



Economic Implications of COVID19 and Possible Responses

THE ISSUE

Why this White Paper?

As an engaged Land Grant University Agricultural Economics Department, we are committed to promoting the state's economic development and the Mississippi's food system. COVID19 has had a dramatic impact on the world and local economies. As a team of Food, Agricultural and Economic Development economists, we offer this white paper suggesting actions that can help our state and nation address critical issues brought on by COVID19

Supply Chain Issues

First, we have observed significant disruption in the food supply chain. This includes shocks in consumer demand and disruption in the supply chain. The perverse outcome has been higher prices for consumers and lower prices for farmers. The ramifications have differed across food chains and subgroups of consumers. Our team of economists specializes in various segments of our food chain: farm production, intermediate agribusiness firms such as processors, and ultimately consumer behavior.

Helping Our Economy Recover

The COVID19 pandemic has profoundly disrupted our economy. This has particularly hit low-income families and small businesses. How do already fragile rural communities and households survive and recover? How do we accelerate a recovery? Our team suggests several research and outreach efforts that can help rural America mitigate losses.



EXTENSION



MS AGRICULTURAL AND
FORESTRY EXPERIMENT STATION

Supply Chain Issues

ASSESSING EFFICIENCY-RESILINCY TRADEOFFS IN OUR MEAT SUPPLY CHAIN



Kalyn Coatney

- *Dr. Coatney has over 25 years of beef industry experience working for companies such as ConAgra Beef, as well as in regulation for USDA, GIPSA. Dr. Coatney has worked closely with engineers retrofitting production facilities. His research expertise includes Industrial Organization and Applied Game Theory, often applied to beef industry issues.*
- **The problem and possible solutions**

The impacts of COVID-19 on the meat supply chain have been felt the greatest at the processing level, the lynchpin of meat production. The primary goal of our research is to identify the economic and input logistical issues due to disruptions in labor availability and efficiency. Driven by economies of size, the loss of any one or more large plants has major impacts on meat supply. As such, the secondary goal is to weigh the tradeoffs between economic efficiency and improved supply resiliency by moving toward smaller and more geographically dispersed plants.

Our research has four key objectives. The first is to develop a sufficiently detailed and representative national meat processing model for beef, pork, and chicken. Two key features of the model include input supply logistics of existing plants, as well as contagion modeling across existing plant size and location. The second objective is to estimate the impact on plant production costs due to labor force fluctuations under various illness scenarios. The third objective is to estimate the impacts on slaughter-ready animals and output meat dynamics. The final objective is to estimate the tradeoffs between economic efficiency and production resiliency from restructuring to diversify against the risk of plant closures.

Providing timely, updateable and independent estimates for each meat sector, as well as the impacts on aggregate supplies will aid the industry in making more informed supply chain coordination decisions, as well as government agencies in evaluating the need for and extent of involvement to maintain a continual supply of meat products. By doing so, results in improved consumer confidence of supply, thus mitigating demand shocks from food hoarding. Additionally, sellers of slaughter-ready animals will be better able to coordinate production to mitigate the need for euthanasia.

IMPACTS ON COMMERCIAL AGRICULTURE



Josh Maples and Will Maples.

- *Dr. Josh Maples and Dr. Will Maples have expertise in commercial agriculture marketing and management. J. Maples serves as the Extension Livestock Economist for the Department of Agricultural Economics and W. Maples serves as the Extension Row Crop Economist. Their work focuses on risk management and policy for commodity producers.*
- **The problem and possible solutions**

Already struggling with low commodity prices, livestock and row crop producers are now confronted with lower prices due to COVID-19 and an uncertain recovery in the years ahead. Current farm programs as designed in the 2018 farm bill did not anticipate demand and trade shock of this magnitude and nearly all producers have been exposed to sharp declines in expected revenues. Many commodities, especially livestock, are overly exposed to the dramatic price declines.

After several years of challenging weather and markets, COVID-19 is likely to lead to a farm financial crisis in 2021. Crop insurance guarantees are likely to fall and producers will consider switching commodity programs. Low futures prices will limit opportunities to manage crop and livestock price risk above breakeven levels.

Producers of southern crops and livestock need guidance on how to manage risk in the wake of COVID-19. Lenders, farmers, and policymakers have already expressed a need for this work. Policymakers need a holistic analysis of alternative policy options to address the looming financial crisis and alternative risk management programs for livestock producers need to be evaluated.

