



## Public Health Policies and The Impact of COVID-19 on Small Business Performance: A Comparative Case Study

**Tung Cu\***

College of Business and Technology

Northeastern Illinois University

Email: [tcu@neiu.edu](mailto:tcu@neiu.edu)

USA

**Ginna Florez Montoya**

Northeastern Illinois University

Chicago

USA

### ABSTRACT

*Although the impact of COVID-19 on small businesses has been addressed in previous studies, there has been a significant gap in terms of sectoral and geographical focus. The purpose of this study is to understand the necessity of public health policies and the sectoral and geographical impact of COVID-19 on small business performance. To this end, the study applied a comparative case study method and collected secondary longitudinal data to get insights into the disparity between the sectoral and geographical impact of COVID-19 on small business performance. The results show that the severity and timing of impacts varied, in part due to different approaches to reopening and reclosing. While improvements were seen, businesses were still operating well below the pre-pandemic levels. The long-term recovery of these sectors will depend on the ongoing management of the pandemic and further policy measures, customizing on their sensitivity and adaptivity.*

**KEYWORDS:** Small business, public health, COVID-19, comparative case study.

### 1. Introduction

The coronavirus has been present since the 1960s, but the COVID-19 pandemic, which began in late 2019, emerged as an unprecedented global crisis, profoundly impacting health, economies, and livelihoods worldwide. The norm for a typical business pre-pandemic involved customers filling restaurants, booking travel, or lining up for movies. In a city, people would fill in its parks to enjoy the weather, or they would gather in stores, bars, clubs, or gyms. However, recent times have introduced a new norm. This altered reality encompasses vacant schools and parks, social distancing, mask-wearing, and a surge in health problems.

The disease this virus causes is so particularly contagious that public organizations have had to perform various public health policies. Many places have had to put into effect specific measures to combat this disease. The global outbreak has significantly affected small businesses, often referred to as the backbone of economies in the U.S. (Bartik et al., 2020). While large corporations faced their share of challenges, small businesses have suffered the worst part of the pandemic's shockwaves in a particularly severe manner (Belitski, Guenther, Kritikos, & Thurik, 2022). The disruption in these enterprises' operations, due to necessary health measures and plummeting demand, has raised significant concerns about the economic health of nations, societal welfare, and the fabric of communities that rely on these businesses.

In the initial phases of the pandemic, small businesses faced immediate challenges due to lockdowns and stringent social distancing measures. These safety measures, albeit necessary, effectively stifled their primary means of interaction with customers. Traditional brick-and-mortar stores, which relied heavily on in-person interactions, were hit hardest. Moreover,

unlike larger companies, small businesses typically lack the financial reserves to withstand prolonged periods of low or no sales, making the impact of lockdowns even more damaging.

For many small businesses, the pandemic also exposed the fragility of global supply chains. Even minor interruptions had a cascading effect, resulting in major supply shortages. Small enterprises, with their often-limited supplier networks and weaker bargaining positions, faced the risk of shutdowns due to the inability to procure necessary inputs or fulfill orders (Ivanov, 2022).

However, the impact of COVID-19 on small businesses was not merely one-dimensional. It also underscored the significance of digital transformation. Companies that were able to pivot quickly to online models generally fared better than their less adaptable counterparts. This underscored the digital divide between businesses and highlighted the imperative of digital literacy and infrastructure for small businesses to survive future crises.

A critical issue has been the effect on employment. