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May 4, 2020



The University of Kansas



Caveats

- These slides were completed on May 4, 2020
- Things will have changed by the time you see this presentation.
- This presentation is based on my readings and data from sources noted throughout.



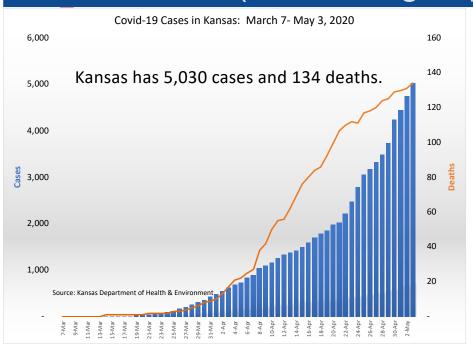


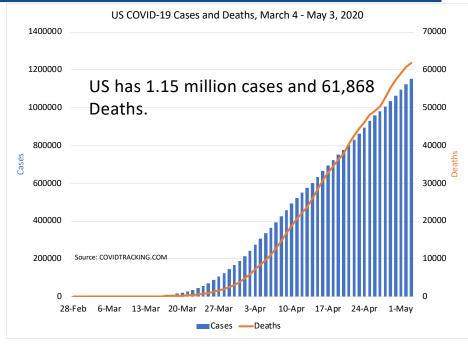
Overview

- 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?
 - State budget problems
- What happens next?
 - Now that states have started reopening, what does the future hold?



The US and Kansas have a Pandemic (data through April 26, 2020 4:00 PM)





In Kansas cases grew by 58% in the past week and deaths were 14% higher. Cases and deaths have have slowed from the previous week. In the US cases grew by 20% and deaths were 26% higher in the past week.

Both rates were slower than the previously.

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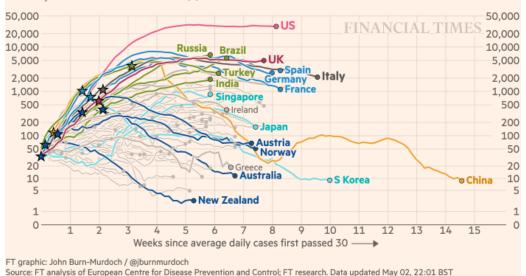
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COVID-19 Cases by Country

Several countries have turned the corner, with numbers of new cases now in decline

Daily confirmed cases (7-day rolling avg.), by number of weeks since 30 daily cases first recorded Stars represent national lockdowns *

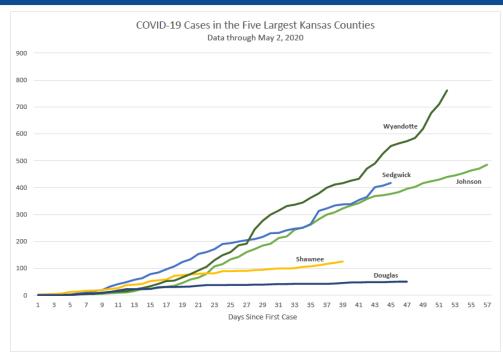


- Financial Times shows that US has flattened the curve.
- Source: https://www.ft.com/coronavirus-latest



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 has accelerated cases.



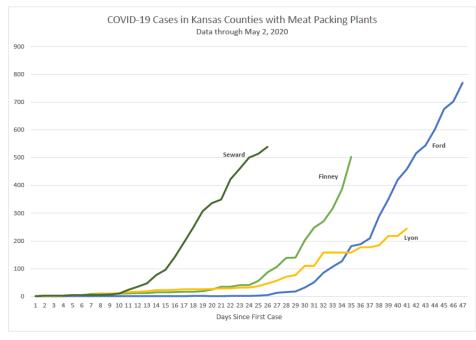
Source: Institute for Policy & Social Research, The University of Kansas; data from The New York Times.





Counties with Meatpacking have an uncontrolled Pandemic

- In counties with meatpacking plants cases have spiked.
 - Ford county cases are 2 times higher this week.
 - Seward county cases are 1.7 times higher.
 - Finney County is 3.3 times higher this week.

