Economic Pulse

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COVID-19: Altering Policy Tradeoffs

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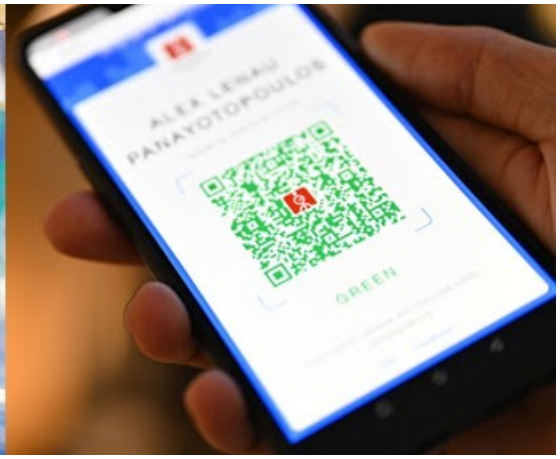
2020 • ISSUE NO.7



TAKEAWAYS: This article is the third in a series concerning the COVID-19 pandemic. The focus is policy that may potentially alter the usual tradeoffs between actions to combat the coronavirus outbreak and damage to the economy. Those policy strategies and lessons around the world are not conventional monetary and fiscal policies aimed to stabilize the economy, but some of them can be adopted by policymakers to reopen businesses without substantially raising the public health risk.

The COVID-19 pandemic has led to global socioeconomic disruption as extraordinarily intrusive policy actions have been taken to suppress the virus outbreak. Policymakers across the nation, including Texas Governor Abbott, are preparing steps to reopen the economy after a month-long shutdown.

Yet lifting the executive orders that have been shown to be effective for slowing down the virus outbreak or even "flattening the curve" risks a so-called second wave in virus transmission. So, policy debate today is no longer when we should begin rebuilding our community but rather how to transition to a new normal. In other words, how to reopen the economy in a smart way?

Against this background, this article explores lessons that might help guide the community moving forward. We first look at ways to make the usual tradeoffs from policy interventions less steep other than economic relief aid, such as the historic $2 trillion package enacted under the CARES Act. We also consider the possibility of shifting the entire tradeoff relationship by reducing both the virus infection rate and socioeconomic costs resulting from policies related to COVID-19.

Lessons from Around the World

The COVID-19 pandemic is unprecedented globally, but varying policy interventions across countries might have been responsible for varying outcomes. Some countries, like the United States and the United Kingdom, continue to build up new cases, while others, like China and its neighboring countries in Asia, seem to have managed to "bend the curve." Despite a short history to date, varying approaches to combat the pandemic have resulted in a wealth of lessons. After all, this global crisis emerged due in part to ignorance of past lessons, particularly the outbreak of the first coronavirus in this century, namely Severe Acute Respiratory Syndrome (SARS) that originated in China nearly two decades ago.

Policy Tradeoffs

Today, most economic research on the COVID-19 pandemic focuses on the tradeoff between policy measures to slow the spread of the disease and their impacts on the economy. In the United States, government officials have mandated people to abstain from normal social and business activities that epidemiologists and public health experts alike believe to be the only way to slow the virus spread.

Now more than one month since the first death caused by the coronavirus disease, disruptions to the economy across the nation have led to an outlook more devastating than the Great Depression of the 1930s. In other words, the economic tradeoff of the current policy measures has proven to be extremely steep, especially from the perspective of the swift execution of monetary policy measures and massive federal relief programs aimed to restore the economy on the brink of a free fall.

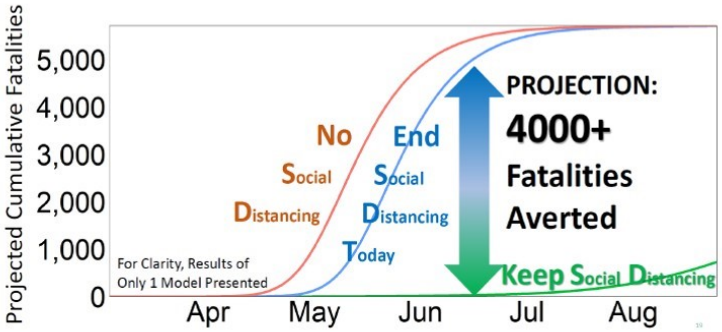
Despite varying approaches to combat the epidemic, most governments around the world resorted to command-and-control instead of market-based policies. This is because of a so-called negative externality that infected people would pose on others. People who have contracted a virus have little incentive to stay at home, potentially spreading the virus to others in close contact. For this reason, state and local officials closed businesses and public areas instead of, say, levying a tax under the market-based approach.

