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April 20, 2020



The University of Kansas



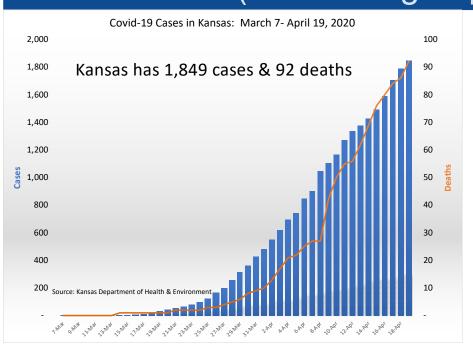
Overview

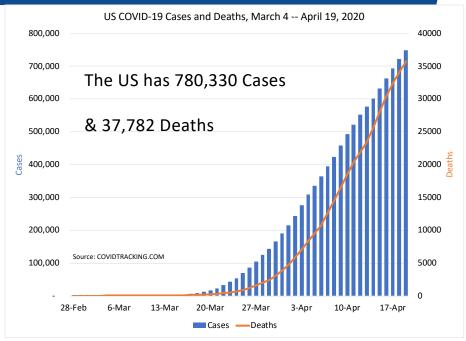
- Update on the Coronavirus in Kansas and the United States
 - Have we bent the curve?
 - Testing Updates
- What's happened to the economy so far?
 - We share what little data that we have
 - Supplement data with other information.
- Testing, testing, testing. . .





The US and Kansas have a Pandemic (data through April 12, 2020 4:00 PM)



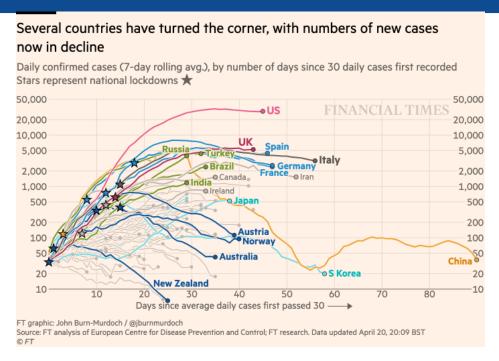


In both Kansas cases grew by 38% in the past week and deaths were 64% higher.

In the US cases grew by 36% and deaths were 63% higher in the past week. Both rates were slower than the previously.



COVID-19 Cases by Country

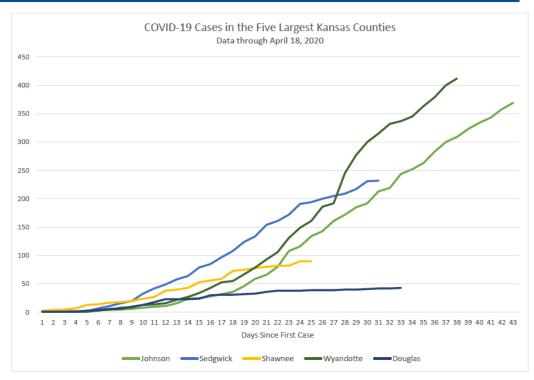


- Financial Times shows that US has started to bend the curve.
- Source: https://www.ft.com/coronavirus-latest



Growth in COVID-19 Cases has varied by County

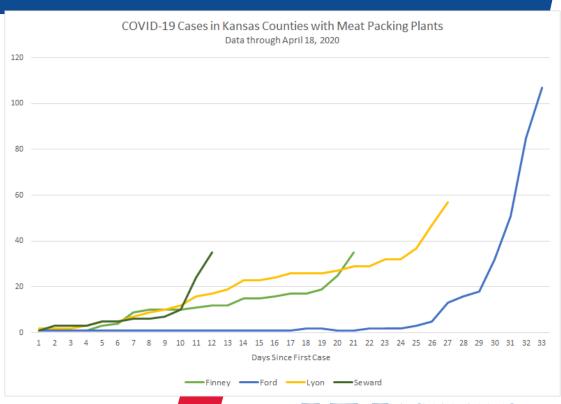
- In the five largest counties, growth rates have varied significantly.
 - Douglas and Shawnee counties have flattened the curve.
 - Johnson and Wyandotte, counties—not so much
 - Sedgwick may be turning the corner.