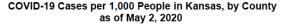


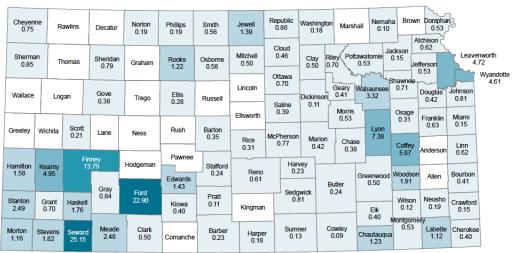
Source: Institute for Policy & Social Research, The University of Kansas; data from The New York Times.



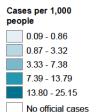


Case Rates by County





Source: Institute for Policy & Social Research, The University of Kansas; data from The New York Times and U.S. Census Bureau



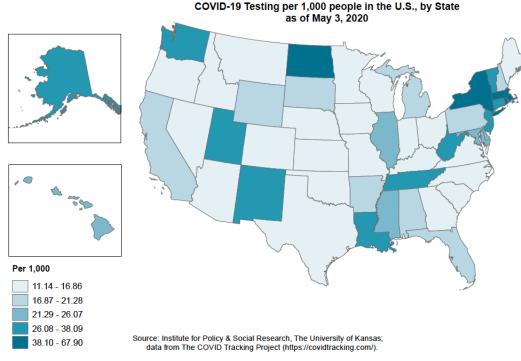
Source: New York Times & US Census Bureau

- Darker colors indicate that these counties are have higher case rates:
 - Ford, Seward, and Finney counties have case rates that are > 13 per 1,000
 - Sedgwick & Johnson Counties
 1 per 1,000
 - Leavenworth & Wyandotte Counties have case rates ~ 5 per 1,000



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 12.6 tests per 1,000 people
 - The US average is 22.9 tests per 1,000.

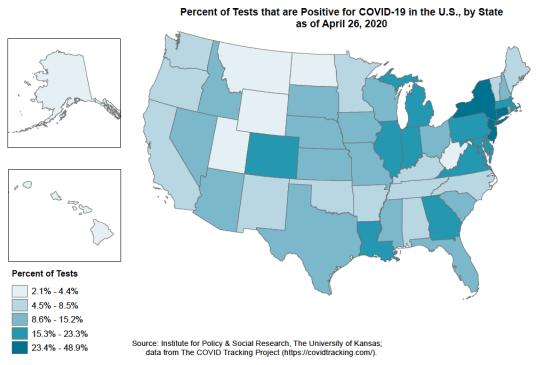






Testing Results are also Uneven

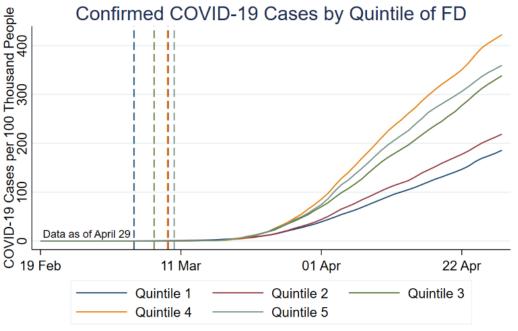
- Calculated the share of positive tests.
 - 13.7% of Kansas tests are positive.
 - 12.4% of US tests are positive
 - This is being driven by the meatpacking outbreak.







Covid-19 and Financial Distress



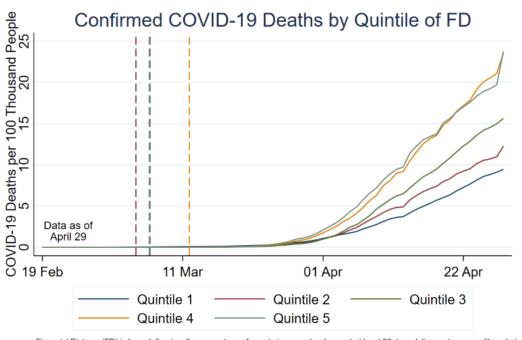
Financial Distress (FD) is here defined as the percentage of people in a county who went at least 30 days delinquent on a credit card at some point in 2018. The dotted lines correspond to the 'liftoff' point for each quintile, which is defined as when the number of cases reaches one in one million. Sources: Federal Reserve Bank of New York/Equifax(CCP), Census 2019 Population Estimates, USAFACTS.org, and author's calculations

Source: https://research.stlouisfed.org/resources/covid-19/ preliminary/covid-19-households-financial-distress-part-2

- St. Louis Fed Covid-19 and Financial Distress
- Financial distress
 measured by credit card
 delinquency in 2018.
- Those at the highest levels of financial distress (Quintiles 4 and 5) are more likely to get sick.



