SIDEBAR

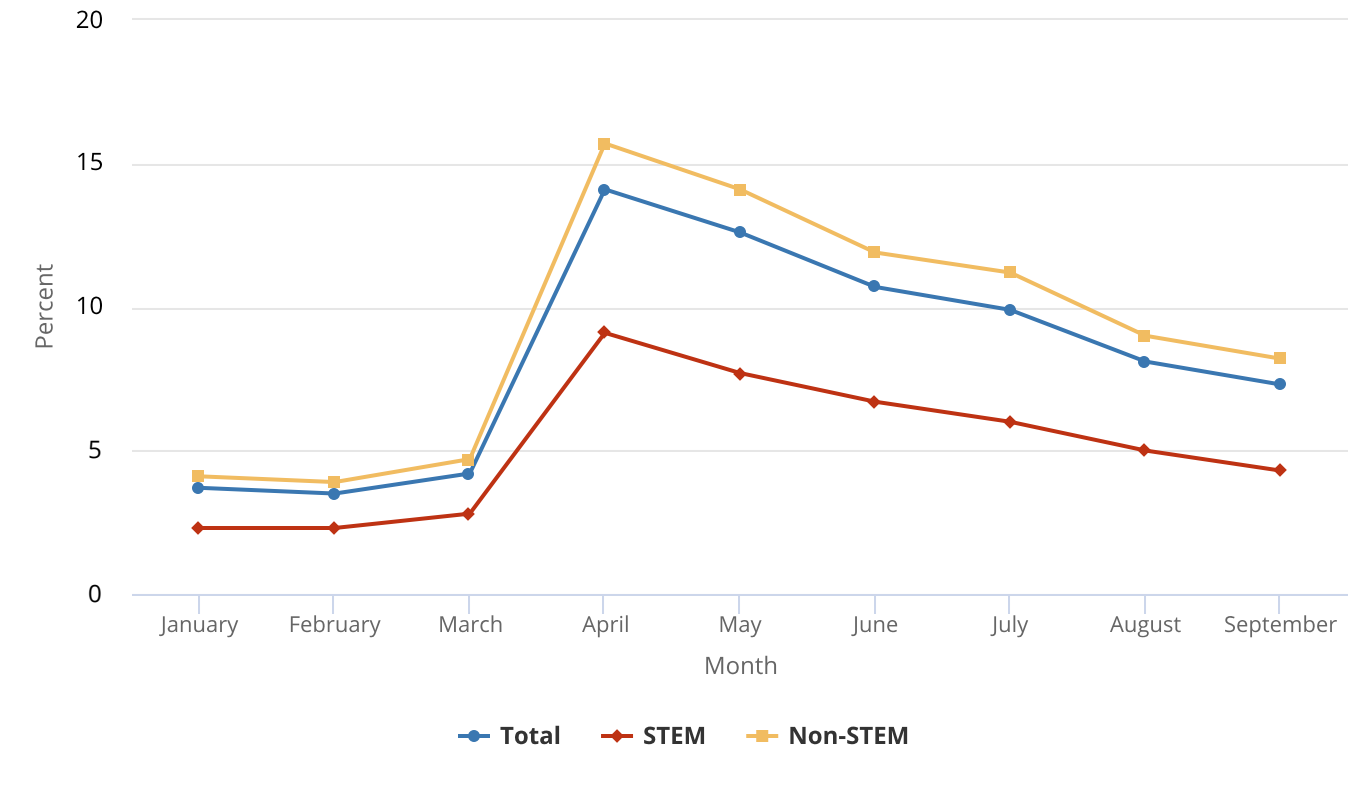
STEM and Non-STEM Unemployment in the Time of COVID-19

In 2020, the world experienced a pandemic caused by the novel coronavirus and its associated illness, COVID-19. The extremely contagious nature of the virus and the severity of its symptoms, resulting in death in some cases, led to widespread stay-in-place orders in the United States and many countries around the world to prevent the spread of the disease. In response to the stay-in-place orders, many businesses, including stores and restaurants, temporarily shut down, people worked from home, and children finished the school year online. Unemployment rates rose dramatically in a very short period;* however, these rates differed by occupation, and workers in science, technology, engineering, and mathematics (STEM) occupations tended to fare better during the crisis than their counterparts in non-STEM occupations. Based on monthly unemployment rates from the Bureau of Labor Statistics' 2020 Current Population Survey (CPS) (Flood et al. 2020), this sidebar examines the impact of the pandemic on unemployment rates by occupation group.

While unemployment rates spiked between March and April of 2020 and remained high compared to their pre-pandemic levels, unemployment rates for those in the STEM labor force (16–75 years old) were well below those of the non-STEM labor force (Figure LBR-A). STEM unemployment jumped from about 3% in March to 9% in April of 2020 but remained lower than the double-digit rates experienced by those in non-STEM occupations. Between March and April, the non-STEM unemployment rate increased from about 5% to 16%, remained in the double-digit range through July 2020, and declined to under 10% in August and September 2020.

Figure LBR-A

Monthly unemployment rates, by workforce: 2020



STEM = science, technology, engineering, and mathematics.

Note(s):
Data include workers ages 16–75 and exclude those in military occupations or currently enrolled in primary or secondary school. Data are not seasonally adjusted.

Source(s):
Flood S, King M, Rodgers R, Ruggles S, Warren JR, Integrated Public Use Microdata Series (IPUMS), Current Population Survey: Version 7.0 (2020), IPUMS, 2020, https://doi.org/10.18128/D030.V7.0.