Source: Institute for Policy & Social Research. The University of Kansas; data from The New York Times.

Counties with Meatpacking have seen Cases Increase

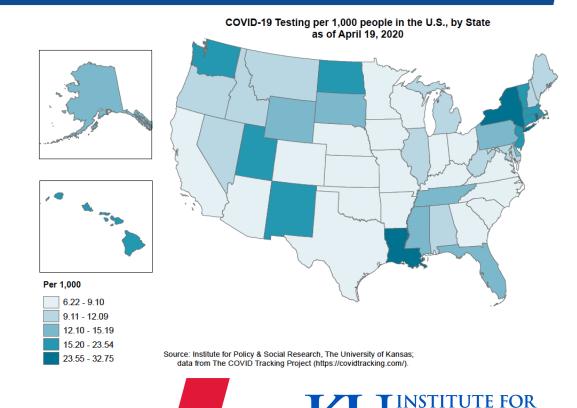
- In counties with meatpacking plants cases have spiked.
 - Ford county appears to have increasing problems.
 - Seward, Lyon and Finney counties.
 - Healthcare capacity may be limited there.





Testing has been uneven across the country

- Using data from the COVID Tracking project, we calculated the number of tests per 1,000 people in each state
 - Kansas has performed only 6.2 tests per 1,000 people
 - This is the lowest level among all states.



POLICY &

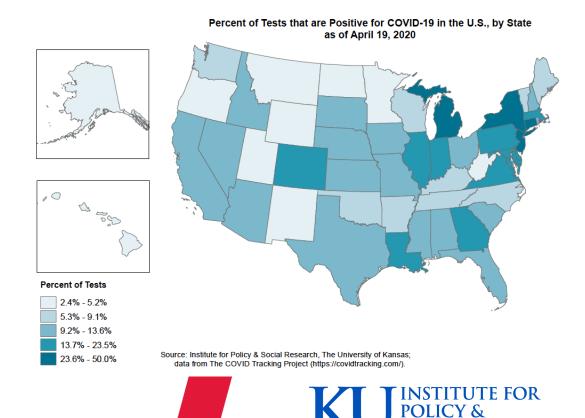
SOCIAL RESEARCH

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Testing Results are also Uneven

- Calculated the share of positive tests.
 - 10% of Kansas are positive.
- 30% of tests return a false negative.
 - This also contributes to the undercount.



SOCIAL RESEARCH

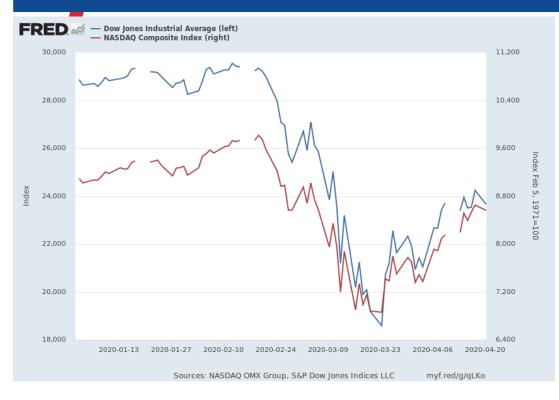
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COVID-19 and the Kansas Economy

It's not good.



The Stock Market: January 1 – April 3, 2020



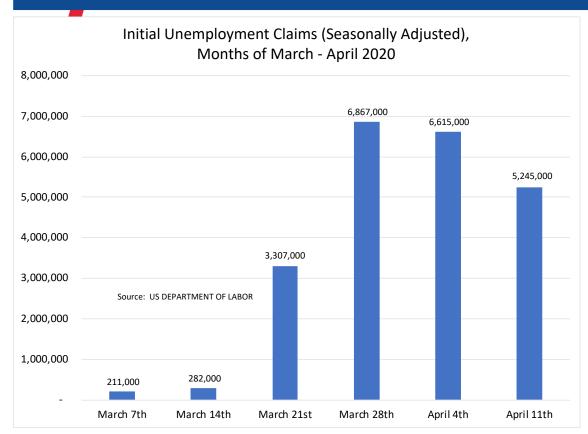
- The Dow Jones Industrial Average peaked at 29,348 on February 12th.
 - It bottomed out on March 23rd, and recovered to on April 20th. 23,650
 - Down about 20% since the peak
- Nasdaq has followed a similar pattern.