Covid-19 and Financial Distress



 Those at the highest levels of financial distress (Quintiles 4 and 5) are also more likely to die

Financial Distress (FD) is here defined as the percentage of people in a county who went at least 30 days delinquent on a credit card at some point in 2018. The dotted lines correspond to the "liftoff" point for each quintile, which is defined as when the number of deaths reaches one in 100 million. Sources: Federal Reserve Bank of New York/Equifax(CCP), Census 2019 Population Estimates, USAFACTS.org, and author's calculations

Source: https://research.stlouisfed.org/resources/covid-19/ preliminary/covid-19-households-financial-distress-part-2

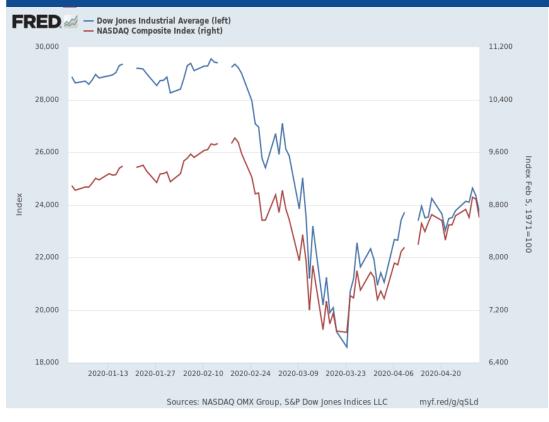


COVID-19 and the US & Kansas Economies

It's not good.



The Stock Market: January 1 – May 1, 2020



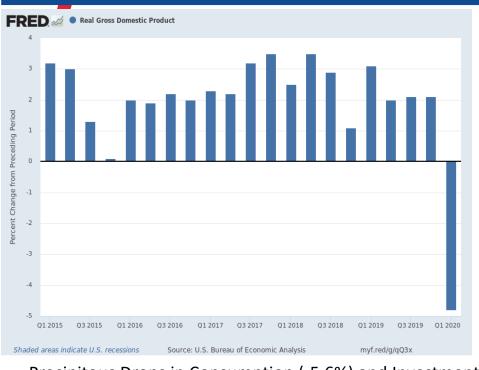
- The Dow Jones Industrial Average peaked at 29,348 on February 12th.
 - It bottomed out on March 23rd, and recovered to on May 1st. 23,723
 - Down about 19% since the peak
- Nasdaq has tracked the Dow.

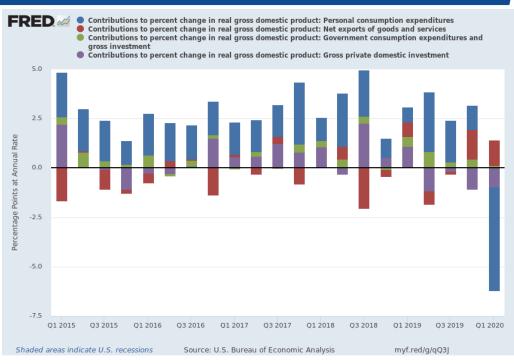
Source: FRED https://fred.stlouisfed.org/series/DJIA





GDP Fell -4.8% in Q1 2020





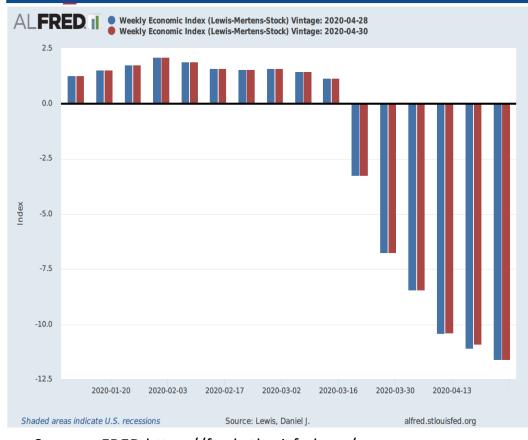
Precipitous Drops in Consumption (-5.6%) and Investment (-.96%) Were offset by increases in net exports (1.3%) and Government (.13%)

Source: FRED Federal Reserve Bank of St Louis





Weekly Economic Activity Index



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

- James Stock has developed a Weekly Economic Activity Index that is scaled to 4th Quarter 2019 GDP growth.
 - The index has dropped to -11.6%
 - This indicates that GDP for this quarter is forecast to be nearly 12% lower for Q2.