Our goal is to build a next-generation integrated risk management model for crop and livestock producers. The model would include hedging strategies, crop insurance, Title I programs, and forward pricing. These models would serve as a decision aide for Extension applications to evaluate risk management decisions. Additionally, the simulations will be used to evaluate alternative policies to better serve the unique needs of crop and livestock producers in the Southeast.

IMPACTS OF COVID19 ON ADULT AND CHILD FOOD SECURITY



Will Davis

- *I am a health economist with expertise in statistical data analysis, nutrition assistance programs, domestic food security, and policy evaluation. My research focuses on the relationship between food security, food policy, and health. In the past, I have done research with the USDA on food security measurement.*

- **The problem and possible solutions**

Due to the global COVID-19 pandemic, households are currently facing an unprecedented landscape of uncertainty surrounding their food security. This decrease in food security may be driven by the loss of jobs, failures in the food supply, requirements for social distancing, and decreased access to key nutrition assistance programs like school meals and food banks. Food insecure communities also cope with a higher burden of many infectious and chronic diseases coupled with reduced healthcare access. These households were vulnerable to food insecurity and poor health before the pandemic, and they currently risk direct and indirect exposure to COVID-19 and its associated economic and social effects. With the proper resources, my colleagues and I can examine the effects of COVID-19 on outcomes like adult and child food security, health, and other measures of wellbeing. To accomplish this, we would first conduct a nationally representative survey of households to collect data on food security, consumption habits, reliance on aid, and health. Second, we would exploit variation in local-level COVID-19 policies and social distancing severity to estimate the degree to which the pandemic affects our outcomes of interest. The results of this study would provide evidence regarding the social and nutritional impacts of the pandemic on already problematic disparities in health, wealth, and prosperity among the nation's most disadvantaged populations. Our study would also inform future policy with information on the causes of food insecurity during crises and the role preventative and emergency response measures play in buffering detrimental outcomes among vulnerable groups.

UNDERSTANDING THE CHANGES IN CONSUMER BEHAVIOR



Alba Collart

- *Dr. Collart is an economist with experience in food marketing, consumer behavior, and policy issues primarily related to the horticultural industry. Her Extension work has analyzed topics such as consumer response to local brand advertising, the influence of consumer health concerns on direct-from-producer purchases, food waste, the 2014 Farm Bill, and FSMA.*
- **The problem and possible solutions**

COVID-19 has disrupted consumer behavior globally. Consumers have quickly changed how, how much, and what they buy. Consumers have become more comfortable than before with buying groceries online and somewhat less comfortable with in-person trips to the grocery store. Due to nationwide lockdowns, consumption of home-cooked and take-out meals has increased, and bulk-buying and stockpiling have become more common shopping behaviors among consumers. Although spending on staples such as food is still strong, consumers nationwide are experiencing less purchasing power and maybe adjusting the items in their grocery lists accordingly. While some food items such as non-perishable canned and dried goods are having strong sales, other food items such as meat are experiencing major supply chain disruptions that will likely result in increased food prices for consumers.

It's difficult to foresee whether this changed consumer behavior will last in the long run. However, consumer spending will likely remain low for months or longer, and consumers may emerge from the pandemic more accustomed to online food shopping, bulk-buying, and even searching for certain items locally. The pandemic has tested the food supply chain's ability to adapt to sudden shocks to market conditions. This ability involves understanding the continuous changes in consumer behavior and being able to quickly adjust to how, how much, and what are consumers buying. Indeed, some food businesses around the world are successfully adapting by launching online platforms, implementing take-out and delivery services or partnering with restaurants that have them, and implementing and advertising health procedures to increase the safety of their employees, among other strategies. MSState has a role to play in helping food supply chain stakeholders in the state understand the recurrent changes in consumer behavior and devise strategies to timely adapt to this and future shocks to market conditions.

THE IMPLICATIONS FOR LOCAL FOOD SYSTEMS



Elizabeth Canales

- *Dr. Canales is an agricultural economist with research and Extension expertise in food systems, agribusiness, and production economics. Particularly, she has experience working with local and regional food businesses in the areas of the economics of production, farm profitability, value-added products and business development, food safety, and technology adoption.*
- **The problem and possible solutions**

During the COVID-19 pandemic, some local and regional producers and suppliers struggled to find markets as direct sales to restaurants and institutions plummeted. In addition, with farmer's markets closing or operating at limited capacity, many producers had to find alternative ways to market their products. Some found a channel to stay in business through e-commerce. Local and regional food systems (LRFS) played an important role in meeting some of the food demand gap as retail food shortages were experienced. Anecdotal evidence suggests that sales of local foods have soared, particularly for businesses pivoting to e-commerce.