Source: FRED https://fred.stlouisfed.org/series/DJIA





Unemployment Claims Continue to Soar

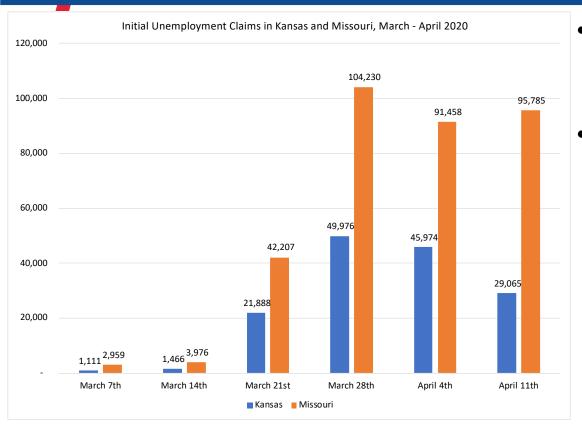


Source: https://www.dol.gov/ui/data.pdf

- US Initial Unemployment Claims are still at historic highs
 - Over 22 million unemployed in a month.
- Based on the US Labor Force in February 2020 the US the unemployment rate is anywhere between 10 – 13%
 - It's estimated that 12 million workers have lost employerbacked health insurance.



Unemployment Claims in Kansas and Missouri



- Missouri Initial Unemployment Claims are 3 times higher than Kansas
- Based on February Labor
 Force projections the
 Unemployment Rate in Kansas
 and Missouri is approximately
 11%

Source: Calculations using KS and MO Department of Labor Data



Kansas Initial Unemployment Claims by Industry as a Share of Total Employment

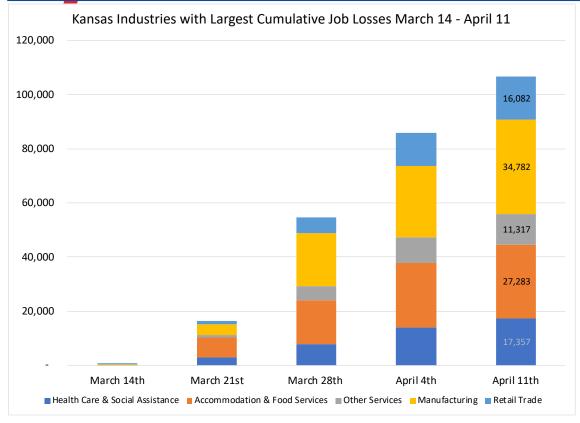
Industry	Unemployment within Industry
Government	0.44%
Health care and social assistance	9.34%***
Manufacturing	20.77%***
Retail trade	11.09%***
Accommodation and food services	23.74%
Administrative & waste management	9.59%
Professional, scientific & technical serv.	5.44%
Transportation and warehousing	7.12%
Construction	9.97%
Finance and insurance	1.79%
Wholesale trade	4.50%
Other services	21.72%
Management of companies	0.59%
Educational services	18.33%
Information	9.08%
Real estate and rental and leasing	13.11%
Arts, entertainment, and recreation	35.64%
Mining and oil and gas extraction	12.79%
Utilities	0.00%

- I calculated the share of initial unemployment claims for all of March and April over total employment by industry in February, 2020
 - Industries are ranked by share of total employment.
 - Government, Health care, manufacturing and retail trade are 53% of total employment in the state.





