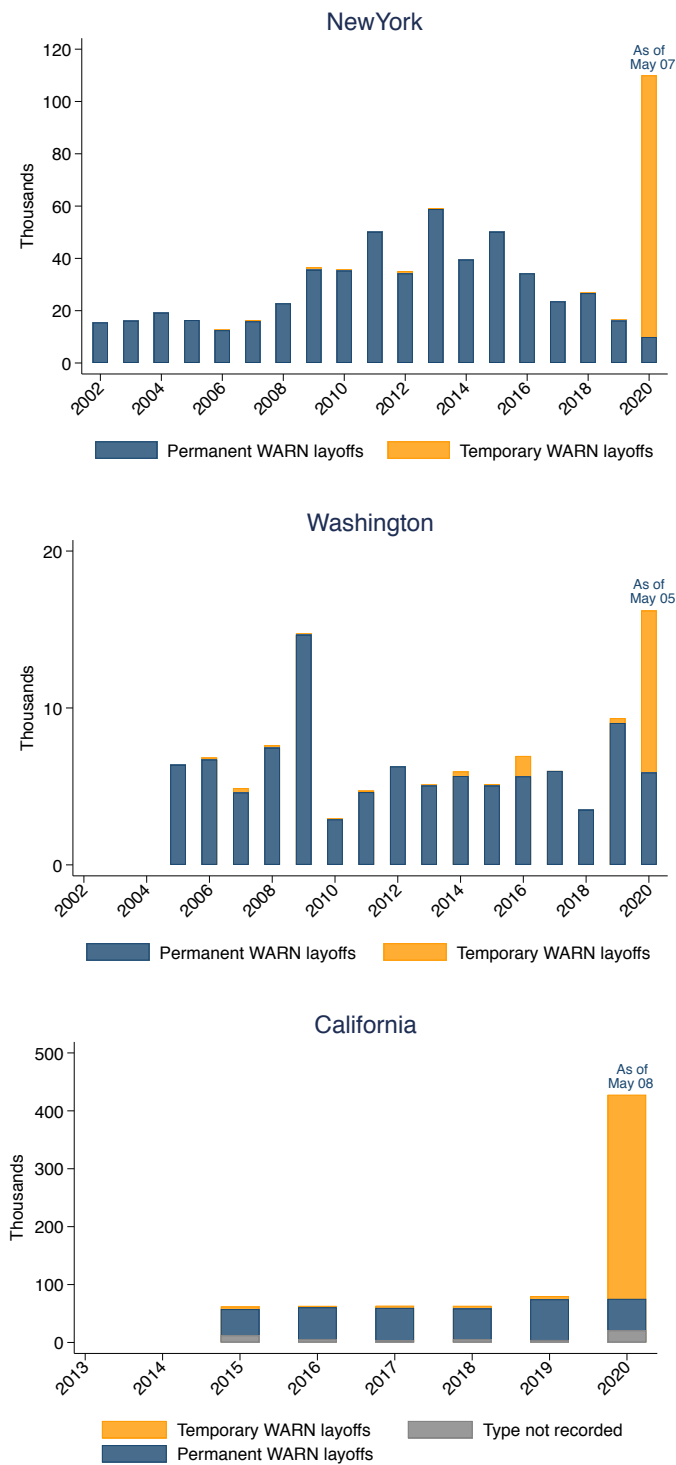
Note: Data from the state labor departments.