Kansas Initial Unemployment Claims by Industry as a Share of Total Employment—Data as of April 25th

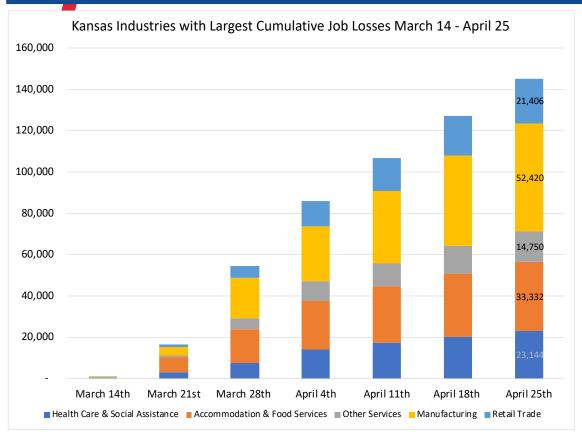
Industry Government Health care and social assistance Manufacturing Retail trade Accommodation and food services Administrative & waste management Professional, scientific & technical serv. Transportation and warehousing Construction Finance and insurance Wholesale trade Other services Educational services Information Real estate and rental and leasing Arts, entertainment, and recreation Utilities Unemployment within Industry 0.75% Unemployment within Industry 0.75% 12.46% A1.30% A1.30% A1.30% A1.40% Finance and food services 29.01% A2.90% 7.83% 7.83% 7.83% 7.83% 7.83% 7.83% 7.83% 7.83% 6.72% Ooher services 28.31% Ooher services 28.31% A1.35% Arts, entertainment, and recreation 48.03% Mining and oil and gas extraction Utilities		
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Manufacturing31.30%Retail trade14.76%Accommodation and food services29.01%Administrative & waste management14.00%Professional, scientific & technical serv.7.83%Transportation and warehousing9.42%Construction13.14%Finance and insurance2.69%Wholesale trade6.72%Other services28.31%Management of companies0.80%Educational services24.79%Information11.35%Real estate and rental and leasing18.35%Arts, entertainment, and recreation48.03%Mining and oil and gas extraction16.21%	Government	0.75%
Retail trade Accommodation and food services Administrative & waste management Professional, scientific & technical serv. Transportation and warehousing Construction Finance and insurance Wholesale trade Other services Management of companies Educational services Information Real estate and rental and leasing Mining and oil and gas extraction 14.00% 7.83% 7.83% 7.83% 6.72% Construction 13.14% Finance and insurance 2.69% Wholesale trade 6.72% 0.80% Educational services 11.35% Real estate and rental and leasing Arts, entertainment, and recreation 48.03% Mining and oil and gas extraction 16.21%	Health care and social assistance	12.46%
Accommodation and food services Administrative & waste management Professional, scientific & technical serv. Transportation and warehousing Construction 13.14% Finance and insurance Wholesale trade Other services Management of companies Educational services Information Real estate and rental and leasing Mining and oil and gas extraction 29.01% 14.00% 7.83% 7.83% 7.83% 7.83% 0.42% 0.59% 0.42% 0.672% 0.72% 0.80% 28.31% 13.35% 11.35% 11.35% 18.35% 48.03% Mining and oil and gas extraction 16.21%	Manufacturing	31.30%
Administrative & waste management Professional, scientific & technical serv. 7.83% Transportation and warehousing 9.42% Construction 13.14% Finance and insurance 2.69% Wholesale trade 6.72% Other services 28.31% Management of companies Educational services 11.35% Real estate and rental and leasing Arts, entertainment, and recreation Mining and oil and gas extraction 14.00% 13.14% 2.69% 13.14% 2.69% 13.14% 2.69% 13.14% 2.69% 13.14% 2.69% 2.69% 4.72% 4.72% 4.73%	Retail trade	14.76%