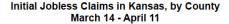
Cumulative Unemployment Claims in Kansas

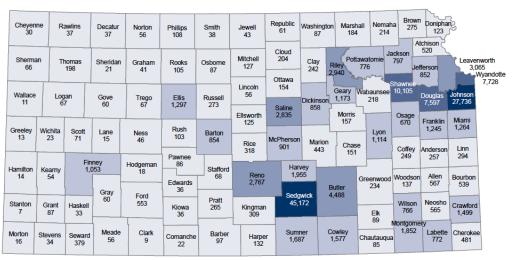


- Top 5 Industries with Cumulative Jobs Lost:
 - Manufacturing 34,782
 - Accommodation & Food Service 27,283
 - Health Care & Social Assistance 17,357
 - Retail Trade 16,082
 - Other Services 11,317

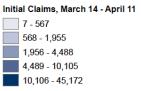


Cumulative Unemployment Claims by County





Source: Institute for Policy & Social Research, The University of Kansas; data from Kansas Department of Labor Labor Market Information Services



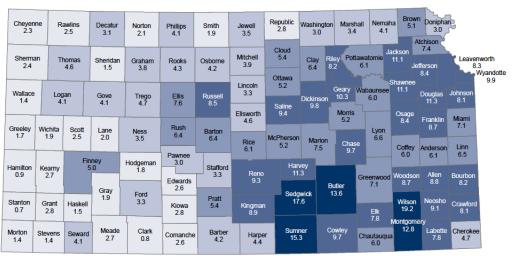
- Top 5 Counties by Cumulative Initial Claims:
 - Sedgwick 45,172
 - Johnson 27,736
 - Shawnee 10,105
 - Wyandotte 7,728
 - Douglas 7,597





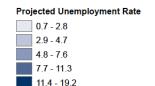
Estimated Unemployment Rate by County

Projected Unemployment Rate in Kansas, by County March 2020



Source: Institute for Policy & Social Research, The University of Kansas; data from Kansas Department of Labor, Labor Market Information Services and U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics.

Projected unemployment rate derived using initial jobless claims from March 14 - April 11 and preliminary, not seasonally adjusted, civilian labor force for February 2020.



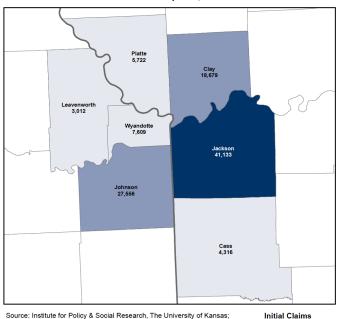
- Estimated Using First Quarter Employment Data
- Top 5 Counties by unemployment rate:
 - Wilson 19.2%
 - Sedgwick 17.6%
 - Sumner 15.3%
 - Butler 13.6%
 - Montgomery 12.8%





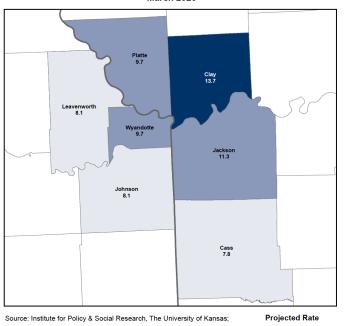
Estimated Unemployment in Kansas City Metro

Initial Unemployment Claims in the Kansas City Metro Area, by County March 15 - April 11, 2020



data from the Kansas Department of Labor and Missouri Department of Labor.

Projected Unemployment Rate in the Kansas City Metro Area, by County March 2020



- Unemployment Claims & Rates are lower on the Kansas-side.
 - Wyandotte 9.7%
 - Johnson 8.1%
 - Clay 13.7%
 - Jackson 11.3%



What's Happening to Economic Growth (GDP)

- GDP = C + I + G + (X-M)
 - C = Consumption (68%)
 - I = Investment (17%)
 - G = Government (18%)
 - X M = Net Exports (-2.9%)
- Consumption patterns have changed dramatically
 - Retail sales fell by a historic -8.7% last month
- Government Expenditures will increase
- WTO projects trade to fall by 13%
 - -32%



Unemployment Relative to Gross State Product

Unemployment Rate Relative to Industry Share of Gross State Product
Weighted by Employment Share



Industry Share of Gross State Product %

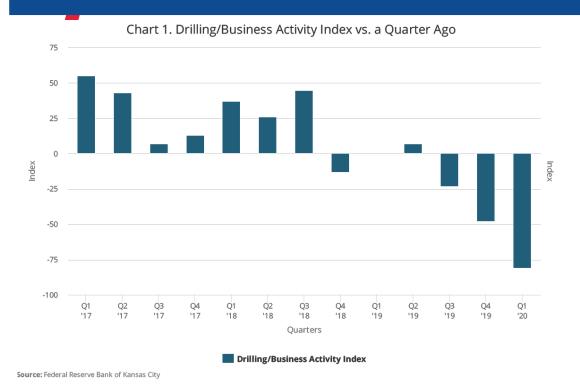
Source: Author's calculations.