Figure 6: Advanced Notice Firms Gave States before Mass Layoff, Days
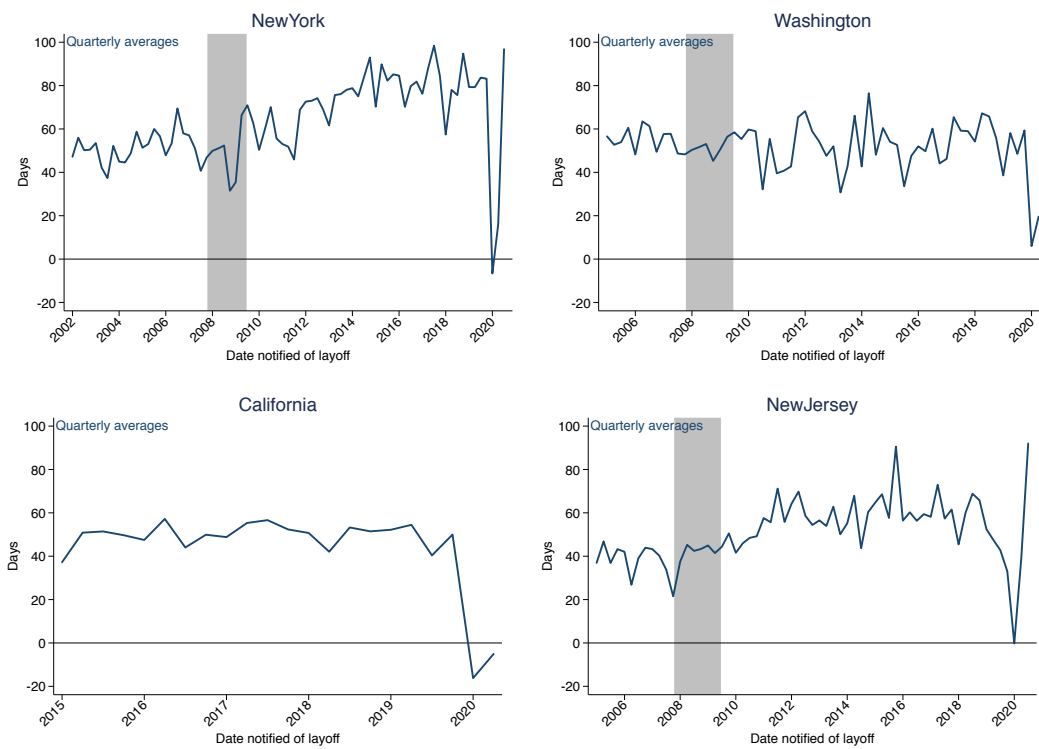
Note: Data from the state labor departments.

Figure 7: Mass Layoffs and Initial UI Claims During the 2020 Pandemic, Weekly

Illinois

Legend:
- Temporary WARN layoffs
- Permanent WARN layoffs
- Type not recorded
- New UI claims (right axis)

Georgia

Legend:
- WARN Layoffs
- New UI claims (right axis)
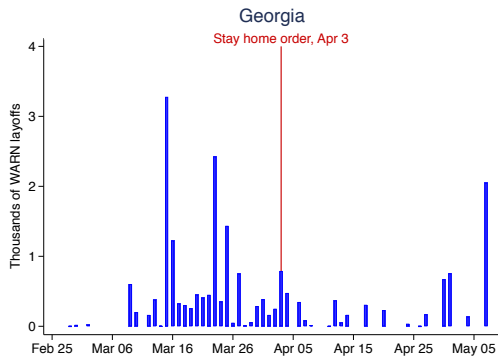
NewJersey