Professional, scientific & technical serv. Transportation and warehousing Construction Finance and insurance Wholesale trade Other services Management of companies Educational services Information Real estate and rental and leasing Arts, entertainment, and recreation Mining and oil and gas extraction 7.83% 7.83% 7.83% 7.83% 7.83% 7.83% 7.83% 8.42% Construction 43.14% 2.69% 2.69% 0.72% 0.80% 24.79% 11.35% Real estate and rental and leasing 18.35% Arts, entertainment, and recreation 48.03% Mining and oil and gas extraction 16.21%	Accommodation and food services	29.01%
Transportation and warehousing Construction Finance and insurance 2.69% Wholesale trade Other services Management of companies Educational services Information Real estate and rental and leasing Arts, entertainment, and recreation Mining and oil and gas extraction 13.14% 6.72% 6.72% 0.80% 24.79% 11.35% Real estate and rental and leasing 48.03% Mining and oil and gas extraction 16.21%	Administrative & waste management	14.00%
Construction 13.14% Finance and insurance 2.69% Wholesale trade 6.72% Other services 28.31% Management of companies 0.80% Educational services 24.79% Information 11.35% Real estate and rental and leasing 18.35% Arts, entertainment, and recreation 48.03% Mining and oil and gas extraction 16.21%	Professional, scientific & technical serv.	7.83%
Finance and insurance 2.69% Wholesale trade 6.72% Other services 28.31% Management of companies 0.80% Educational services 24.79% Information 11.35% Real estate and rental and leasing 18.35% Arts, entertainment, and recreation 48.03% Mining and oil and gas extraction 16.21%	Transportation and warehousing	9.42%
Wholesale trade Other services 28.31% Management of companies Educational services 24.79% Information 11.35% Real estate and rental and leasing Arts, entertainment, and recreation Mining and oil and gas extraction 6.72% 28.31% 1.80%	Construction	13.14%
Other services 28.31% Management of companies 0.80% Educational services 24.79% Information 11.35% Real estate and rental and leasing 18.35% Arts, entertainment, and recreation 48.03% Mining and oil and gas extraction 16.21%	Finance and insurance	2.69%
Management of companies Educational services Information Real estate and rental and leasing Arts, entertainment, and recreation Mining and oil and gas extraction 0.80% 24.79% 11.35% 18.35% 48.03% Mining and oil and gas extraction 16.21%	Wholesale trade	6.72%
Educational services 24.79% Information 11.35% Real estate and rental and leasing 18.35% Arts, entertainment, and recreation 48.03% Mining and oil and gas extraction 16.21%	Other services	28.31%
Information 11.35% Real estate and rental and leasing 18.35% Arts, entertainment, and recreation 48.03% Mining and oil and gas extraction 16.21%	Management of companies	0.80%
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Mining and oil and gas extraction 16.21%	Real estate and rental and leasing	18.35%
Š Š	Arts, entertainment, and recreation	48.03%
Utilities 0.77%	Mining and oil and gas extraction	16.21%
	Utilities	0.77%

