



# Youth Unemployment in the First Year of the COVID-19 Pandemic

From the Breakout to the Vaccine Rollout

**April 2021**

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**Summary:** Drawing on a timely and detailed data series, this report describes the trends in youth unemployment rates in 2020, as the COVID-19 pandemic evolved across the country. Data show that the pandemic sparked extraordinary unemployment rates among youth, stemming from youth's concentration in retail and hospitality jobs that were affected by mandates to contain the virus, along with youth's inability to telework in these jobs. State-level data show that youth unemployment was particularly concentrated in parts of the country where states introduced stricter containment measures. Moreover, these measures had a greater influence on unemployment among youth than adults ages 25 to 54. Across population groups, the increase in unemployment was particularly pronounced among female youth and Asian youth—groups that tend to have lower unemployment rates in typical recessions. After the peak of the pandemic during the summer months, unemployment declined somewhat; however, the pace of this downward trend was uneven across groups and geographic locations. Unemployment among White male youth declined considerably over the summer, yet rates among many Black, Indigenous, and People of Color (BIPOC) youth did not drop below 20 percent until the fourth quarter. At the state level, despite youth unemployment rates declining in most places after the peak of the pandemic, in six states—Hawaii, Illinois, Massachusetts, Michigan, New Jersey, and Washington—rates at the end of 2020 were at least 5 percentage points higher than before the pandemic. At the metro level, youth unemployment rates in the second half of the year fell in most areas except for Honolulu, New York City, Providence, and Miami.

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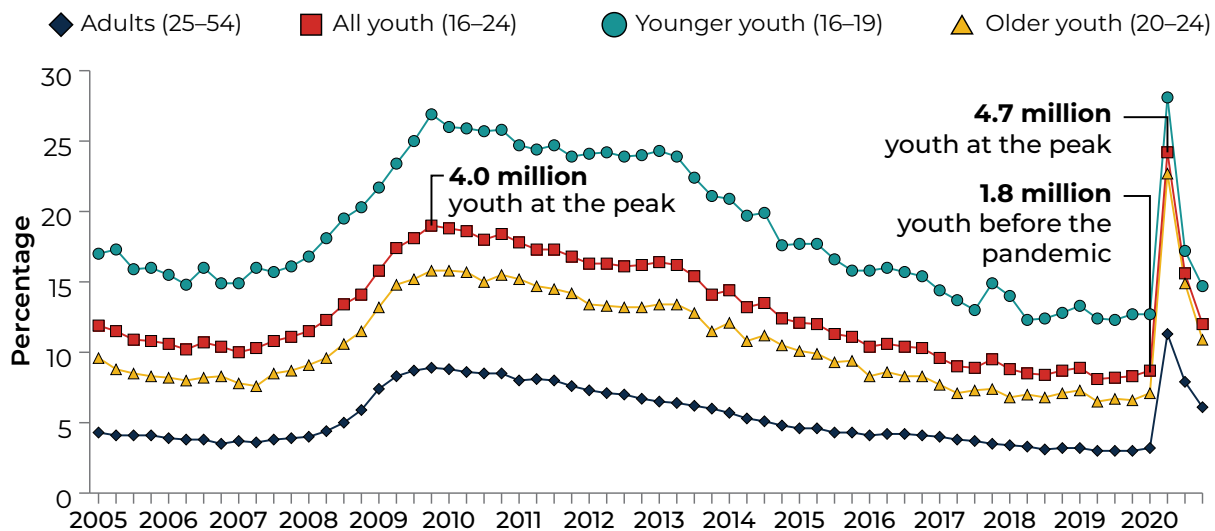
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## Introduction

Since its peak in 2010 following the Great Recession, the youth unemployment rate in the United States declined steadily, reaching a low in 2019. At its peak, in the first quarter of 2010, 4 million youth (defined in this report as those ages 16 to 24)—approximately one out of every five youth—were unemployed. This figure dropped to 1.8 million youth in the last quarter of 2019 (Figure 1). However, with the breakout of the COVID-19 pandemic in March 2020 and the subsequent coronavirus containment measures in most states, job losses soared. Within a matter of months, the number of unemployed youth increased by almost 3 million, reaching 4.7 million in the second quarter of 2020.

Evidence suggests that the pandemic has exacerbated preexisting inequalities in the labor market. Although job losses have been widespread, unemployment was substantially higher among people from disadvantaged groups, including racial and ethnic minority groups, women, those with lower levels of education, and youth (Cortes and Forsythe 2020; Abel and Deitz 2021). For youth, unemployment in a such critical point in life and during an ongoing pandemic can be stressful and isolating and have long-term adverse economic effects, such as social exclusion, inability to gain work experience, and poverty. Therefore, closely monitoring youth unemployment is particularly important during the pandemic and the economic recovery.

**Figure 1. Trends in quarterly unemployment rates by age group**



Source: Mathematica compilation based on the Bureau of Labor Statistics' monthly Labor Force Statistics from the Current Population Survey.

Note: Estimates account for seasonal patterns.

To track youth unemployment during and in the aftermath of the COVID-19 pandemic, Mathematica, with funding from the Schultz Family Foundation, has developed a publicly available data series on youth unemployment. The data cover youth unemployment rates at the national level by population groups, at the state level, and in select metro areas. Policymakers, foundations, and other key stakeholders that invest in programs for disconnected youth can use these data to further understand the economic challenges young people are facing and target their resources more effectively.

Drawing on this timely and geographic- and population-specific data series, this report describes the trends in youth unemployment in 2020, as the COVID-19 pandemic evolved. Key findings include the following:

- / Unemployment rates among youth rose steeply after the outbreak of the COVID-19 pandemic. This was attributed to youth's concentration in retail and hospitality jobs that were affected by mandates to contain the virus, and youth's inability to telework in these jobs.
- / Youth unemployment rates during the COVID-19 outbreak far exceeded the rates reached at the peak of the Great Recession in a matter of months. However, even though the economy is still recovering, unemployment among youth has declined more rapidly after the peak of the outbreak than it did after the Great Recession.
- / State level data show that youth unemployment was particularly concentrated in parts of the country where states introduced stricter coronavirus containment measures due to the large number of COVID-19 infections. Moreover, these measures had a greater influence on unemployment among youth than adults ages 25 to 54.
- / Across population groups, the increase in unemployment was particularly pronounced among female youth and Asian youth—groups that tend to have lower unemployment rates in typical recessions.
- / After the peak in April, unemployment declined somewhat during the summer months; however, the pace of this downward trend was uneven. Unemployment among White male youth declined considerably over the summer, yet rates among Black, Indigenous, and People of Color (BIPOC) youth as well as female youth did not drop below 20 percent until the fourth quarter.
- / At the state level, youth unemployment rates declined in most places after the peak of the pandemic, however, in six states—Hawaii, Illinois, Massachusetts, Michigan, New Jersey, and Washington—unemployment rates at the end of 2020 were at least 5 percentage points higher than they were before the pandemic.
- / At the metro level, youth unemployment rates in the second half of the year fell in most areas except for Honolulu, New York City, Providence, and Miami. In this period, metro areas with the highest youth unemployment were San Francisco, Seattle, New York, Las Vegas, Providence, Chicago, Los Angeles, Detroit, and Miami.

The remainder of this report is organized as follows: Section B presents data on trends in youth unemployment at the national level. Section C presents differences in youth unemployment across states and trends in economic recovery. Section D focuses on youth unemployment in metro areas. Section E provides a summary of key findings.