- Sectors that Contribute most to Kansas growth with above average unemployment:
 - Manufacturing 21% UE & 16% of GSP
 - Health Services 9% UE & 7.5% of GSP
 - Retail 11% UE & 6.4%
 GSP





Oil & Gas Production in 10th District Has Dropped



https://www.kansascityfed.org/research/indicatorsdata/energy/articles/2020/tenth-district-energy-activity-decreased-at-a-steep-pace

- Federal Reserve Bank of Kansas City shows that oil and gas production in the district has dropped significantly.
 - "Long term \$30 per barrel (oil price) will lead to massive consolidation and insolvency.
 I'm estimating that some will be able to hang on for another year, but two years probably reduces E&Ps significantly."





The Oil Markets have Gone Berserk

Too Much Oil: How a Barrel Came to Be Worth Less Than Nothing

One oil price went negative on Monday, signaling that there is no place to store all the crude the world is producing but not using.



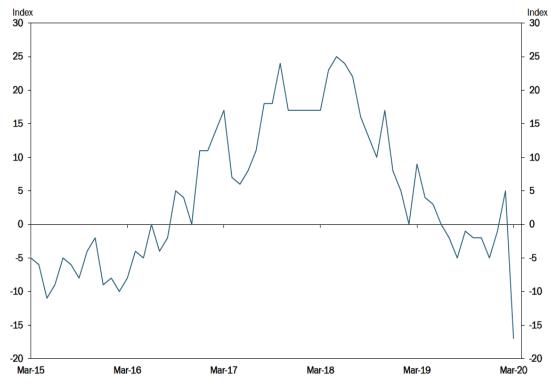
- Oil prices turned negative on Monday, April 20th
 - Producers need to pay buyers to take oil because there is no place to store it.
 - Refineries are unwilling to make gasoline because people aren't driving.





Manufacturing in the 10th District Has Dropped

Chart 1. Manufacturing Composite Index vs. a Month Ago



Federal Reserve Bank of Kansas City (March 26th) shows manufacturing activity has fallen to the lowest levels since 2009.

 "This is the most uncertain about the future that I have ever been during my 29 years with this company."

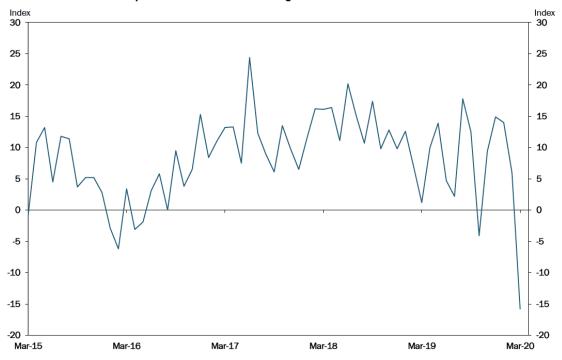
https://www.kansascityfed.org/research/indicatorsdata/mfg/articles/2020/

tenth-district-manufacturing-activity-declined-sharply



Services in the 10th District Have Dropped

Chart 1. Services Composite Index vs. a Month Ago



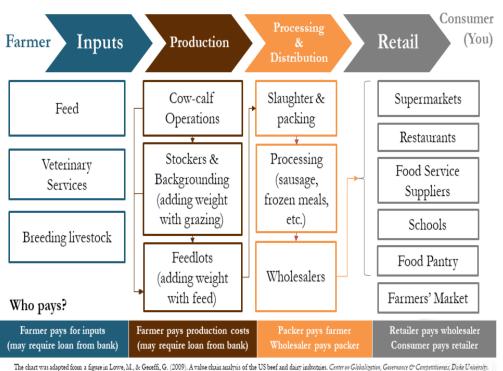
- Federal Reserve Bank of Kansas City (March 27th) shows services have fallen by the most ever recorded:
 - "We will need real information and guidance on how long this will last. One month is one thing until August... well that is a death sentence for us."