As disruptions take place across the supply chain, some things may not go back to normal. For example, consumers that experienced online shopping for the first time may continue to do so. As some LRFS also present consumers with the convenience of online orders, it remains to be seen if LRFS will be able to gain and retain an additional share of the market.

It is important to understand the role LRFS play in the resilience of the overall food supply and how LRFS can innovate to compete in a different post-COVID-19 market environment. We proposed an integrated project with the aim to evaluate the challenges experienced by LRFS (including policy barriers), to identify the innovations and changes taking place in the LRFS due to the pandemic, and to identify educational needs to develop extension programs that improve the resilience of LRFS. Through surveys and semi-structured interviews of LRFS businesses, we hope to identify 1) adoption and use of new channels, ways to market products (e.g., mixed-produce boxes, packaged grab & go products at farmers markets and on-farm stores), and technology (e.g., e-commerce platforms) during the pandemic; 2) changes in sales; and 3) technology, infrastructure and educational needs.

Helping Our Economy Recover

UNDERSTANDING THE NEEDS OF SMALL BUSINESSES DURING COVID19



Alan Barefield

- *Barefield has worked closely with over 250 individual small businesses, as well as a breadth of communities, across the state regarding retention and expansion issues, serves as the educational director for Business Retention and Expansion International, and has been honored as a Master Business Retention and Expansion Professional by that organization.*

- **The problem and possible solutions**

The state, as well as the nation, has never faced such a widespread closure of small and medium-size retail and service businesses that have been experienced with the COVID19 virus. Many of these businesses are facing issues that could mean permanent closure and many policymakers and business service firms (i.e., financial institutions) do not realize or understand these issues.

We (MSUES faculty and collaborators) propose to engage the collaboration of local economic development organizations, chambers of commerce, etc., to survey (using an online instrument) small- and medium-sized retail and service businesses regarding the issues and challenges, as well as opportunities, that they have faced through the pandemic. We have the permission to use and modify an existing and ongoing national survey focused on COVID19 issues for business retention and expansion. We propose to utilize this survey, with additional Mississippi-focused components on businesses within the state, and then add our results to the national effort to contribute to an effective national policy.

Short-term impacts include identification of issues, challenges, and opportunities faced by small- and medium-size retail and service businesses. Medium-term impacts include developing technical assistance/policy recommendations to assist the retention and future expansion of these businesses given changing fundamental economic conditions that result from the pandemic. Long-term impacts include the businesses remaining in operation that would have otherwise closed and the businesses that expand as a result of policy/technical assistance recommendations.

FAMILY FINANCIAL MANAGEMENT DURING UNEMPLOYMENT



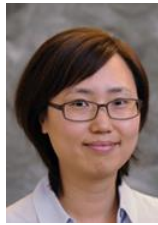
Becky Smith

- *Dr. Smith is an expert in the areas of economic and personal finance education and is a Financial Fitness Coach®. As the director of the Mississippi State University Extension Center for Economic Education and Financial Literacy, she provides leadership to educators and community leaders across Mississippi.*

- **The problem and possible solutions**

Experiencing COVID19 is revealing to many Mississippians the pain of not having an emergency fund and creating awareness and motivation to become more financially capable. Saving is essential to weathering emergencies as well as building wealth. The 2018 FINRA National Financial Capability Study found only 46 percent of Mississippians have a rainy-day fund that could cover three months of expenses. Additionally, 40.6 percent of Mississippi households used non-bank borrowing (e.g. payday loans) compared to 28.8 percent nationally. At the same time, the latest FDIC Survey of Unbanked and Underbanked Households reports only 44.9 percent of Mississippi households have a savings account and 15.8 have neither a checking nor a savings account while. These figures compare with a national percentage of 71.4 of households with savings accounts and 6.5 percent of households with neither type of account.

Given the new motivation to become financially capable, now is the ideal time to help people understand their relationship with money, effective behavioral strategies for saving, and the knowledge of where to save safely.