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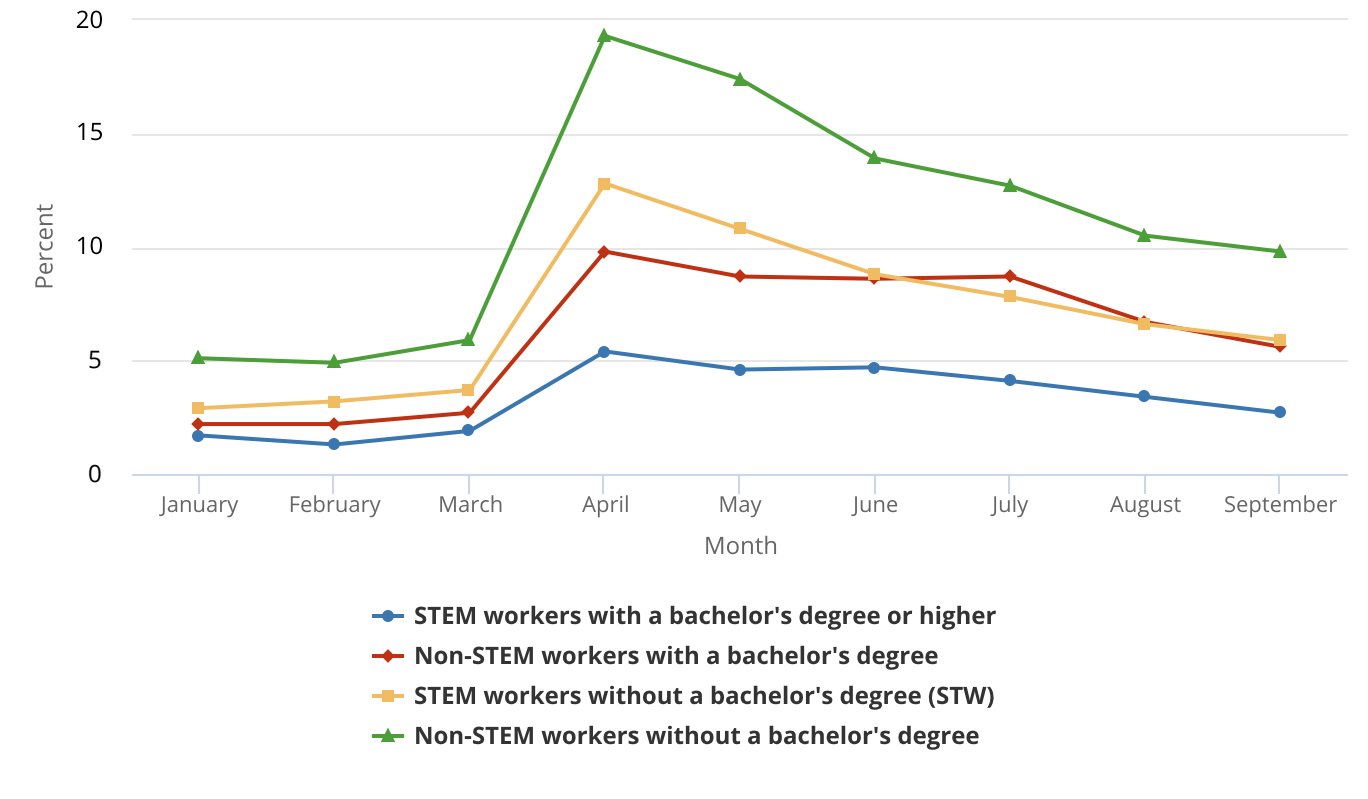
Except for non-STEM workers without a bachelor's degree, all other segments of the labor force had unemployment rates below 5% before April 2020 (Figure LBR-B). The unemployment rate for those with at least a bachelor's degree in the STEM labor force never rose above 6% during the pandemic period from April through September. In contrast, all other groups reached close to double-digit unemployment at their peak. However, the STEM labor force without a bachelor's degree fared much better than their non-STEM counterparts. The unemployment rate for the STEM labor force without a bachelor's degree peaked at 13% in April, whereas the unemployment rate for their non-STEM counterparts without a bachelor's degree peaked at 19%. Although unemployment rates have declined for all groups, the non-STEM labor force without a bachelor's degree continues to face severe unemployment rates, reaching 10% in September 2020. Thus, employment for the STEM labor force, regardless of education level, was more secure than that for the non-STEM labor force during this period of the pandemic. However, it is important to note that some preliminary analysis suggests that the COVID-19 pandemic has disproportionately affected women more than men in the STEM workforce (Andersen et al. 2020; Myers et al. 2020).

Figure LBR-B

Monthly unemployment rates, by workforce and educational level: 2020



STEM = science, technology, engineering, and mathematics; STW = skilled technical workforce.

Note(s):
Data include workers ages 16–75 and exclude those in military occupations or currently enrolled in primary or secondary school. Data are not seasonally adjusted.

Source(s):
Flood S, King M, Rodgers R, Ruggles S, Warren JR, Integrated Public Use Microdata Series (IPUMS), Current Population Survey: Version 7.0 (2020), IPUMS, 2020, https://doi.org/10.18128/D030.V7.0.

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* See **https://www.bls.gov/covid19/employment-situation-covid19-faq-april-2020.htm** for more information on the rise of unemployment in April 2020. Accessed 11 November 2020.