Bending the Curve Further

Even though how to contain an epidemic is beyond the field of economics, a researcher at the Federal Reserve Bank of New York, Kyle Herkenhoff, and his coauthors at Duke University and the University of Chicago have offered a novel conceptual strategy (no pun intended) that could reduce **both** the number of deaths associated with coronavirus infection and the economic impact of the pandemic.

According to the three economists, more intensive testing coupled with targeted quarantine would allow non-infected people to continue to work, while ensuring that they are separated from infected people and possibly infected people until their infection status is verified. To

Fatalities Averted by Social Distancing



Source: Philippe Tissot and Chris Bird, Texas Coastal Bend COVID-19 Pandemic Report, TAMU-CC, April 10, 2020.

slow the peak infection rate, untested and known-infected individuals stay separated.

Compared to common social-distancing policy of universal separation and confinement, this targeted quarantine strategy allows the government to implement significant testing and to produce more output. This happens when fewer deaths occur in a community under a more distant and lower peak infection rate, then the testing would also result in fewer deaths.

Put simply, the proposed policy alters the typical tradeoff between policy interventions to minimize public health risk and the resulting economic losses. Because isolation is widely perceived as socially undesirable, allowing more interaction among people known to be healthy also improves social and mental well-being.

To test this concept, they compare simulation, or what-if, results from two models that incorporate different policy measures related to a pandemic. A policy of quarantine for the entire population, which resembles the federal social distancing guidelines issued in March, leads to a projection of fewer caseloads and cumulative deaths compared to the outcomes of no policy action, yet the economy will come to a standstill.

Alternatively, their proposed policy of intensive testing and conditional quarantine alters the tradeoff between deaths and output. Fewer people need to be quarantined; those known to be uninfected are allowed to return to the workplace. As a result, output is higher during the pandemic and the economy recovers more quickly.

Compared to common quarantine for all residents, their recommended policy reduces the number of deaths related to the pandemic while raising output and employment. In other words, intensive testing coupled with targeted quarantine could dampen the pandemic's economic impact and reduce fatalities.

To illustrate the potential benefit of this policy concept to the local community, let's first look at the projections from a presentation by researchers at Texas A&M University-Corpus Christi. The graph illustrates that the social distancing policy implemented by the local authorities is effective in reducing the number of deaths from COVID-19 during the pandemic.

In the New York Fed study, the projections for the effects of common quarantine for all residents on the total number of deaths are similar. By comparison, however, the researchers' recommended policy reduces the number of deaths related to the pandemic while raising output and employment. In other words, intensive testing coupled with targeted quarantine could dampen the pandemic's economic impact and reduce fatalities.

From Theory to Evidence

There is, in fact, early evidence of success in that proposed strategy. Until recently, the cities of Hong Kong and Singapore managed to keep their COVID-19 case numbers remarkably low without the extreme lockdowns imposed in China and some other countries. These city-states also rank the top in embracing economic freedom with minimal government control over businesses. Those governments fought the virus outbreak through aggressive testing, isolating infected patients, and quarantining their contacts.

For the rest of the cities, only minimally intrusive policies, including some social distancing, were in place. Instead of prohibiting dine-in services as in the U.S., restaurants are allowed to operate at 50 percent capacity and customers are required to be seated at least six feet apart.

Yet this strategy seems to be unsustainable for these cities without closing their borders to foreign travelers and reinforcing restrictive quarantine measures even for returning residents. New cases of infection, largely related to travelers, spiked between Hong Kong and Singapore after residents and migrant workers returned from countries with high infection rates, notably the U.K.