Legend:
- WARN Layoffs
- New UI claims (right axis)
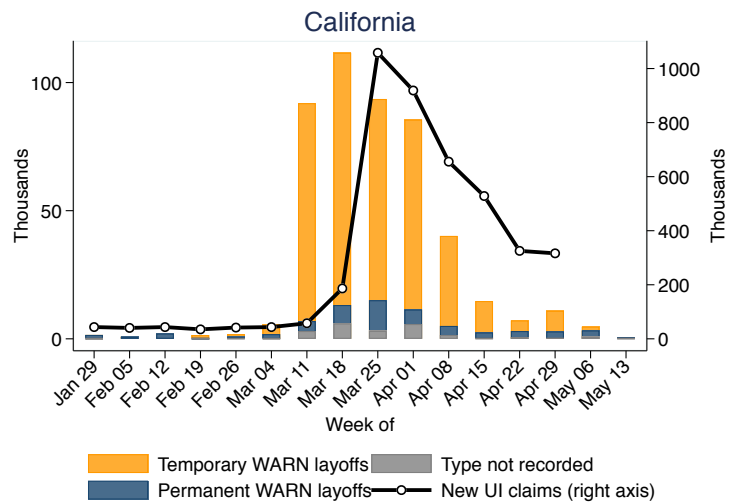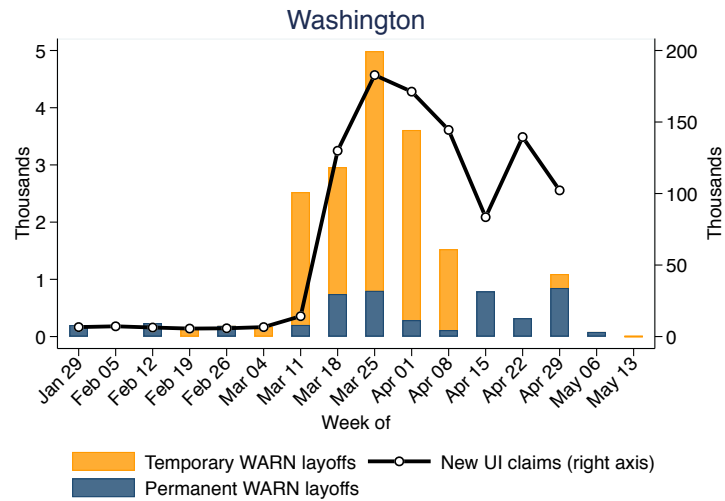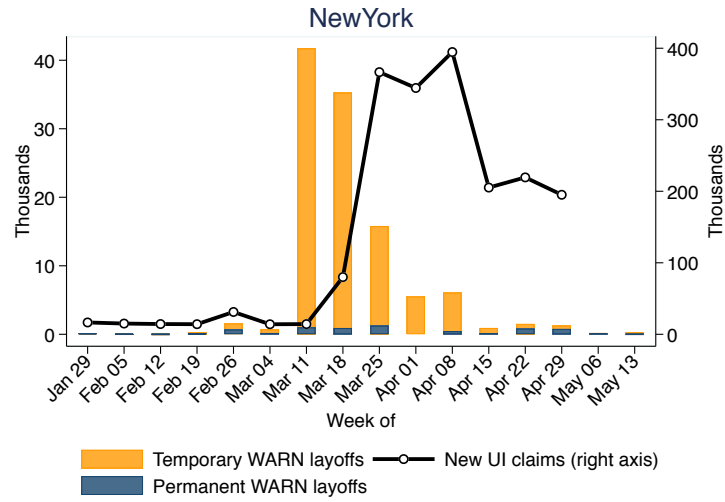