Ayoung Kim

- *As a regional economist and applied econometrician, Kim's specialties are in population-migration, spatial industry analysis, and regional economic development. Related to the natural disaster, she is working on loss-aversion migration and economic impact of natural disasters as well as resilient biomass energy systems for rural communities, which is a funded USDA project.*
- **The problem and possible solutions**

The COVID-19 pandemic is an unprecedented-extreme event and has had a tremendous impact on a regional economy. It has directly affected the economic downturn due to the lockdown, and frozen economic activities will likely lead to extensive economic damages. The negative effect of the extreme event is disproportionate on the less-resilient regions. In those communities, the damage is substantial, recovery resources are not adequate, and building economic resilience is delayed. This cycle traps lagging areas into consistent disaster-vulnerability and poor economy. To build economic resilience to extreme events, such as natural disasters or economic recession, including COVID-19, is now essential.

The purposes of this proposal are 1) to investigate the socio-economic changes due to the extreme event and 2) to figure out critical regional attributes that expedite recovery and build economic resilience. The project compares the regional economies at pre- and post-event with short- and long-term perspectives using the data from historical events, such as Hurricane Katrina in 2005 or the subprime mortgage crisis in 2007. Analyses focus on the components of regional economic resilience, i.e., the nexus of population-labor market-industry and business, and the results of the analyses will be finally utilized to simulate the regional economy under the extreme event reflecting the characteristics of the COVID-19.

The proposed project enables us 1) to predict the potential socio-economic problems arising after the extreme event, for instance, closing businesses, increasing unemployment rate, out-migrating of the working-age population, worsening the financial condition of local government, etc., 2) to learn why some regions effectively recovered from the disaster, and others did not, and 3) to draw possible implications that help policymakers and community economic developers to build a strategy of regional economic resilience to the extreme event.



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- **The problem and possible solutions**

We propose to analyze monthly and annual reports from the Mississippi Department of Revenue to estimate the level of sales subject to sales tax diversions that were lost for the municipalities of the state due to pandemic-related issues. We also propose to estimate the pandemic-related reductions in economic spillover effects (including the number of jobs, employees compensation, value-added, total output, etc.) that occur. These estimates will enable municipal, county, and state leaders to formulate informed budgets and make educated decisions regarding public services. We also propose to estimate reduced economic spillover effects that result from businesses being forced to either close or substantially reduce operations due to the COVID19 pandemic.

Short-term impacts include estimating the above economic variables and providing comparative reports to municipal leaders. Medium- and long-term impacts include the actions on the part of those leaders to develop adequate public revenue usage strategies for the benefit of their residents.

SPEEDING SMALL BUSINESSES INTO AN ONLINE WORLD



James Barnes

- [Dr. Barnes](#) is a StoryBrand Certified Marketing Guide who has more than 15 years of online marketing experience as a part of his Extension program. He has helped hundreds of companies. His forthcoming book is called “Five Social Media Mistakes Your Business Should Avoid.” He hosts a podcast called “[Building A Vibrant Community](#).”

- **The problem and possible solutions**

Rural businesses have struggled to sell online for many years. COVID-19 has made this struggle all the more important to overcome to help rural economies survive and thrive. When rural businesses struggle, rural economies stall. With a recession looming, rural businesses and economies need a new strategy to sell more online.

Rural businesses need to use a sales funnel to grow their sales so they can survive and thrive. A sales funnel is an online asset that includes a clear marketing message, website, lead-generating PDF or video, email campaign, social media plan, and other advertisements (e.g. Google) to sell online. In the [Bricks-To-Clicks Marketing](#) Program at Mississippi State, Dr. Barnes helps create and execute sales funnels so rural business owners do not have to worry about losing sales in a recession. With the right sales funnel, any rural business can grow its sales which also grows the local, rural economy.

Dr. Barnes uses the Storybrand marketing framework to create sales funnels. Example companies that have implemented the Storybrand sales funnel include [Umble Coffee Co.](#), [HogEye Trap Cameras](#), and [Amory Realty](#).

With additional grant resources, more companies can implement a sales funnel to sell more online to help rural economies survive and thrive during and after COVID-19.

“Our sales have increased by 54% during our historically slowest time of the year. His approach works” – Jack Robertson, HogEye Trap Cameras

“James helped clarify my message and our growth is now astronomical!” – Dr. Kenneth Thomas, Umble Coffee.