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### Data for tracking youth unemployment during COVID-19

Using micro-level data from the monthly Current Population Survey and compiling monthly statistics from the Bureau of Labor Statistics' Labor Force Surveys, Mathematica provides estimates on youth unemployment at the national level by population groups, at the state level, and in select metro areas. These estimates cover the period beginning in 2010 and are updated monthly.



**National-level data:** This series includes monthly and annual youth unemployment rates by age group (16–19, 20–24, and 16–24), gender, and race and ethnicity (White, Black or African American, Asian, and Hispanic). The series also provides unemployment rates for adults ages 25 to 54 for comparison.



**State-level data:** This series covers annual youth unemployment rates at the state level, and three-month average youth unemployment rates in 30 selected states.



**Metro-level data:** This series covers annual youth unemployment rates in 50 selected metro areas, semiannual youth unemployment rates in 25 selected metro areas, and three-month averages for youth unemployment in 6 selected large metro areas.

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## Trends in youth unemployment at the national level

This section reviews national trends in youth unemployment during 2020, focusing on the first half of the year when the outbreak started and then moving on to the second half of the year when the economy started showing some signs of recovery. The section also presents data disaggregated by gender and race and ethnicity.

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### Key definitions

**Being unemployed:** In this report, we use the Bureau of Labor Statistics' (BLS) definition of unemployment, which refers to people who are not working and either looking for work (job seekers) or have been temporarily separated from work (people on layoff). BLS classifies people without a job but available and actively looking for work during the reference week (the week of the 12th every month) as unemployed.

**Unemployment rate:** We used the standard definition of the unemployment rate, which is the share of unemployed—as defined above—in the total labor force. The total labor force includes people who are employed and people who are unemployed. People who are not employed but do not meet the criteria for being unemployed as defined above, such as those not seeking work, are considered out of the labor force and therefore do not contribute to the unemployment rate.

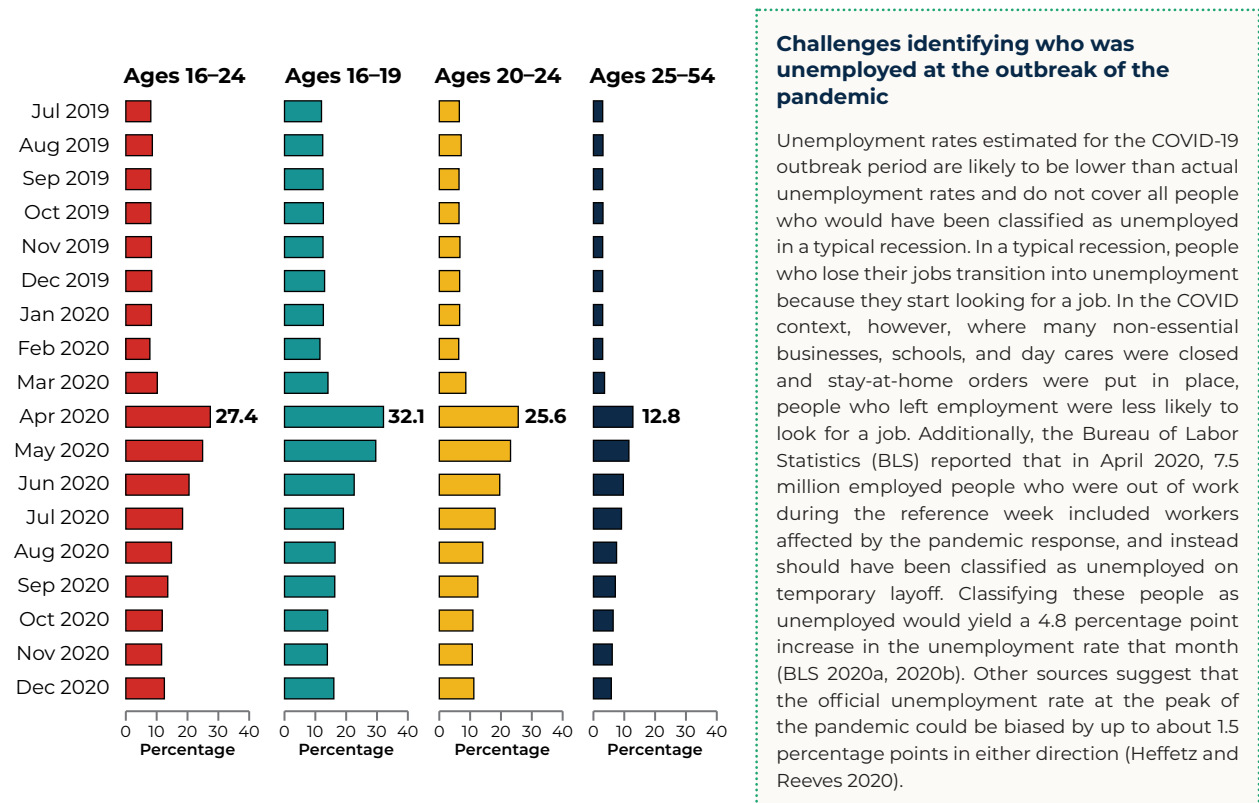
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### Youth unemployment during the outbreak

The COVID-19 pandemic triggered a stark rise in youth unemployment across the nation (Figure 2). In the beginning of the year, the unemployment rate was 8.3 percent among youth ages 16 to 24 (in comparison to 3 percent among adults ages 25 to 54). At its peak in April, 27.4 percent of youth ages 16 to 24 were unemployed (compared to 12.8 percent of adults ages 25 to 54). This rate also exceeded the youth unemployment rate at the peak of the Great Recession, which was 19.5 percent in April 2010. Looking more closely at youth age groups, one-third of youth ages 16 to 19 and more than a quarter of youth ages 20 to 24 reported to be unemployed at the peak of the coronavirus outbreak. Three main factors contributed to this spike: (1) youth’s concentration in retail and hospitality jobs that were affected by the measures taken to contain the virus, (2) youth’s inability to telework, and (3) the seasonal nature of youth’s participation in the labor force and the timing of the outbreak.

**Figure 2. Youth unemployment before and during COVID-19 outbreak**



Source: Mathematica compilation based on the Bureau of Labor Statistics’ monthly Labor Force Statistics from the Current Population Survey.

Note: Estimates account for seasonal patterns.

1. At the start of the pandemic, the industries in which youth predominantly work—retail and hospitality—were hit hardest by the stay-at-home orders and business closures to contain the virus. Traditionally, retail and hospitality are the most common two industries for employed youth, and youth make up more than half of all jobs within these industries (BLS 2021a). In the second quarter of 2020, job loss rates in retail and hospitality were among the highest across all industries—16.8 percent of jobs in retail and 45.8 percent of jobs in hospitality were lost (BLS 2021b). The contraction of youth in these industries resulted in a spike in youth unemployment.

2. Most retail and hospitality jobs cannot be done from home. For example, only 1 in 7 jobs in retail and 1 in 25 jobs in hospitality can be done remotely (BLS, 2021c). According to the monthly Current Population Survey (CPS), workers younger than age 25 were the least likely to telework. Among those who teleworked because of the COVID-19 pandemic in May 2020 (the first month CPS asked this question), only 5.5 percent were ages 16 to 24 (BLS 2021c). Workers who could not work from home were more likely to lose their jobs (Dey et al. 2020); therefore, this factor contributed to the sharp increase in youth unemployment at the start of the pandemic.