- 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.





Unemployment Claims in Kansas and Missouri



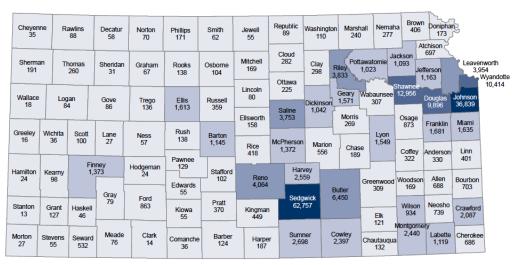
Source: Calculations using KS and MO Department of Labor Data

- Since March 14th a total of 202,596 workers have filed initial unemployment claims in Kansas.
- Based on February Labor
 Force projections the
 Unemployment Rate in Kansas
 is approximately 14%.
 - Data from March 14th April 25th



Cumulative Unemployment Claims by County

Initial Jobless Claims in Kansas, by County March 21 - April 25, 2020



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



Source: IPSR calculations using Kansas Department of Labor Data

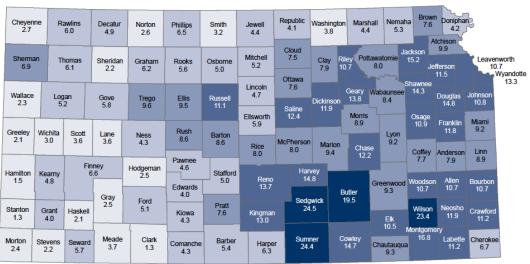
- Top 5 Counties by Cumulative Initial Claims:
 - Sedgwick 62,757
 - Johnson 36,839
 - Shawnee 12,956
 - Wyandotte 10,414
 - Douglas 9,896
 - Data calculated March 21st April 25th





Estimated Unemployment Rate by County

Projected Unemployment Rate in Kansas, by County March 21 - April 25, 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 21 - April 25 and preliminary, not seasonally adjusted, civilian labor force for February 2020.



16.9 - 24.5

Source: IPSR calculations using Kansas Department of Labor Data

- Top 5 Counties by unemployment rate:
 - Sedgwick 24.5%
 - Sumner 24.4%
 - Wilson 23.4%
 - Butler 19.5%
 - Montgomery 16.8%
- Unemployment rate for the state ~ 14%





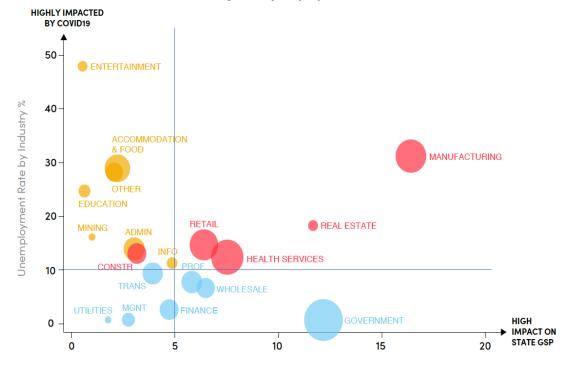
What's Happening to Economic Growth (GDP)

- 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 %

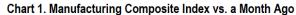
Source: Author's calculations.

- Sectors that contribute most to Kansas growth with above average unemployment:
 - Manufacturing 31% UE & 16% of GSP
 - Health Services 12% UE & 7.5% of GSP
 - Retail 15% UE & 6.4%
 GSP





Business Surveys from the Kansas City Fed



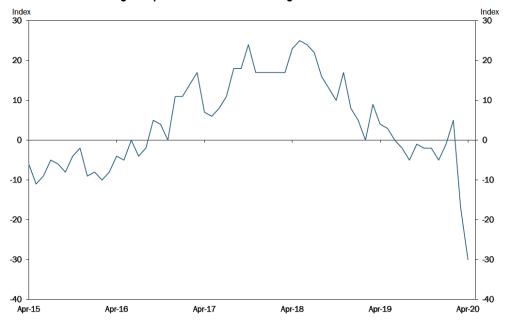
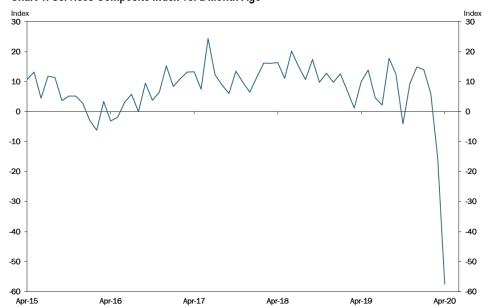


Chart 1. Services Composite Index vs. a Month Ago



Manufacturing has dropped 30% and Services have dropped almost 60%.







Business Surveys from the Kansas City Fed

Chart 2. Special Question: Has your firm taken any measures listed below to cover shortfalls in revenues experienced as a result of the COVID-19 pandemic? (check all that apply)

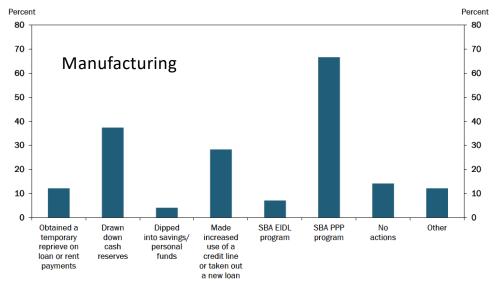
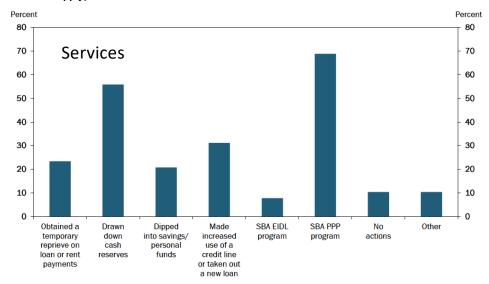


Chart 2. Special Question: Has your firm taken any measures listed below to cover shortfalls in revenues experienced as a result of the COVID-19 pandemic? (check all that apply)



Both Manufacturing & Service firms applied for PPP funding as well as Drawing down cash reserves.