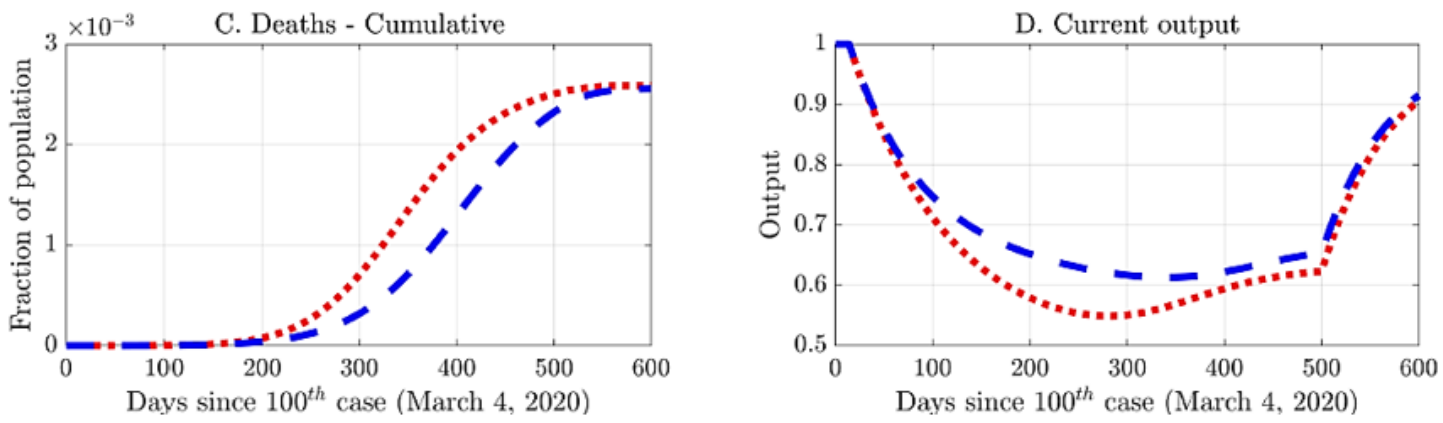
Lockdowns

Taiwan, on the contrary, has remained a model of best practice in combating the coronavirus outbreak. This self-governing island, which is not part of the World Health Organization, began screening all passengers from Wuhan, China, starting on December 31, 2019, the same day its government learned of the then-unknown virus in China. On March 19,

Taiwan was one of the first areas to close its borders to all nonresidents. Within the island, a series of quarantine and monitoring measures have limited community transmission of the virus. With 429 confirmed cases as of today on April 28, Taiwan remains one of the areas with the lowest infection rate. Similarly, most small island nations in the Pacific, such as Vanuatu, remain free from the coronavirus. The major reason is their complete suspension of international passengers into their islands coupled with strict quarantines for returning residents.

A complete lockdown was also touted by the Chinese government as an effective way to contain COVID-19. For more than two months since January 23, the central government of China imposed a lockdown in Wu-

Common Quarantine (red dotted line) vs. Testing/Targeted Quarantine (blue dashed line)



Source: David Berger, Kyle Herkenhoff, and Simon Mongey, "An SEIR Infectious Disease Model with Testing and Conditional Quarantine," Federal Reserve Bank of New York, Staff Report 597, April 2020.

han and other cities in its province of Hubei. The WHO commended this intrusive intervention, widely known as the "Wuhan lockdown," as "unprecedented in public health history." Highway exits were closed. Only one person from each household was allowed to leave home a couple of times each week. Other Chinese cities also imposed strict travel restrictions.

Following early evidence of containing the virus spread, local governments across China have gradually reopened their city borders. Based on the result of testing residents, officials classify cities and sub-divisions by risk level. Shelter-in-place orders were lifted within communities with minimal or no new infection cases.

Have QR code? Will travel!

While officials considered Wuhan a "high-risk" area until the lockdown was lifted on April 4, areas or towns in Hubei that had no active cases had begun lifting their blockades and other mobility restrictions in mid-March. To curb the continuing spread of the coronavirus, the Chinese government has used a "health system" to control human movements within the country. Automatically generated quick response (QR) codes are generated in a phone app for individuals, including foreigners, as an indicator of their heath condition.

Even after lockdown measures were gradually lifted across China, that barcode has continued to rule people's lives. In many cities, people without a green code that signifies a "healthy" condition are not allowed to leave their residential areas or enter public places.

Freedom or Death

In the United States, such repressive measures as complete lockdowns and forced quarantines are widely considered in violation of basic human rights. Other than shutting down "non-essential" businesses and ordering residents to stay and work at home, people are mostly free to travel within the U.S. borders, except enforcing quarantine for out-of-state air travelers.