3. Finally, youth’s participation in the labor force is highly seasonal, with many youth searching for and finding jobs in spring through late summer. During economically healthy years, the youth labor participation rate typically increases by 3 to 4 percentage points in the second and third quarters of the year when youth start job search (hence become “unemployed”) and find work. For example, in 2019, the youth unemployment rate increased from 54 percent in the winter to 57 and 58 percent during spring and summer, respectively (author’s calculations using BLS Labor Force Participation data). Because the outbreak started in early spring and coronavirus containment measures intensified through the season, the impact on youth unemployment has been particularly visible.

Even though the impact of the outbreak on employment was widespread across all age groups, these factors contributed to skyrocketing rates of unemployment among youth. From January to April 2020, the unemployment rate increased by 19.1 percentage points among youth ages 16 to 24 as opposed to 9.8 percentage points among adults ages 25 to 54.

### Understanding youth who are out of the labor force

The definition of “unemployed” that the Bureau of Labor Statistics (BLS) uses encompasses people who were actively looking for work during the reference week. To fully capture the impact of the COVID-19 pandemic on youth’s participation in the labor force, it is important to consider youth who were involuntarily out of the labor force. From 2019 to 2020, the number of youth who wanted a job but did not search for work at the time of the survey increased from 1.5 million to 1.9 million (BLS 2021d).

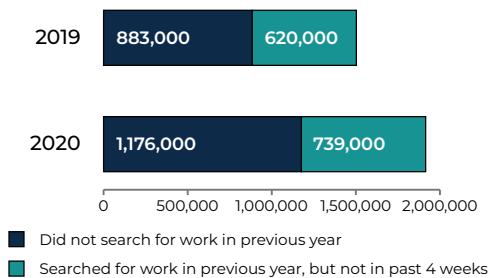
When studying the reasons why youth did not search for work in the past four weeks, an increasing number of youth from 2019 to 2020 reported the following:

- They are discouraged over job prospects (from 86,000 to 136,000).
- They did not search for work for other reasons, including the coronavirus (from 155,000 to 267,000).

On the contrary, fewer youth reported the following reasons:

- They are not available to work (from 116,000 to 110,000).
- They are in school (from 229,000 to 193,000).

**Number of youth (ages 16–24) who want a job but did not search for work**

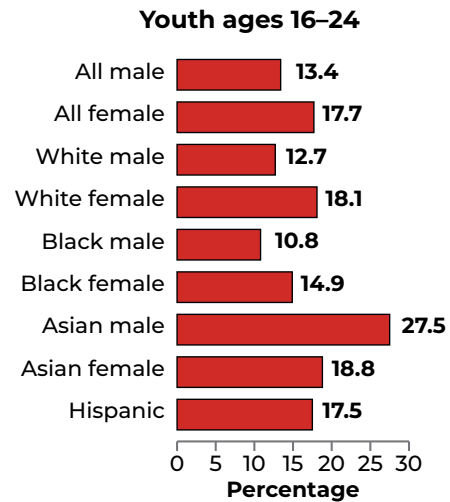




**Differences in gender and race and ethnicity in youth unemployment**

Male youth and Black and Hispanic youth traditionally experience higher unemployment rates during economic downturns. For example, at the peak of the Great Recession, unemployment among male youth (23.1 percent) was higher than it was among female youth (14.9 percent). Similarly, unemployment was significantly higher among Black youth (30.7 percent) and Hispanic youth (22.6 percent) than among White youth (17.0 percent) and Asian youth (14.7 percent). Data from the first half of 2020 show that all groups of youth were hit hard by the pandemic; however, the increase in unemployment was particularly pronounced among two groups of youth: female youth and Asian youth, both of which traditionally experience lower levels of unemployment than male youth and other race groups, respectively (Figure 3). Compared to the first quarter of 2020, in the second quarter the unemployment rate increased by 17.7 percentage points among female youth (from 8.4 to 26.1 percent), by 27.5 points among Asian male youth (from 5.4 to 32.9 percent), and by 18.8 points among Asian female youth (from 7.0 to 25.8 percent).

**Figure 3. Percentage point increase in youth unemployment rates between first and second quarters of 2020**



Source: Mathematica compilation based on the Bureau of Labor Statistics' monthly Labor Force Statistics from the Current Population Survey.

Note: Estimates do not account for seasonal patterns.

The increase in unemployment among female youth during the pandemic is well documented and is in line with trends in unemployment among women in general. Unlike in typical economic downturns that disproportionately affect male-dominated sectors such as manufacturing, the pandemic caused a halt in the service industry, which is disproportionately occupied by women and youth (Albanesi and Kim 2021; Alon et al. 2020a, 2020b). Before the COVID-19 outbreak, women made up 73 percent of employment in jobs that are not possible to do remotely and require working in close proximity (Albanesi and Kim 2021). This shift in the economy resulted in a disproportionately high unemployment rates among female youth.

The unprecedented increase in unemployment among Asian Americans is also well documented. For example, Kim et al. (2021) found that Asian Americans were more negatively affected by the pandemic lockdown than any other racial group, controlling for education, immigration status, and other background characteristics. Similarly, Bennett (2021) found that long-term unemployment, defined as longer than six months, was the highest and increased most sharply among Asian Americans compared to other groups. The reasons for the disproportionate increase among this group are not clear. It could be partly due to the high concentration of Asian Americans in states that were hit hardest by the pandemic (such as New York and California) and sectors (such as hospitality), and the higher rates of closures of small businesses among those owned by Asian Americans (Mar and Ong 2020). Anecdotal evidence also suggests an increase in workplace discrimination among Asian Americans (Asian Pacific Policy & Planning Council 2020), which may explain the increase in unemployment among this group, particularly those ages 16 to 24 (Kantamneni 2020; Kim et al. 2021).

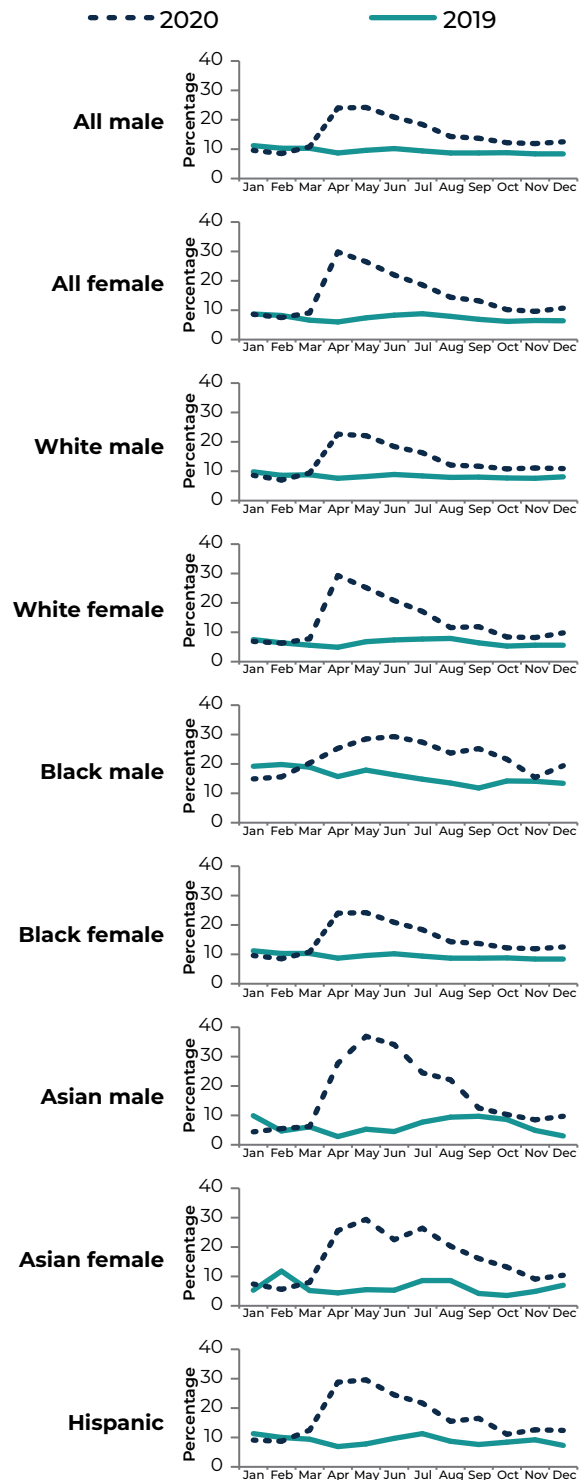
### Youth unemployment during recovery period