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





Economic Research on COVID-19

- Granja et al (2020) examined the PPP program and found that funds flowed to areas less hard hit by the virus. Areas with less small business lending got less PPP funding.
 - Source: https://www.nber.org/papers/w27095
- Acemoglu et al (2020) developed a model to show that optimal lockdown policies (that target the vulnerable as opposed to everyone) reduces mortality more than a one-size fits all policy.
 - Source: https://www.nber.org/papers/w27102
- Dave et al (2020) analyzed state shelter in place policies and found that these policies reduced mobility and COVID-19 cases by 44%.

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Source: https://www.nber.org/papers/w27091

COVID-19 and Economic Policy

Small Business Lending Part 2

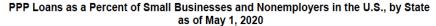


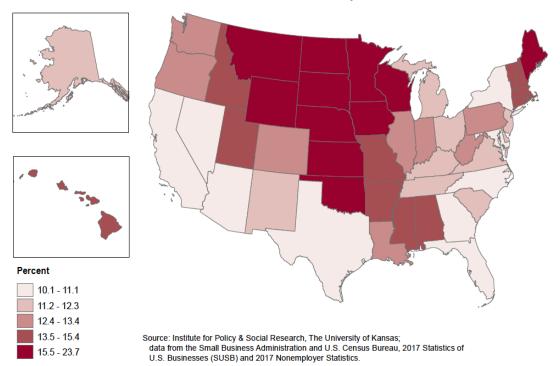
Coronavirus Aid, Relief and Economic Security (CARES) Act

- 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 added \$310 billion in addition to the \$350 billion already loaned out.



Paycheck Protection Program Benefited Kansas





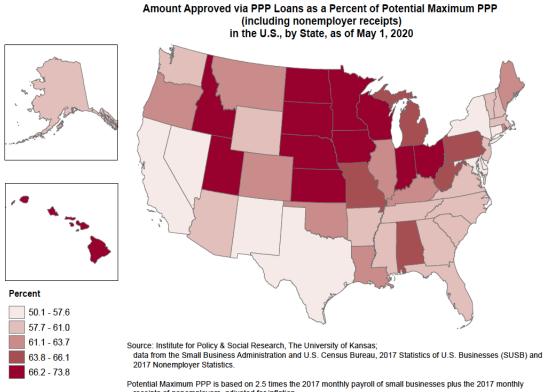
Source: IPSR calculations using 2017 Statistics of US Businesses

- Total of \$5.1 Billion in loans in Kansas
 - 44,715 Loans made
 - Kansas ranked 10th in loans per capita
- The need is great:
 - 55,682 Small Businesses
 - 201,268 Nonemployer Establishments.
- Only 17.4% of Kansas firms were funded.
 - In the US a total of 12.1% of firms were funded.





Paycheck Protection Program Benefited Kansas



- As a share of total payroll / receipts, the PPP program in Kansas covered 72% of total PPP expected payments.
- In the US the PPP program covered 60% of expected payments.

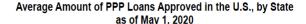
receipts of nonemployers, adjusted for inflation

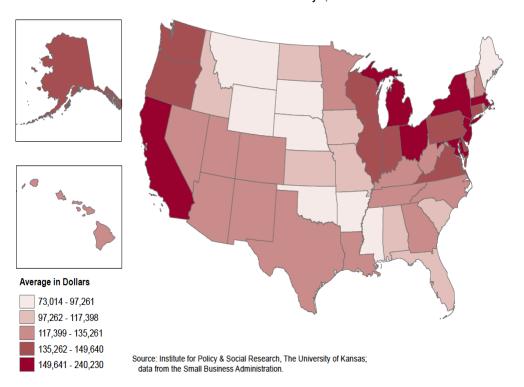
Source: IPSR calculations using 2017 Statistics of US Businesses





Paycheck Protection Program Benefited Kansas because of Community Banking





Source: IPSR calculations using 2017 Statistics of US Businesses

The Washington Post

Democracy Dies in Darkness

Coronavirus Live updates U.S. map World map FAQs Flattening the curv

How a family-owned Nebraska bank became a leader on coronavirus loans

Working from home, employees hustled to process small-business applications under the Paycheck Protection Program

- Kansas Average Loan \$114,138
- US Average Loan \$134,122
 - Kansas has relatively more banks per population and more banks engaged in small business lending.