Yet disparity in infection and fatality rates is evident across the nation. More densely populated counties or cities tend to have relatively more cases of infection and deaths. COVID-19 spreads more easily when people are closer together. At this stage, any comparative data seem sketchy. Still, a comparison between New York state in the east coast and California in the west coast may highlight the effectiveness of certain policy measures. Today, the number of reported cases or fatalities per capita in New York is more than 10 folds that in California.

East-West Disparity

As the nation's most populous state, California reported the first case of community transmission on February 26 and the first death from the disease on March 4. The state's Governor, Gavin Newsom, issued the first statewide mandatory state-home restrictions. In addition, while New York City was scrambling for personal protective equipment for healthcare workers, Newsom managed to procure millions of face masks and even donate ventilators to hospitals in other states.

Public health experts suggested that simply acting more proactively and quickly, even by a matter of days in comparison with New York, was a key factor for California to avoid an explosion of coronavirus cases that occurred in New York. In Los Angeles, employees and customers of essential businesses remaining open during the stay-at-home order were required to wear face coverings.

New York City and its surrounding counties account for more than 90% of the statewide case count. Other than being the nation's most populous city with the highest population density, New York City has the highest rate of public transportation use, which could have helped spread COVID-19. Even though the state has tested people for the virus more than four times the rate of California, it lacks an adequate healthcare system, particularly within the black and Hispanic communities.

Corridor of Opportunities

Halfway between the East and West Coasts, a vertical corridor of counties has no or minimal confirmed cases. Today, Texas is one of the bottom 10 states in confirmed cases and deaths per capita. The number of 26 confirmed cases per 100,000 residents in Nueces County today is also one of the lowest among U.S. counties with a comparable population size.

According to these figures, the risk of spreading the coronavirus is significantly lower in this region in comparison to the rest of the nation. The pandemic is posing less of a challenge for Texas and the region as their curves of infection cases have displayed sustained "flattening" trends. These observations support Texas Governor Abbott's call for reopening up its economy, especially in a manner that does not undermine the risk of another widespread COVID-19 transmission.

Jobs with Interactions

In addition to policy implications from geographic disparity, social distancing to combat COVID-19 is reshaping the economic landscape. Recent surges in layoffs and unemployment were affected by one aspect of workforce, namely the extent of physical interactions for different occupations.

As pointed out in a recent article, social distancing has disproportionately affected nonessential jobs that require a high degree of face-to-face or close physical interaction with customers or other workers in the workplace. These jobs, which cannot be performed remotely, are likely to be subject to layoff or termination, or else the workers face a high risk of contagion.

Researchers at the St. Louis Fed recently looked at occupational data and rated the extent to which each job requires the worker to perform tasks in close physical proximity of others. They classified 15 out of 107 occupations as jobs with high contact intensity. Workers at the low end of contact intensity have most likely transitioned to working from home.

On the top of the contact-intensity list are barbers and hairstylists, followed by food and beverage servers, healthcare service workers, and school teachers. While the ongoing pandemic impacts all these workers, it affects them in different ways. While barbers are likely to be laid off until the pandemic ends, teachers continue to work with their students but now only online.

Despite varying impacts, these high contact intensity occupations are more exposed to social distancing related to COVID-19 than others. According to the St. Louis Fed economists' report, the share of high contact workforce varies across the nation, with higher concentration among states in the Southern and New England regions. Texas has more than 20 percent of its workforce in these contact intensive occupations.

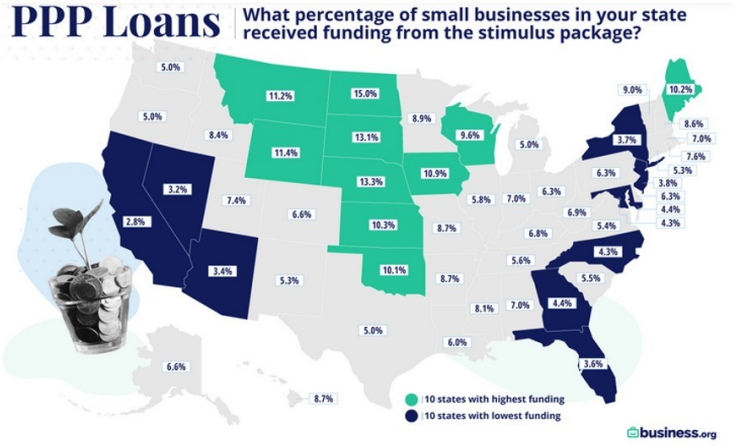
In the Coastal Bend region, the workforce is more concentrated in the contact intensive occupations than the rest of the state or nation, as suggested by their location quotients that are mostly greater than one. For example, a location quotient of 1.57 for nursing assistants and personal care aides means their share of the overall workforce is 57 percent greater in the region than a typical area in the nation.