Although the overall unemployment rate among youth by December 2020 approached the unemployment rate from one year earlier (12.5 percent in 2020 versus 8.4 percent in 2019), the difference in the unemployment rate translated into an additional 700,000 unemployed youth at the end of 2020. However, there were signs of recovery. Particularly for White male youth, the recovery started earlier in the year and was more stable—for this group, the unemployment rate declined considerably by August and remained stable until the end of the year (Figure 4). The unemployment rate among Black female youth also declined considerably after the peak in April and leveled off in the last quarter of the year. Among other BIPOC youth, however, the path to recovery was not as smooth. Among Black male youth, Asian male and female youth, and Hispanic youth, unemployment remained around 20 percent until September. Moreover, by December 2020, unemployment trended upward among these groups.

The main driver of this partial recovery was the reopening of businesses in May and throughout summer, with employees in these businesses returning to their previous employers. For example, about one-third of employment gains in May were due to the reopening of businesses that brought back their employees (Cajner et al. 2020). Similarly, in the same period there was a partial rebound in employment in industries that were hardest hit—hospitality and retail—and this recovery in employment included female, Hispanic, and younger workers (Dey et al. 2020).

However, after the summer, many of the businesses that did not reopen were permanently closed and job recalls became less frequent (Hall and Kudlyak 2020). Consequently, many temporary layoffs became permanent and the employment relations between employers and furloughed employees weakened (Weber Handwerker et al. 2020). Because finding a new job is a lengthier process than returning to a previous employer, employment growth slowed from August onward.

Figure 4. Youth unemployment rates by gender, race, and ethnicity



Source: Mathematica compilation based on the Bureau of Labor Statistics' monthly Labor Force Statistics from the Current Population Survey.

Note: Estimates do not account for seasonal patterns.

### Youth unemployment at the state level

Coronavirus affected states differently, and those that were heavily affected early on introduced stricter measures to contain the spread of the virus. Following these containment measures that states started to roll out beginning late March 2020, unemployment increased dramatically. This trend is depicted in Figure 5, which shows the level of stringency of the coronavirus containment measures in selected states for each day of 2020 (navy lines) and quarterly youth unemployment rates (teal lines). This figure suggests that both unemployment rates and strictness of coronavirus measures increased sharply in the second quarter.

An analysis of weekly unemployment data found similar results—the unemployment rate increased within two to four weeks after states enacted containment policies (Dreger and Gros 2021). Our estimates suggest that the coronavirus containment measures had a greater influence on unemployment among youth than among adults ages 25 to 54. We found that, in the second quarter, a 10-point increase in the stringency index corresponded to a 4.2 percentage point increase in the youth unemployment rate but only to a 1.6 percentage point increase in the unemployment rate for adults ages 25 to 54. These coronavirus containment measures are likely to have had the biggest impact on the hospitality and retail sectors, where youth are more heavily concentrated.

Evidence suggests that, beyond the effects of the coronavirus containment measures, the decline in economic activity was also driven by voluntary distancing. Studies suggest that there was a decline in spending before shelter-in-place orders were introduced, especially in high-density areas with higher rates of COVID-19 infection (Chetty et al. 2020), and employment declines were closely associated with the spread of the virus (Dalton 2020). This finding is also consistent with the fact that employment declines were largest in states with more cases of COVID-19 (Cajner et al. 2020).

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### COVID-19 Government Response Tracker (OxCGRT)

The stringency index, developed by the University of Oxford's Blavatnik School of Government, captures the severity or intensity of coronavirus containment measures, including school closings, workplace closings, cancellation of public events, restrictions on gathering size, closure of public transport, stay-at-home requirements, and restrictions on internal movement and international travel. These indicators are reported for each day a policy is in place. The index takes the values between 0 and 100, where higher values represent more stringent measures (see [OxCGRT](#) data for details).

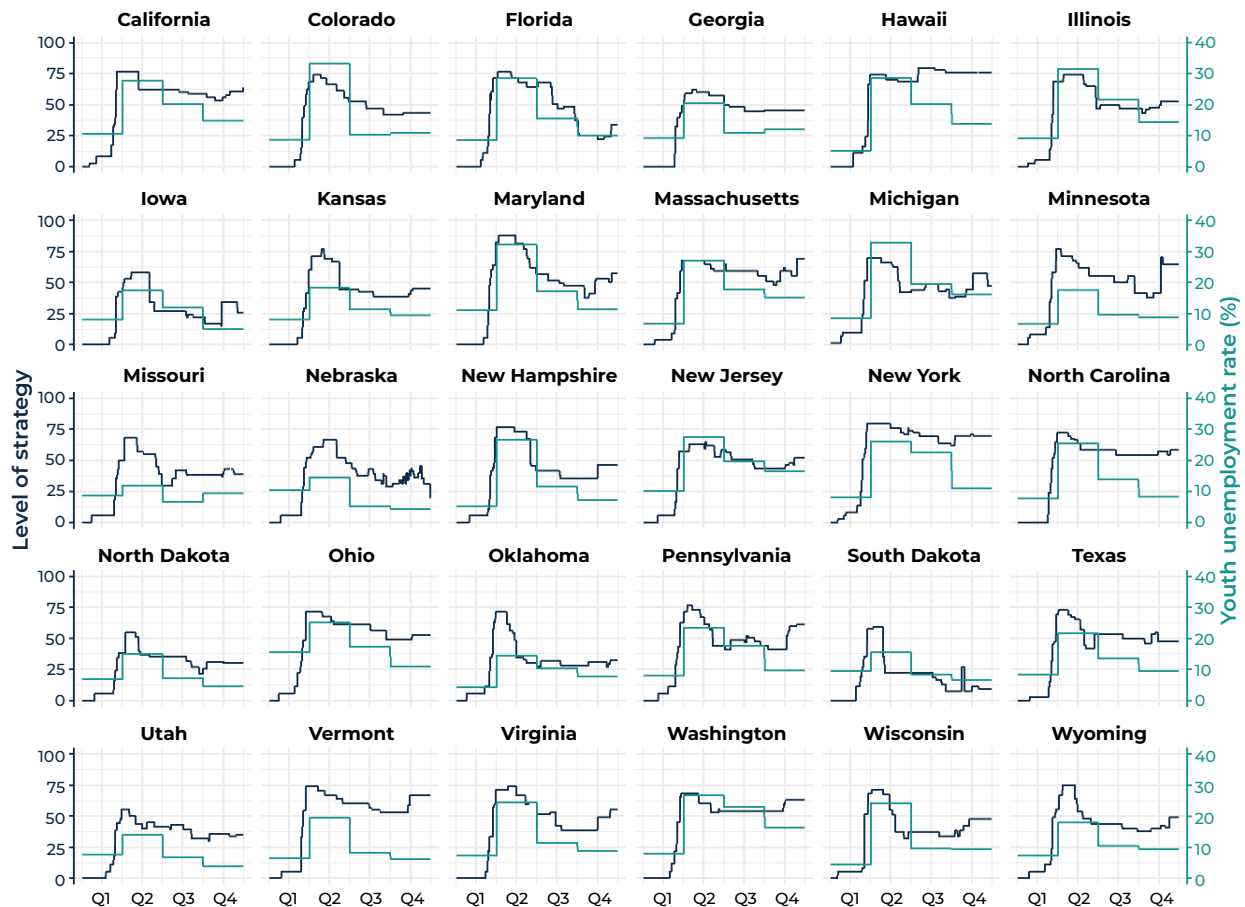
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### Estimating youth unemployment at the local level

Because our estimates are based on the monthly Current Population Survey, the geographic areas for which we can produce reliable estimates depend on the number of youth in an area and the number of months in the observation period. For shorter periods, such as quarters, we have estimates for fewer geographic areas, but the estimates are more frequent. For yearly estimates, we can cover more areas, but data are only updated once a year.

Because of these trade-offs, our three-month estimates are available for 30 states and 6 metro areas, our semi-annual estimates are available for 25 metro areas and our annual estimates are available for metro areas and all states.

Figure 5. Coronavirus containment measures and youth unemployment across select states, 2020



Sources: Stringency Index: The Oxford COVID-19 Government Response Tracker (Hallas et al. 2020). Unemployment rates: Mathematica estimates based on the monthly Current Population Survey and using the Bureau of Labor Statistics' definition of *unemployed* and *civil labor force*.

Note: Navy lines represent the level of stringency of the coronavirus containment measures in selected states for each day of 2020, and the teal lines represent the quarterly youth unemployment rate in the same period. The figure includes 30 states for which we have reliable three-month estimates of the youth unemployment rate. Estimates for youth unemployment rates do not account for seasonal patterns.

During the second quarter of the year, the states with the highest youth unemployment rates were Maryland, Colorado, Michigan, and Illinois, where at least 3 out of 10 youth were unemployed (Table 1). New York, New Jersey, Hawaii, Florida, Massachusetts, California, New Hampshire, Washington, North Carolina, and Ohio followed, where youth unemployment ranged from 25 to 30 percent. During this period for these states, the average stringency index was 67 points and the average number of confirmed coronavirus cases was more than 109,000. In comparison, in states with lower rates of unemployment, the average stringency index was to 55 points and the average number of confirmed cases was more than 37,000.

**Table 1. Three-month averages for youth unemployment rates in select states, 2020**

	Jan – Mar	Feb – Apr	Mar – May	Apr – Jun	May – Jul	Jun – Aug	Jul – Sep	Aug – Oct	Sep – Nov	Oct – Dec
California	10.5	16.3	22.5	27.8	27.6	26.5 <sup>a</sup>	20.2	16.8	15.5	14.8
Colorado	8.7	16.3 <sup>a</sup>	26.2 <sup>a</sup>	33.2 <sup>a</sup>	33.6 <sup>a</sup>	33.3 <sup>a</sup>	10.2	8.9	10.1	10.8
Florida	8.6	13.5	21.8 <sup>a</sup>	28.5 <sup>a</sup>	28.0 <sup>a</sup>	24.4 <sup>a</sup>	15.6	12.3	12.0	10.1
Georgia	9.3	16.0	18.4 <sup>a</sup>	20.6 <sup>a</sup>	16.8 <sup>a</sup>	17.1 <sup>a</sup>	10.8	9.8	10.2	12
Hawaii	5.2	14.8 <sup>a</sup>	23.1 <sup>a</sup>	28.7 <sup>a</sup>	25.1 <sup>a</sup>	20.2 <sup>a</sup>	20.2 <sup>a</sup>	20.5 <sup>a</sup>	18.0 <sup>a</sup>	13.9 <sup>a</sup>
Illinois	9.2	17.7	26.2 <sup>a</sup>	31.6 <sup>a</sup>	29.9 <sup>a</sup>	27.4 <sup>a</sup>	21.7	19.3	16.4	14.3
Iowa	8.1	11.3 <sup>a</sup>	15.3 <sup>a</sup>	17.5 <sup>a</sup>	14.7 <sup>a</sup>	15.3 <sup>a</sup>	11.9 <sup>a</sup>	9.0	6.7	5.1
Kansas	8.1	12.0 <sup>a</sup>	16.5 <sup>a</sup>	18.3 <sup>a</sup>	16.3 <sup>a</sup>	10.6 <sup>a</sup>	11.4	9.3	9.5	9.5
Maryland	11.0 <sup>a</sup>	18.1 <sup>a</sup>	27.0 <sup>a</sup>	32.2 <sup>a</sup>	34.7 <sup>a</sup>	31.0 <sup>a</sup>	17.1 <sup>a</sup>	14.6 <sup>a</sup>	12.0 <sup>a</sup>	11.4 <sup>a</sup>
Massachusetts	6.8	11.7	18.3 <sup>a</sup>	27.1 <sup>a</sup>	27.4 <sup>a</sup>	28.5 <sup>a</sup>	17.8 <sup>a</sup>	14.8	15.1	15.2
Michigan	8.6	17.9	26.8 <sup>a</sup>	32.9 <sup>a</sup>	30.6 <sup>a</sup>	27.5 <sup>a</sup>	19.5 <sup>a</sup>	19.6	16.9	16.2
Minnesota	6.6	11.0	14.6 <sup>a</sup>	17.6 <sup>a</sup>	15.7 <sup>a</sup>	14.0 <sup>a</sup>	9.6 <sup>a</sup>	9.8 <sup>a</sup>	9.5 <sup>a</sup>	8.7 <sup>a</sup>
Missouri	8.7	10.3 <sup>a</sup>	13.1 <sup>a</sup>	11.9 <sup>a</sup>	9.2 <sup>a</sup>	7.3 <sup>a</sup>	6.6	7.5	7.0	9.4
Nebraska	10.4	14.7 <sup>a</sup>	14.7 <sup>a</sup>	14.5 <sup>a</sup>	11.4 <sup>a</sup>	12.5 <sup>a</sup>	5.2	3.5	3.5	4.3
New Hampshire	5.3	14.9 <sup>a</sup>	23.0 <sup>a</sup>	26.7 <sup>a</sup>	23.6 <sup>a</sup>	20.1 <sup>a</sup>	11.5 <sup>a</sup>	10.2 <sup>a</sup>	9.9 <sup>a</sup>	7.2
New Jersey	10.1	15.1 <sup>a</sup>	20.3 <sup>a</sup>	27.6 <sup>a</sup>	28.1 <sup>a</sup>	29.5 <sup>a</sup>	19.7 <sup>a</sup>	15.9 <sup>a</sup>	17.0 <sup>a</sup>	16.6 <sup>a</sup>
New York	8.1	11.0	17.2	26.1 <sup>a</sup>	28.7 <sup>a</sup>	32.8 <sup>a</sup>	22.5	16.8	13.7	10.9
North Carolina	7.7	14.3	22.3 <sup>a</sup>	25.5 <sup>a</sup>	21.4 <sup>a</sup>	16.0 <sup>a</sup>	13.8 <sup>a</sup>	10.2	11.0	8.3
North Dakota	6.8	11.4	14.5 <sup>a</sup>	14.9 <sup>a</sup>	12.6 <sup>a</sup>	7.5 <sup>a</sup>	7.1	5.7	4.6	4.5
Ohio	15.6	18.9 <sup>a</sup>	24.8 <sup>a</sup>	25.1 <sup>a</sup>	22.7 <sup>a</sup>	19.4 <sup>a</sup>	17.2	13.9	10.4	11.0
Oklahoma	4.3	9.6	12.7 <sup>a</sup>	14.4 <sup>a</sup>	10.7 <sup>a</sup>	6.9 <sup>a</sup>	10.4 <sup>a</sup>	8.9	8.4	7.6
Pennsylvania	7.9	12.9	19.5	23.4 <sup>a</sup>	23.7 <sup>a</sup>	20.6 <sup>a</sup>	17.6	12.5	10.1	9.6
South Dakota	9.4 <sup>a</sup>	12.4 <sup>a</sup>	14.8 <sup>a</sup>	15.4 <sup>a</sup>	13.0 <sup>a</sup>	11.3 <sup>a</sup>	8.4	8.3	7.7	6.7
Texas	8.3	12.4	18.8	21.6	21.6	18.9 <sup>a</sup>	13.5	11.2	11.0	9.4
Utah	7.7	11.5	13.7	14.0	10.6 <sup>a</sup>	7.5 <sup>a</sup>	6.7	6.1	4.9	3.9
Vermont	6.4	13.0 <sup>a</sup>	18.8 <sup>a</sup>	19.5 <sup>a</sup>	15.8 <sup>a</sup>	10.1 <sup>a</sup>	8.3 <sup>a</sup>	9.1 <sup>a</sup>	7.7 <sup>a</sup>	6.1 <sup>a</sup>
Virginia	7.3	12.9 <sup>a</sup>	21.6 <sup>a</sup>	24.4 <sup>a</sup>	21.6 <sup>a</sup>	17.2 <sup>a</sup>	11.5 <sup>a</sup>	9.8 <sup>a</sup>	8.2	8.8
Washington	7.9	16.3	23.9 <sup>a</sup>	26.7 <sup>a</sup>	24.9 <sup>a</sup>	17.4 <sup>a</sup>	23.0 <sup>a</sup>	19.6	17.1 <sup>a</sup>	16.4 <sup>a</sup>
Wisconsin	4.4	10.2 <sup>a</sup>	16.6 <sup>a</sup>	24.2 <sup>a</sup>	23.1 <sup>a</sup>	23.3 <sup>a</sup>	9.5	7.4	7.7	9.4
Wyoming	7.2	11.6 <sup>a</sup>	15.8 <sup>a</sup>	17.9 <sup>a</sup>	18.1 <sup>a</sup>	13.0 <sup>a</sup>	10.4	9.2	8.6	9.4