https://www.kansascityfed.org/research/indicatorsdata/services/articles/

2020/tenth-district-services-activity-decreased-significantly



Meatpacking has been identified as a weak link in food supply chain



- Covid-19 outbreaks in meatpacking plants put the meat supply chain at risk.
- Reduced demand for dairy products at schools means that farmers are dumping milk.

Source: Federal Reserve Bank of Kansas City:

https://www.kansascityfed.org/en/publications/ten/articles/2020/food%20supply%20chains



Economic Research on COVID-19

- Friedson et al (2020) estimated that California's shelter in place policy prevented 144,793 – 232,828 COVID-19 cases and saved 1,836 – 4,969 lives
 - Source: https://www.nber.org/papers/w26992
- Harris (2020) finds that subway ridership in New York City contributed to its high infection rate.
 - Source: https://www.nber.org/papers/w27021
- Manski and Molinari (2020) bounded infection rates and found that infections were likely much higher than reported, but fatality rates were lower.
 - Source: https://www.nber.org/papers/w27032

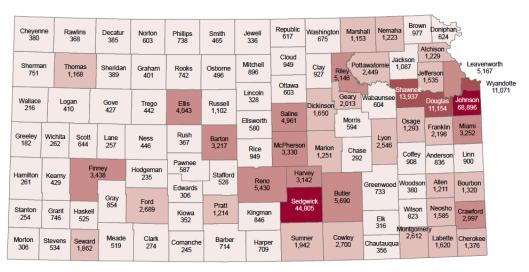


Small Businesses are Vulnerable



Kansas has a Large Number of Small Businesses

Small Businesses in Kansas, by County, 2016-17



Source: Institute for Policy & Social Research, The University of Kansas; data from U.S. Census Bureau, 2016 County Business Patterns and 2017 Nonemployer Statistics.

Small business defined as those establishments with less than 500 employees, including nonemployers



182 - 1,102 1,103 - 2,700 2,701 - 5,690 5,691 - 13,937

13.938 - 68.896

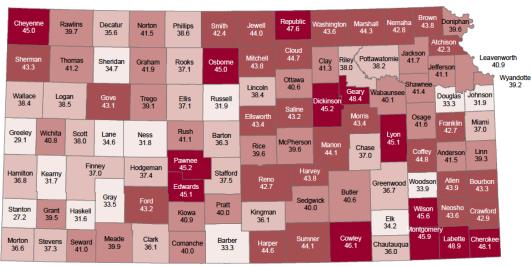
- Estimated Using County Business Patterns Data 2016/17
- Top 5 Counties with small businesses:
 - Johnson 68,896
 - Sedgwick 44,805
 - Shawnee 13,937
 - Douglas 11,154
 - Wyandotte 11,071





Small Businesses in Vulnerable Industries

Small Businesses Vulnerable to COVID-19 as a Percent of Total Businesses in Kansas, by County, 2016-17



 Estimated Using County Business Patterns Data 2016/17

 In some counties, over 40% of businesses in the county are in vulnerable industries.

Source: Institute for Policy & Social Research, The University of Kansas; data from U.S. Census Bureau, 2016 County Business Patterns and 2017 Nonemployer Statistics.

Small business defined as those establishments with less than 500 employees, including nonemployers.

Impacted industries include health care & social assistance, manufacturing, accommodation & food services, retail trade, and other services.

