CORI's Employment Risk Index

COVID-19 is having an unprecedented impact on the US economy. With mass business closures and a staggering number of unemployment claims, the entire country is feeling the economic effects of this health crisis. To identify communities that face the greatest economic risk from COVID-19, CORI has created an Employment Risk Index and corresponding interactive map.

Calculating our employment risk index

We calculate county employment risk scores for each county using three factors:

1. **The share of small business employment**
2. **The share of older high risk workers**
3. **The share of employment in industries likely to experience high volatility**

For each factor, we calculate the percentile rank of a county. We calculate this percentile ranking comparing each county to all other counties in the US (Risk Index-National), and comparing each county to all counties within its state (Risk Index- In State). We then designate a risk score for each factor based on the following structure:

- 2 points - Top 25 percent of counties
- 1 point - Top 50 percent - 25 percent of counties
- 0 point - Bottom 50 percent of counties

An important caveat is that by focusing on employment, these findings potentially underestimate broader economic risks faced by rural communities. There are many rural communities that are deeply disadvantaged with few employment opportunities and high poverty. While these communities may not be as impacted by job losses because jobs are already scarce, they will likely face other economic challenges associated with a COVID-19 related recession.

Definitions & Data Sources

1. Share of small business employment

During the Great Recession, small businesses accounted for a disproportionate share of job losses, and are similarly vulnerable today. Small businesses face challenges on several fronts related to COVID-19. First, small businesses are concentrated in sectors impacted by the closure of non-essential businesses in many states, such as food and accommodation businesses, Main Street retail, and construction. Small businesses also face much more severe credit constraints than their larger counterparts. Over 50 percent of small businesses rely on credit card financing for the businesses, and over 50 percent of small businesses that apply for loans of less than $250,000 do not receive the full amount. While the federal government has allocated more than $350 billion to provide financial support for small businesses, it is uncertain how effective these programs will address the unprecedented crisis small businesses are facing.

Data source: Quarterly Workforce Indicators, Q1 2017
Measure: Share of county wage and salary employment among firms with fewer than 50 employees.

2. Share of the workforce 55 years and older

While anyone can contract COVID-19, the risk of severe or lethal illness increases significantly starting at age 55 both due to age and because almost half of people aged 55 and older have a preexisting medical condition that exacerbates their risk. We expect that areas with a larger share of workers aged 55 and older are more prone to disruption given the intensified need for social distancing, and they could also experience longer term disruptions due to a larger share of the workforce experiencing severe illness or death.

Data source: Quarterly Workforce Indicators, Q1 2017
Measure: Share of county wage and salary workers that are 55 years old or older.

3. High Risk Employment

The impact of COVID-19 will vary across areas based on their industrial composition. In our analysis, we have focused on four industrial sectors which we expect are at higher risk of disruption.

- Tourism
- Manufacturing & Wholesale
- Transportation

- Oil, gas, and coal production

We have used following criteria to select these industries:

1. The industry is being directly impacted by social distancing and stay-in-place policies. The most immediate impact of these policies has been the tourism industry. Sub-sectors of transportation that are related to tourism--such as airplane travel--have also been severely impacted.

2. The industry is sensitive to consumer demand. Sectors like manufacturing, wholesale, transportation (of goods), and oil, gas, and coal production are all likely to see declines due to decline in consumer demand and employment caused by the stay-in-place policies and the uncertainty created by the COVID-19 pandemic.

3. The industry represents employment that can not be completed remotely. We expect that as the COVID-19 virus spreads, areas with a larger share of employment in industries that can not function through remote work face both a higher risk of economic disruption created by stay-at-home policies, as well a greater chance of community spread through reduced social distancing. Of the industries we've included, it is estimated that less than 20 percent of jobs in each industry can be completed remotely, with the exception of wholesale trade in which it is estimated that 40 percent of jobs can be completed remotely.

4. The industry is likely to be impacted by concurrent global disruptions. This is especially true for extractive industries in which the effects of the Covid-19 virus on the sector will only be further exaggerated by the ongoing supply glut driven by competition between international producers, especially Russia and Saudi Arabia. Manufacturing and wholesale and transportation are also sensitive to global demand, and as the pandemic spreads across the globe and global consumption falls, these industries will likely experience declining employment and output. Manufacturing and wholesale are additionally affected by global supply chain disruptions. These supply chain disruptions could create additional volatility in these industries even as the US economy begins to recover.

Data Source: Fabian Eckert, Teresa C. Fort, Peter K. Schott, and Natalie J. Yang. "Imputing Missing Values in the US Census Bureau's County Business Patterns." NBER Working Paper #26632, 2020 http://www.fpeckert.me/cbp/
Measures:

Share of Employment in Tourism

Industry	NAICS Code
Retail Trade	44-45
Arts, Entertainment, and Recreation	71
Accomodation and Food Services	72

Share of Employment in Manufacturing & Wholesale

Industry	NAICS Code
Manufacturing	31-33
Wholesale Trade	42

Share of Employment in Transportation

Industry	NAICS Code
Transportation & Warehousing	48

Share of Employment in Transportation Oil, Gas, & Coal Production

Industry	NAICS Code
Oil and Gas Extraction	2111
Support Activities for Oil and Gas Operations	213112
Coal Mining	2121
Support Activities for Coal Mining	213113

4. Definitions of metro and non-metro areas

We include a layer that differentiates non-metro areas from metro areas on focus on the impact on the vulnerability of rural communities. We use the 2010 Census designation of metro counties for this layer.

About CORI

The Center on Rural Innovation (CORI) is a dynamic social enterprise solving America's rural economic crisis by empowering small towns to build thriving digital economies. CORI's three major initiatives form a comprehensive approach to catalyzing the digital jobs that drive sustainable economic success: The Rural Innovation Network is made up of 20 small communities nationwide dedicated to digital economic development; the Rural Opportunity Map curates hundreds of datasets to surface promising rural areas; and the CORI Innovation Fund provides needed capital to innovative but underserved rural entrepreneurs. To learn more about CORI, visit our website or send us an email.