Also, a relatively large female and Hispanic workforce can be found in

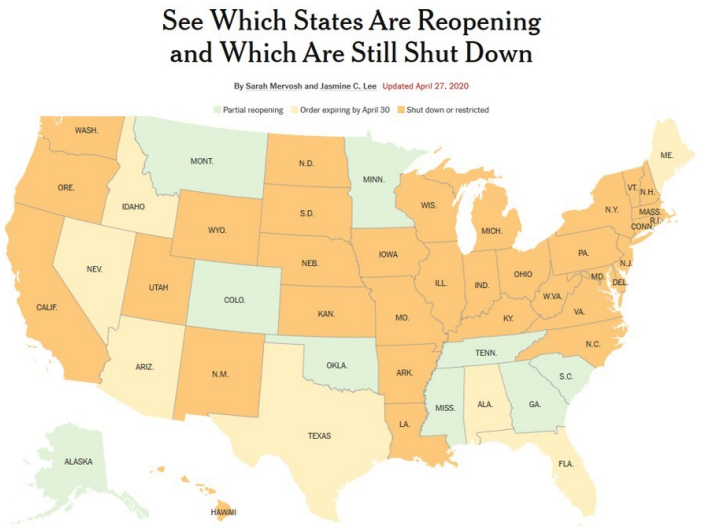
Coastal Bend High Contact Intensity Occupations

Occupation	Proximity Index	Location Quotient	Females % of Occupation	Hispanic % of Occupation
Barbers, Hairstylists, & Cosmetologists	92.17	0.71	82%	50%
Food & Beverage Serving Workers	75.17	1.05	69%	55%
Health Technologists & Technicians	82.73	1.12	22%	69%
Healthcare Diagnosing or Treating Practitioners	86.19	0.88	72%	51%
Nursing Assistants & Personal Care Aides	90.25	1.57	89%	76%
Motor Vehicle Operators	75.56	1.11	10%	55%
Occupational Therapy & Physical Therapist Assistants	90.50	2.41	33%	44%
Other Healthcare Support Occupations	80.20	1.12	22%	69%
Other Personal Care & Service Workers	75.50	1.94	85%	80%
Other Teachers & Instructors	79.00	0.97	90%	47%
Pilots, air traffic controllers, & flight attendants	81.60	1.87	21%	25%
Preschool, Grade School & Special Ed Teachers	79.54	1.20	80%	30%
Supervisors of Food Preparation & Serving Workers	88.00	1.13	53%	60%
Supervisors of Personal Care & Service Workers	84.50	1.13	53%	60%
Therapists, Veterinarians, Nurses, Midwives	88.09	0.99	77%	43%

Sources: Fernando Leibovici, Ana Maria Santacreu, and Matthew Famiglietti, "Social Distancing and Contact-Intensive Occupations," Federal Reserve Bank of St. Louis, *On the Economy*, March 24, 2020; and author's calculations.



Source: https://www.business.org/finance/loans/paychex-protection-program-guide/#PPP_Funding_Across_America_



Source: NYTimes, 4/27/2020, accessed online https://www.nytimes.com/interactive/2020/us/states-reopen-map-coronavirus.html

high these high contact intensity occupations. Females and Hispanic workers account for 72% and 62%, respectively, of these jobs in the Coastal Bend. These figures translate into disproportionately more exposure of the regional workforce to the unintended consequences of social distancing policy in response to the COVID-19 crisis.

Government to the Rescue

After about one month of enforcing stay-at-home orders, the pressure to reopen businesses is mounting, especially after a vast majority of businesses have not been able to receive any relief aid. Under the Coronavirus Aid, Relief, and Economic Security (CARES) Act enacted on March 27, the Trump administration initially allocated $350 billion in funding for the Paycheck Protection Program. According to a business research website Business.org, 1.6 million businesses, or only 5.7 percent of the nation's total number of businesses, received a PPP loan before the fund ran out.