Percent of Total
Businesses

27.2 - 34.7

34.8 - 38.6

38.7 - 41.9

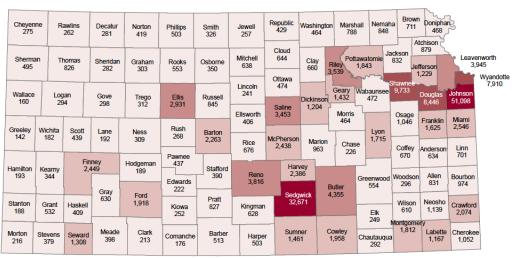
42.0 - 44.8

44.9 - 48.9



Kansas has a Large Share of Self-Employed

Nonemployer Establishments in Kansas, by County, 2017



Source: Institute for Policy & Social Research, The University of Kansas; data from U.S. Census Bureau, 2017 Nonemployer Statistics.

A nonemployer business is one that has no paid employees, has annual business receipts of \$1,000 or more (\$1 or more in the construction industries), and is subject to federal income taxes. Most nonemployers are self-employed individuals operating very small unincorporated businesses, which may or may not be the owner's principal source of income.

Establishments

142 - 1,139 1,140 - 2,546 2,547 - 4,355

4,356 - 9,733

9,734 - 51,098

- Estimated Using County Business Patterns Data 2016/17
 - Nonemployer establishments measure self-employed
- Self-employed are the most vulnerable to this economic downturn:
 - Unemployment system not designed to help
 - Access to credit may be more difficult.



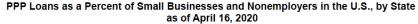


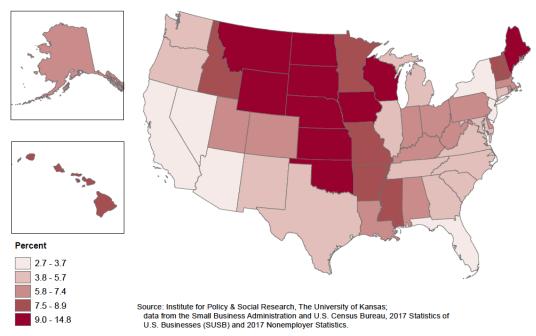
Coronavirus Aid, Relief and Economic Security (CARES) Act

- Paycheck Protection Program lends money to small businesses via banks.
 - Loan forgiveness if the small business keeps workers on the payroll
 - Many problems reported with getting access to money
 - Not enough money to meet the need
 - Congress at loggerheads trying to add funds



Paycheck Protection Program Benefited Kansas





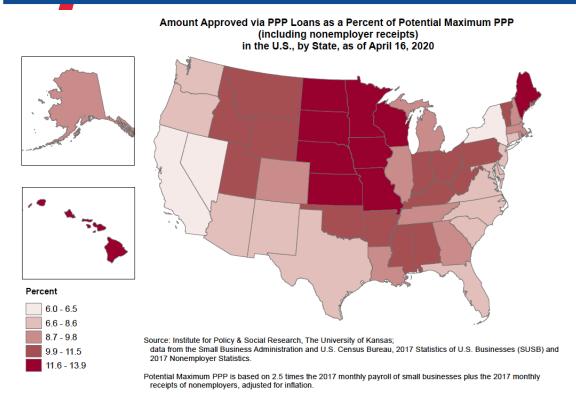
Source: IPSR calculations using 2017 Statistics of US Businesses

- Total of \$4.3 Billion in loans in Kansas
 - 26,245 Loans made
 - Average loan size \$163,408
- The need is great:
 - 55,682 Small Businesses
 - 201,268 Nonemployer Establishments.
- Only 10.2% of Kansas firms were funded.
 - In the US a total of 5.2% of firms were funded.





Paycheck Protection Program Benefited Kansas



- As a share of total payroll / receipts, the PPP program in Kansas covered 61% of total PPP expected payments.
- In the US the PPP program covered 40% of expected payments.
 - Kansas has relatively more banks per population and more banks engaged in small business lending.

Source: IPSR calculations using 2017 Statistics of US Businesses





Paycheck Protection Program Funding is Spent

usbank

View as web page

This morning, the Small Business Administration announced that it has exhausted the funds provided under the CARES Act and is seeking additional funding from Congress.

Even with thousands of employees working around the clock, we were not able to satisfy the overwhelming demand from our customers. We remain optimistic that Congress will authorize additional funding. However, we will not be accepting new applications for the Paycheck Protection Program at this time.