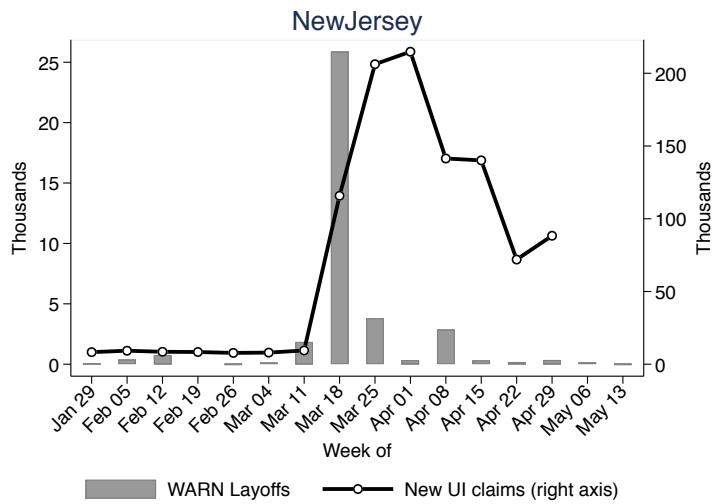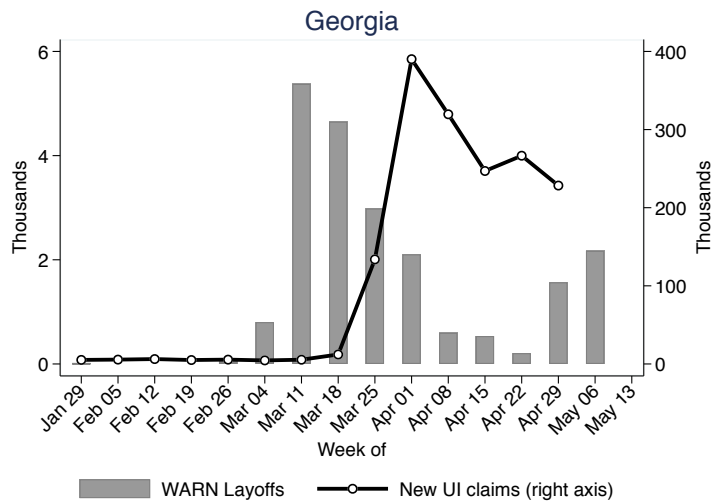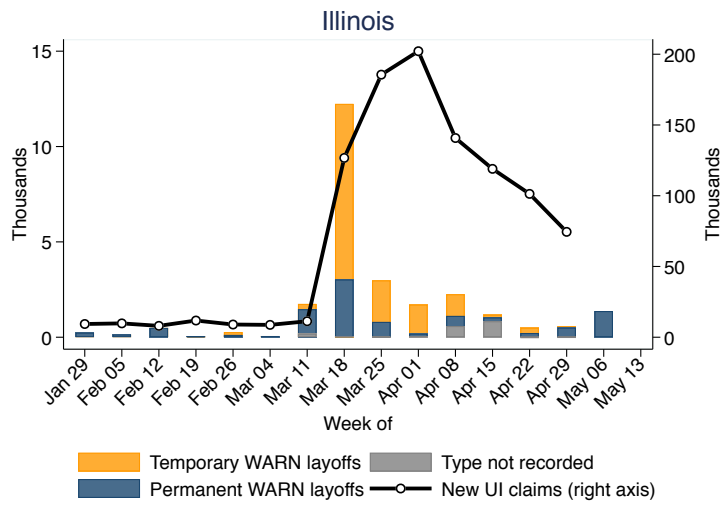
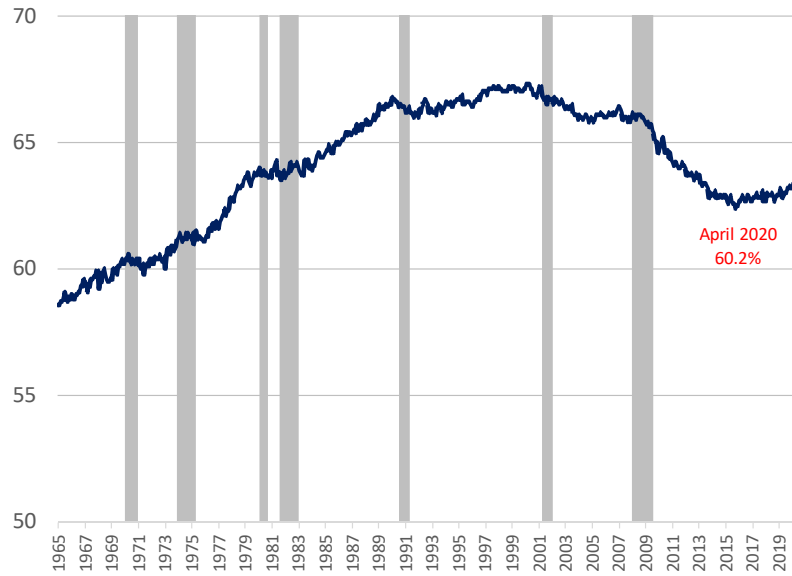Note: Data from the state labor departments.