Kansas City Organizations Surveyed Small Businesses

- The KC Chamber, KC Area Development Council, KC SourceLink and other business organizations surveyed 565 small businesses about:
 - Impact of COVID-19 on business
 - CARES Act funding
 - Layoffs and closures
- 35% had received PPP funding & 25% were waiting to hear on their applications
- 32% did not apply





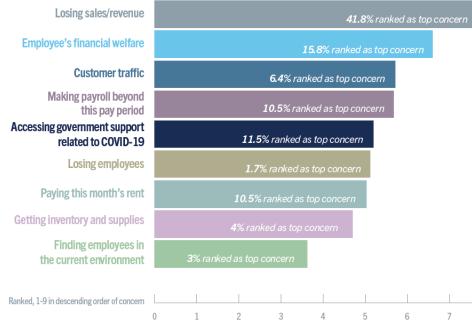
Kansas City Organizations Surveyed Small Businesses

What have you experienced since March?

Adjusted business model/pivoted 39.4% to a new business model Seen revenues decrease more than 50% 38.6% Seen revenues decrease 50% or less 36,8% 26.4% Laid off employees 23.5% Closed business temporarily 14.1% Seen revenues stay the same or increase 0.5% Closed business permanently # of Respondents 100 200

Source: http://www.thinkkc.com/investors/covid-19-response

What are your immediate concerns?







What Happens Next?

Now that states have started to reopen?



Some States Have Started to Reopen

- Many states have shelter in place orders until the end of April.
- Georgia started to reopen on April 24th.
- Texas:
 - All retail stores, restaurants, movie theaters, malls, museums, and libraries are permitted to reopen on Friday, May 1, but must limit their capacity to 25% of their listed occupancy.
- Kansas started phase 1 today.





Lifting the Stay-at-Home Order

Dr. Lee Norman:

- "What is an acceptable level of risk?" Dr. Norman asked. "We cannot get it down to zero, so how can we guarantee that people won't get sick?"
- Whatever the course of action, he said, "there will be death."

• Source: The New York Times https://www.nytimes.com/2020/04/25/us/politics/virus-testing-shortages-states-trump.html





As States Reopen, Deaths are Forecasted to Increase

The New York Times

May 4, 2020

Coronavirus Live Updates: As States Move to Reopen, 2 Projections Show Deaths Rising

 The Institute for Health Metrics and Evaluation at the University of Washington is now estimating that there will be nearly 135,000 deaths in the U.S. through the beginning of August — more than double what it forecast on April 17, when it estimated 60,308 deaths by Aug. 4.





As States Reopen, Deaths are Forecasted to Increase

The New York Times

May 4, 2020

Coronavirus Live Updates: As States Move to Reopen, 2 Projections Show Deaths Rising

 The institute wrote that the revisions "reflect rising mobility in most U.S. states as well as the easing of social distancing measures expected in 31 states by May 11, indicating that growing contacts among people will promote transmission of the coronavirus."





As States Reopen, Deaths are Forecasted to Increase

The New York Times

May 4, 2020

Coronavirus Live Updates: As States Move to Reopen, 2 Projections Show Deaths Rising

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• The situation has devolved most significantly in parts of rural America that were largely spared in the early stages of the pandemic. As food processing facilities and prisons have emerged as some of the country's largest case clusters, the counties that include Logansport, Ind., South Sioux City, Neb., and Marion, Ohio, have surpassed New York City in cases per capita.

What Happens Next?

- When will consumers return to businesses like restaurants and travel?
- When will it be safe to reopen manufacturing facilities?
- When will schools and universities reopen for in-person classes?
- These new projections do not bode well for the future.





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!