Our goal is to reopen the application if and when Congress approves additional funds. You will be notified via email of any updates.

For the most up-to-date information, visit <u>usbank.com/ppp</u>.

Thank you for choosing U.S. Bank.







Get the app

- There was overwhelming demand for the program.
- Banks that had strong relationships with the Small Business Administration were more successful in providing funds
- Pre-existing relationships with the banks were important

Source: Email to non-employer establishment





Despite Billions Being Provided to Kansans—Need is Great



This thought goes through my head at least once a day, usually more. Sometimes it's over something as little as a spilled cup of egg wash. Today, it was over something bigger. Today, I learned the Payroll Protection money, money I thought was supposed to help small businesses but seems to have gone to several multi billion dollar companies and fiscally irresponsible corporations, is gone. My application did not get reviewed in time. I will not be receiving the money I had been counting on to help get my business through the next month, so now I need to figure out what to do next. Maybe give myself another hour or two to panic and cry, and then start thinking of solutions. I don't know what else to do. I really don't. I can't close. It's not right, not for my employees, not for my customers, not for the people who rely on us for food. I can't close, so I'll have to find another way. I hope there's another way. #greatharvestlfk #bakery #lawrenceks #riselawrence #topcity #topeka #helpingothers #supportsmallbusiness #shoplocal

- Newer, smaller businesses were likely shut out of the process.
- The self-employed were also more disadvantaged.

Source: Facebook Post

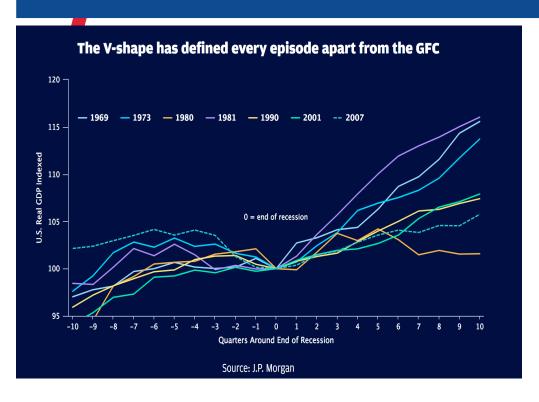




The U-Shaped Recovery



Past Recoveries from Recessions



Source: JP Morgan https://www.jpmorgan.com/global/research/ 2020-covid19-recession-recovery

- This event study shows the index of GDP 10 quarters before and after the end of a recession.
 - V-shaped recessions prior to 1990s
 - U-shaped or jobless recovery recessions since 1990





The Argument for U

- The U-Shaped Recovery is increasingly likely.
- Even if we threw open the doors of the economy tomorrow, it's not clear that people would want to venture out given all of the uncertainty.

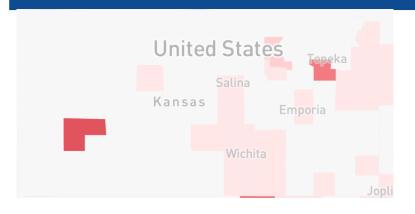


It All Comes Down to Testing

- We need reliable and widespread testing
 - For COVID-19
 - For COVID-19 Antibodies
- It's not clear when widespread testing will become available.
- Without testing we're in economic purgatory.
 - Given the new outbreaks in Western Kansas, we may have more problems on the horizon.



Alternative Approaches to Testing



As of April 12 Population with Symptoms:

- 1.62% Shawnee County
- 1.14% Sedgwick County
- 1.97% Finney County
- 0.85% Lyon County
- 1.24% Riley County
- 0.65% Johnson County
- 0.07% Douglas County

Source: https://covid-survey.dataforgood.fb.com/

University are surveying people.

• We have downloaded their data

 We have downloaded their data and will be working with it to determine whether these kinds of surveys can be used to get a better estimate of cases.

Facebook & Carnegie Mellon





Economic Impacts of COVID-19

- In future lectures we will continue to monitor the economic fallout from the COVID-19 epidemic.
- We will also monitor the policy responses.
- I hope that you all stay healthy!





Thank You!