Source: Mathematica estimates based on the monthly Current Population Survey and using the Bureau of Labor Statistics' definition of *unemployed* and *civil labor force*.

Note: Estimates do not account for seasonal patterns.

<sup>a</sup> Estimate has low statistical reliability.

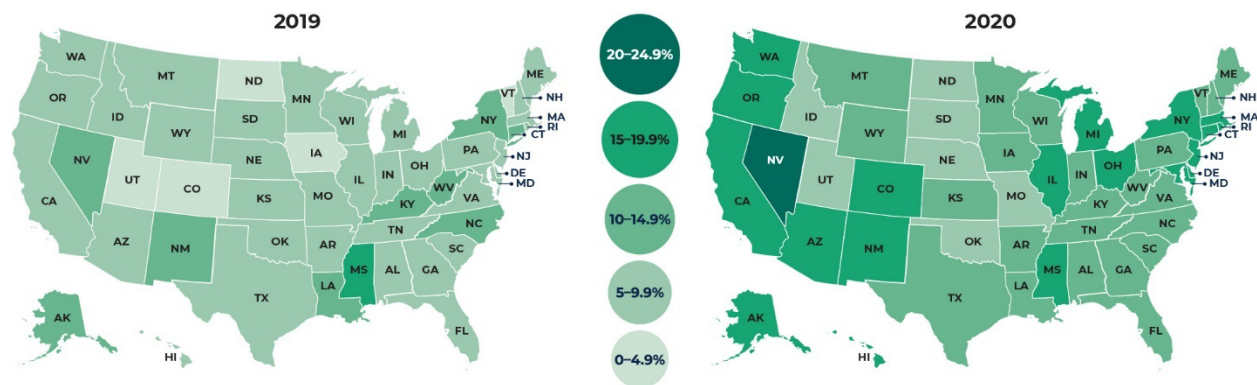
As the year came to a close, youth unemployment rates declined across all states (where data are available) from their peak in April. In fact, youth unemployment fell below pre-pandemic levels in seven states: Iowa, Nebraska, North Dakota, Ohio, South Dakota, Utah, and Vermont, the majority of which contain large rural populations. However, youth unemployment remained well above pre-pandemic levels in other states. In the last quarter of the year, the youth unemployment rate was at least 5 percentage points higher than it was in the first quarter in six states: Hawaii, Illinois, Massachusetts, Michigan, New Jersey, and Washington. In four of these states (Michigan, New Jersey, Massachusetts, and Washington), youth unemployment was over 15 percent in the last quarter of 2020.

## Youth Unemployment in 2020

Because of the differences across states in vaccine distribution rates, the path to economic recovery and youth employment opportunities will likely differ from state to state as 2021 continues.

Overall, every state experienced a jump in youth unemployment rates from 2019 to 2020, as indicated by the darker green shades in Figure 6. However, unemployment levels varied considerably across states, ranging from 7.9 percent to 22.4 percent, with a standard deviation of 3.4 percentage points. As a reference, in 2019, the youth unemployment rates ranged from 3.9 percent to 15.9 percent, with a standard deviation of 2.4 percentage points.

**Figure 6. State-level youth unemployment rates from 2019 to 2020**



Source: Mathematica estimations using the monthly Current Population Survey, based on the Bureau of Labor Statistics' definition of *unemployed* and *civil labor force*.

Notes: Estimates do not account for seasonal patterns.