Figure 8: Mass Layoffs and Timing of Stay-at-Home Orders during the 2020 Pandemic, Daily
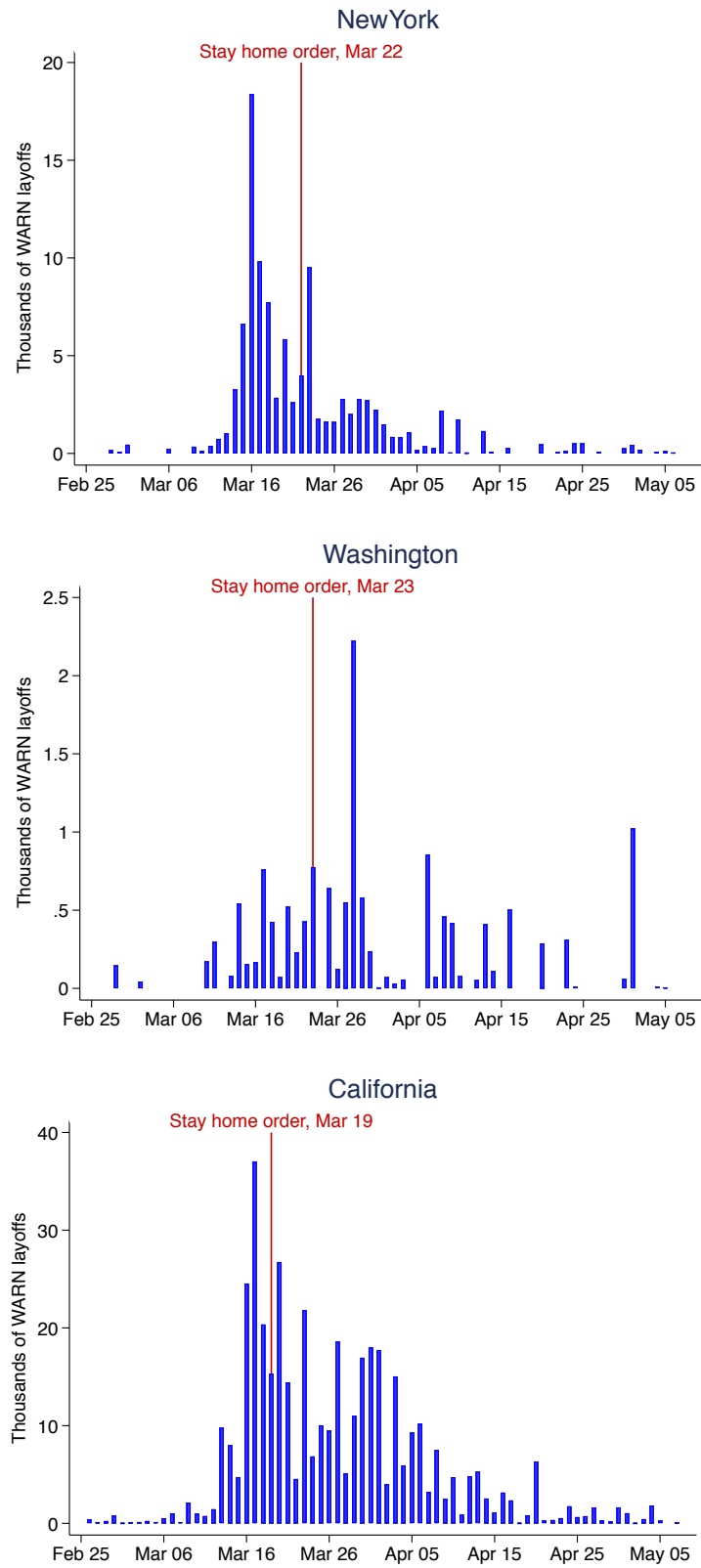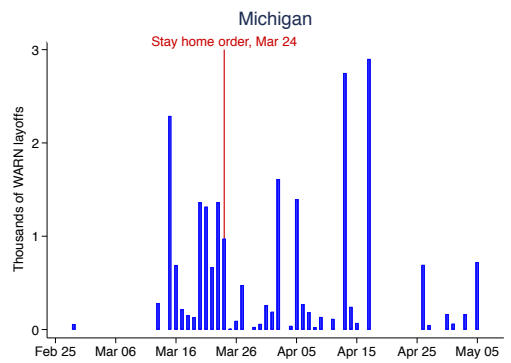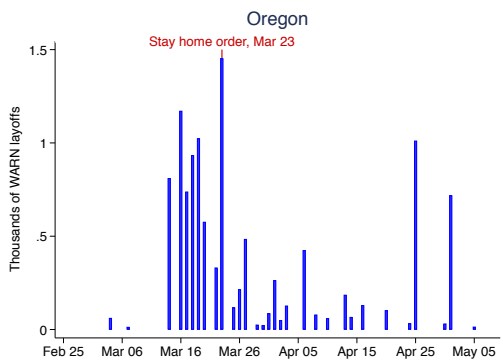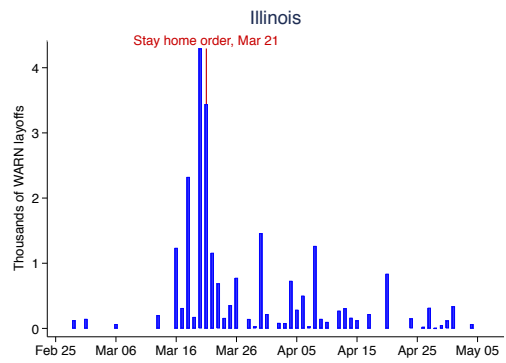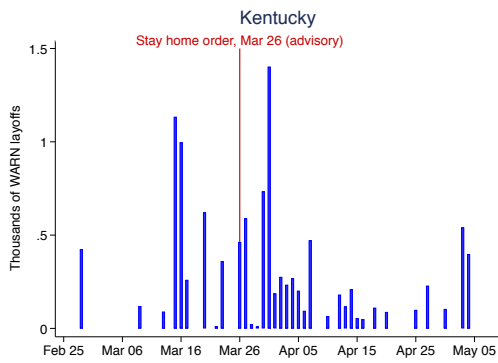