As the fund depleted in warp speed, many states with relatively large business populations were left with a low percentage of loan approvals. The top 10 states of loan approvals all have fewer than 500,000 small businesses, and many states with the lowest funding have millions.

Even though another $310 billion has subsequently been added to the PPP program, a rough estimate of the combined impact reaching about 10 percent of all businesses would still leave about 9 out of 10 small business owners in the nation without a lifeline to keep the economy alive and workers employed. There is also anecdotal evidence that the bulk of PPP loans have gone to large companies like AutoNation and Los Angeles Lakers instead of small businesses that the program intended to rescue.

Expiring Stay-at-Home Orders

It is now clear that the nation has not built a safety net to combat a pandemic without turning its economy upside down, especially for small mom-and-pop businesses--the backbone of the local economy. A growing number of states have announced plans to lift their stay-at-home orders soon.

At this stage of the COVID-19 crisis, policy debate over the merit of a total lockdown may be irrelevant. Beyond conventional monetary and fiscal policies that the Federal Reserve and the federal government have aggressively pursued, there is still an opportunity for state or local officials to adopt strategies that seem to have worked. The finding of varying exposure to public health risk and the current economic crisis implies that policymakers can make better decisions by considering geographic, industry and demographic specific factors. Being one of the states having the shortest stay-at-home order duration, Texas seems to be headed in the right direction of reopening its economy in stages.

On April 27, Texas Governor Abbott unveiled his plan to let his month-long statewide stay-at-home order expire on the last day of April, paving the way for the first phase of reopening up local economies across the state. Restaurants, retail stores and movie theaters are allowed to reopen on the first day of May at 25% occupancy. However, certain businesses, including bars, barbershops, salons and gyms must remain closed, as they are deemed "not safe" according to Abbott. This announcement occurred only three days after the governor's "retail to go" policy went into effect.

Citizen Responses

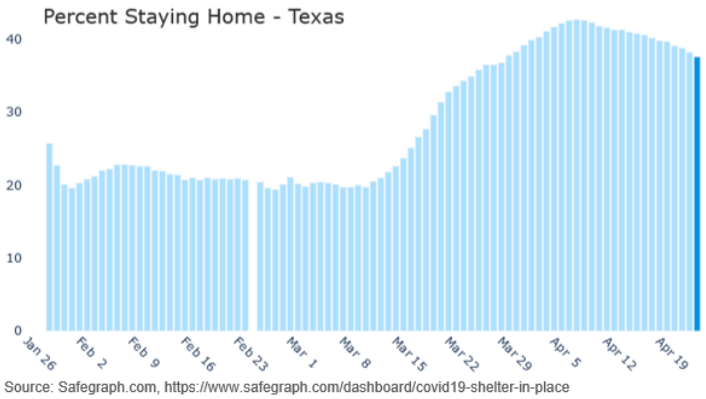
Arguably, policymakers often respond to public opinions instead of making decisive decisions to affect people's lives. There is strong evidence to support that Texans have become less vigilant in complying with state and local social distancing orders. Drawing on a massive dataset of physical movements of population with smartphone devices, SafeGraph has developed a daily Shelter in Place Index for each U.S. county based on data of people staying mostly at home in a given day. This is a useful metric because one does not need to travel far to undermine social distancing and induce viral transmission.

Today, slightly more than 40% of people stay home across the nation. This share is lower at 37.6% for Texas and even lower at about 30% among Coastal Bend counties. Following a month-long uptrend, the share of Texas population abiding the stay-at-home orders has in fact been trending downward steadily since April 8.

The Shelter in Place index is expressed as the percentage point increase or decrease in the share of population staying home each day in comparison with the baseline, set as the average stay-at-home rate over the first week of February. For example, the index value of 21 for Texas on April 8 - the highest point so far - means that 21% more of the state population stayed mostly at home on that day than about two months earlier.

The index values tend to be higher for urban areas than for rural areas. Counties with more confirmed COVID-19 cases and fatalities, such as those along the U.S.-Mexico border, also have greater shares of the population staying at home.

The central message behind the wealth of data is that although some Texans continue to abide the stay-at-home orders, increasingly more residents across the state have increased social interactions at least within their own community. Any official action that relaxes restrictions to business activity also serves growing public demands, as the stay-at-home policy seems to have become obsolete in practice.



Source: Safegraph.com, https://www.safegraph.com/dashboard/covid19-shelter-in-place