### Youth unemployment at the metro level

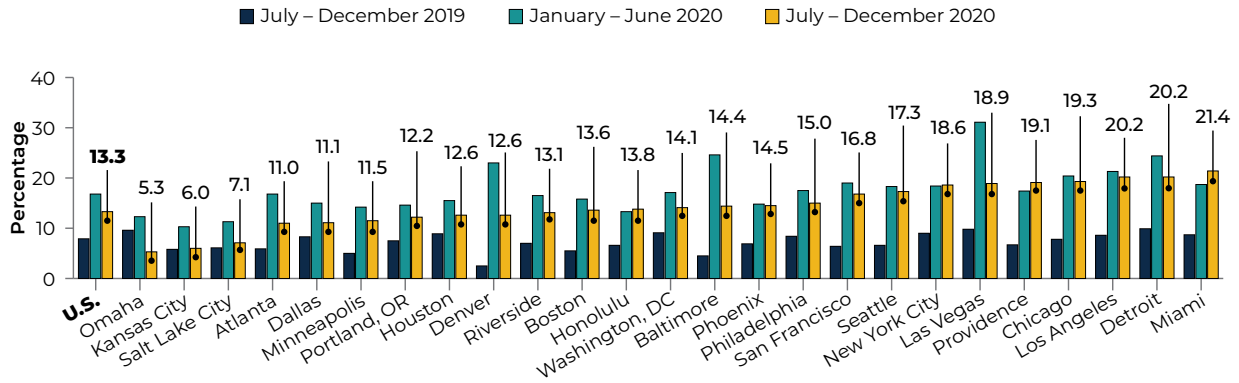
Similar to the state level statistics, the increase in youth unemployment in metro areas were concentrated in the first half of the year. Estimates on semiannual rates across 25 metro areas with available data show that youth unemployment increased markedly from the second half of 2019 to the first half of 2020 (Figure 7). In 19 of these metro areas, the youth unemployment rate increased at least two-fold between July to December 2019 and January to June 2020. Atlanta, Minneapolis, Denver, Boston, Baltimore, San Francisco, Seattle, and Las Vegas had the steepest increase in youth unemployment. In the second half of 2020, youth unemployment declined somewhat in all but four metro areas: In Honolulu, New York City, Providence, and Miami, the youth unemployment rate continued to increase. As the year closed, youth unemployment rates in San Francisco, Seattle, New York, Las Vegas, Providence, Chicago, Los Angeles, Detroit, and Miami all exceeded 15 percent.

A closer look at quarterly youth unemployment data from six large metro areas—Boston, Chicago, Dallas, Los Angeles, New York City, and Washington, DC—shows divergent patterns of recovery across the nation throughout 2020 (Figure 8). Following the national trend, youth unemployment increased rapidly in all these metro areas in the second quarter, particularly in Chicago, Los Angeles, and New York City, where it reached or exceeded 30 percent. Youth unemployment rates in the fall declined faster in Boston and Washington, DC than in other areas, where rates gradually declined to pre-pandemic levels over the third and fourth quarters.



By the end of 2020, compared to the same quarter the previous year, the youth unemployment rate was still higher, by 9.1 percentage points in Los Angeles, 7.5 percentage points in Boston, 6.1 percentage points in Chicago, 5.5 percentage points in New York City, and 5 percentage points in Washington, DC. Dallas was the only metro area where the youth unemployment rate fell to 2019 levels, although it was still 1.8 percent higher than the pre-pandemic level.

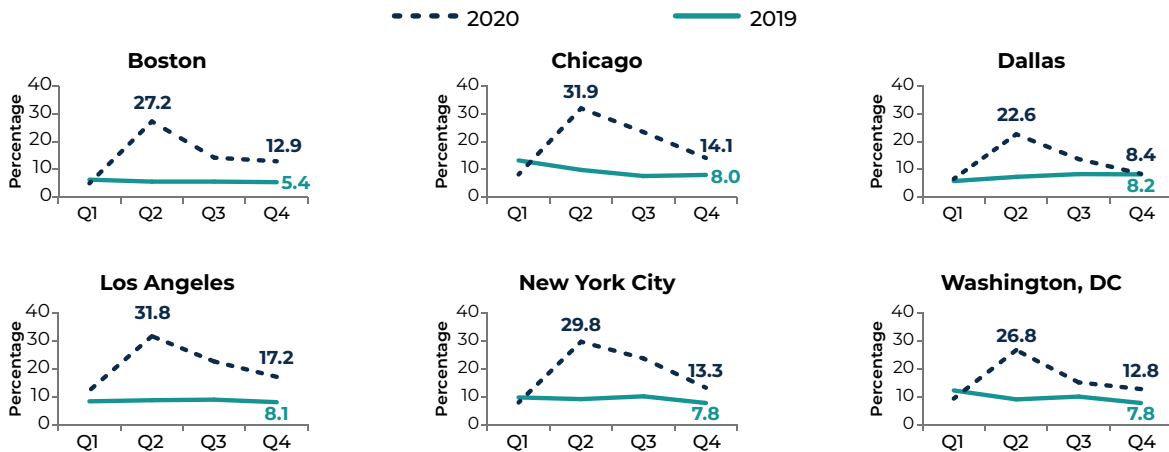
**Figure 7. Semiannual unemployment rates in 25 select metro areas**



Source: Mathematica estimations using the monthly Current Population Survey, based on the Bureau of Labor Statistics' definition of *unemployed* and *civil labor force*.

Notes: Estimates do not account for seasonal patterns. Metro areas are defined as Metropolitan Statistical Areas (MSAs). For brevity, the figure displays the name of the major city in each metro area. For example, Dallas refers to Dallas–Fort Worth–Arlington, Texas MSA.

**Figure 8. Quarterly trends in youth unemployment rates in select large metro areas**

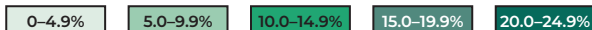


Source: Mathematica estimations using the monthly Current Population Survey, based on the Bureau of Labor Statistics' definition of *unemployed* and *civil labor force*.

Notes: Estimates do not account for seasonal patterns. Metro areas are defined as Metropolitan Statistical Areas (MSAs). For brevity, the figure displays the name of the major city in each metro area. For example, Dallas refers to Dallas–Fort Worth–Arlington, Texas MSA.