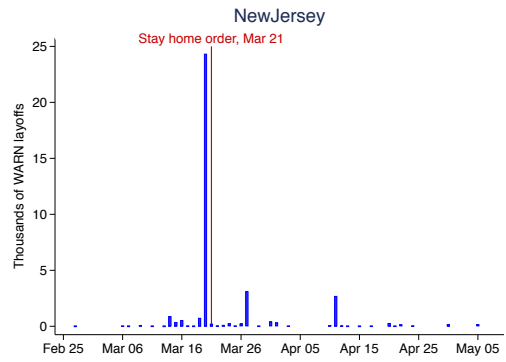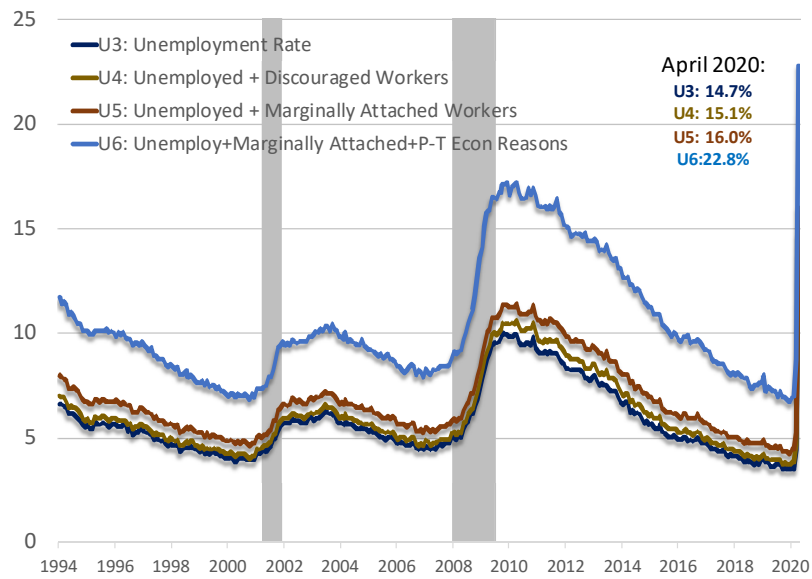
Note: Data from the state labor departments.

Figure 9: Labor Force Participation Rate

Note: Data from the BLS, monthly SA.

Figure 10: The Unemployment Rate and Extended Measures of Unemployment

Note: Data from the BLS, monthly SA.

21