**Table 2. Annual youth unemployment rates in select metro areas**

Metro area	% change	2019		2020	
		%	Rank	%	Rank
	0 100 200 300				
<b>United States</b>		<b>8.4</b>	–	<b>15.1</b>	–
Orlando		<b>3.9</b>	3	<b>14.1</b>	22
Burlington, VT		<b>2.5</b>	1	<b>8.8</b>	6
Denver		<b>5.2</b>	10	<b>17.4</b>	40
Baltimore		<b>6.1</b>	15	<b>19.0</b>	45
Nashville		<b>4.5</b>	6	<b>14.0</b>	21
Sacramento		<b>4.7</b>	7	<b>14.5</b>	25
Cincinnati		<b>6.1</b>	16	<b>16.9</b>	38
San Antonio		<b>6.2</b>	18	<b>17.0</b>	39
San Francisco		<b>6.8</b>	24	<b>17.7</b>	41
Boston		<b>5.7</b>	13	<b>14.7</b>	27
Seattle		<b>7.2</b>	26	<b>17.8</b>	42
Los Angeles		<b>8.6</b>	34	<b>20.7</b>	48
Wichita		<b>4.2</b>	4	<b>9.9</b>	11
Manchester		<b>5.7</b>	14	<b>13.3</b>	17
Providence		<b>8.2</b>	29	<b>18.3</b>	43
Detroit		<b>10.0</b>	47	<b>22.1</b>	49
Las Vegas		<b>11.3</b>	49	<b>24.7</b>	50
Miami		<b>9.2</b>	39	<b>19.9</b>	46
Riverside		<b>6.9</b>	25	<b>14.7</b>	28
Chicago		<b>9.6</b>	45	<b>19.9</b>	47
Indianapolis		<b>6.6</b>	21	<b>13.4</b>	18
Honolulu		<b>6.7</b>	22	<b>13.6</b>	20
New York City		<b>9.3</b>	41	<b>18.5</b>	44
Minneapolis		<b>6.7</b>	23	<b>12.9</b>	15
Phoenix		<b>7.7</b>	28	<b>14.6</b>	26
Provo		<b>4.7</b>	8	<b>8.9</b>	7
Oklahoma City		<b>6.1</b>	17	<b>11.5</b>	13
Columbus, OH		<b>8.2</b>	30	<b>14.8</b>	29
Little Rock		<b>5.5</b>	11	<b>9.9</b>	12
Philadelphia		<b>9.1</b>	37	<b>16.2</b>	37
Dallas		<b>7.4</b>	27	<b>13.0</b>	16
Sioux Falls		<b>4.8</b>	9	<b>8.4</b>	5
Memphis		<b>8.5</b>	33	<b>14.8</b>	30
Charlotte		<b>9.2</b>	40	<b>15.7</b>	36
Atlanta		<b>8.3</b>	31	<b>14.1</b>	23
San Diego		<b>8.9</b>	36	<b>14.9</b>	31
Albuquerque		<b>9.5</b>	44	<b>15.1</b>	32
Washington, DC		<b>9.7</b>	46	<b>15.4</b>	33
Houston		<b>9.3</b>	42	<b>14.1</b>	24
Boise City		<b>3.8</b>	2	<b>5.6</b>	1
Ogden		<b>4.3</b>	5	<b>6.3</b>	2
Pittsburgh		<b>8.7</b>	35	<b>12.5</b>	14
Portland, OR		<b>9.4</b>	43	<b>13.4</b>	19
St. Louis		<b>10.9</b>	48	<b>15.5</b>	34
Fargo		<b>5.6</b>	12	<b>7.9</b>	3
Salt Lake City		<b>6.5</b>	20	<b>9.1</b>	9
Tampa		<b>12.4</b>	50	<b>15.6</b>	35
Kansas City		<b>6.3</b>	19	<b>7.9</b>	4
Birmingham		<b>8.3</b>	32	<b>8.9</b>	8
Omaha		<b>9.1</b>	38	<b>9.3</b>	10



Overall, in 2020, youth unemployment rates increased in all large metro areas. In terms of percentage change, Orlando, Burlington (Vermont), Denver, Baltimore, Nashville, Sacramento, Cincinnati, San Antonio, San Francisco, and Boston registered the largest jumps in youth unemployment rates, with increases of more than 150 percent. Youth unemployment rates more than doubled in a total of 22 metro areas.

In absolute terms, the metro areas with the highest unemployment rates in 2020 were Las Vegas, Detroit, and Los Angeles, where more than one out of five youth ages 16 to 24 reported being unemployed. Other metro areas where the youth unemployment rate was above the national average of 15.1 percent were Washington, DC; St. Louis; Tampa; Charlotte; Philadelphia; Cincinnati; San Antonio; Denver; San Francisco; Seattle; Providence; New York City; Baltimore; Chicago; and Miami. In 2020, the youth unemployment rate in Boise City, the metro area with the lowest rate in that year, was still higher than the rates of 11 metro areas in 2019.

Source: Mathematica estimations using the monthly Current Population Survey, based on the Bureau of Labor Statistics' definition of *unemployed* and *civil labor force*.

Notes: Estimates do not account for seasonal patterns. Metro areas are defined as Metropolitan Statistical Areas (MSAs). For brevity, the table displays the name of the major city in each metro area. For example, Dallas refers to Dallas–Fort Worth–Arlington, Texas MSA.

### Conclusion

This report presented detailed and timely data on youth unemployment during 2020, the first year of the COVID-19 pandemic. Data show that the outbreak of the COVID-19 pandemic sparked extraordinary unemployment rates among youth. Following the stay-at-home orders introduced in many states as a response to an increase in COVID-19 infections, the youth unemployment rate reached 27.4 percent in April 2020, significantly higher than the unemployment rate among adults in the same period, which was 12.8 percent. This rate exceeded the youth unemployment rate at the peak of the Great Recession, which was 19.5 percent the same month in 2010. Examining data by groups, although unemployment increased among all youth groups, the increase was particularly pronounced among female youth and Asian youth—groups that tend to have lower unemployment rates in typical recessions.

The unprecedented increase in youth unemployment, particularly among female youth and Asian youth, resulted from a combination of factors. The business closures in industries that were hit hardest as a response to decline in consumer demand and impossibility of doing these jobs remotely led to a sharp increase in unemployment, particularly among female youth. Similarly, the high concentration of Asian Americans in states that were hit hardest by the pandemic, combined with high rates of closures of small businesses among those owned by Asian Americans and increased discrimination against this group, has likely contributed to a spike in unemployment among Asian youth.

The economy experienced a partial recovery between May and the end of summer, mainly driven by businesses reopening and recalling jobs. However, decline in unemployment was uneven across groups. Unemployment among White male youth declined considerably over the summer, yet rates among BIPOC youth as well as female youth did not drop below 20 percent until the fourth quarter of 2020. The economic recovery slowed down in the fall as a result of many businesses permanently closing and the phasing out of job recalls. In the last quarter of 2020, the overall unemployment rate among youth approached the unemployment rate from one year earlier; however, the difference in the unemployment rate translated into an additional 700,000 unemployed youth compared to a year ago.

Data also show that the impact of the pandemic varied by location. Overall, higher levels of youth unemployment were particularly concentrated on the West Coast and in the Northeast. These regions of the country were hit hardest by COVID-19 early in the pandemic and thus adopted stricter stay-at-home orders and state policies to curb the spread of the virus. Despite youth unemployment rates declined in most places after the peak of the pandemic, in six states—Hawaii, Illinois, Massachusetts, Michigan, New Jersey, and Washington—rates at the end of 2020 were at least 5 percentage points higher than before the pandemic. Similarly, youth unemployment rates fell in most metro areas, except for Honolulu, New York City, Providence, and Miami.

As 2020 came to end, states started rolling out COVID-19 vaccines, providing a first glimpse of hope for economic recovery. As more Americans get vaccinated, consumer demand will surge in the hardest-hit hospitality and retail industries and workplaces will reopen safely. For youth, however, the benefits of employment go beyond the wages. Employment provides important opportunities to youth to learn job skills, assess what type of jobs they like, and connect with employers. Many youth need work experience in jobs that help their professional development and build a career in industries such as information, professional, education, and health services. It might take years for the economy to fully recover and to provide the needed employment opportunities for youth, especially those who were disproportionately affected. Monitoring youth unemployment closely and in detail is particularly important for creating employment opportunities and enabling an equitable economic recovery.

### Related links:



Access the data presented in this report by downloading our data tables on youth unemployment rates: <https://www.mathematica.org/-/media/internet/files/additional-documents/tracking-youth-unemployment-during-covid-19-data-tables.xlsx?la=en>



Explore youth unemployment rates through our interactive data visualization tool: <https://mathematica.org/dataviz/youth-unemployment-tracker>



Learn more about this project and access publications and monthly infographics on youth unemployment: <https://www.mathematica.org/our-publications-and-findings/projects/tracking-youth-unemployment-during-the-covid-19-pandemic>

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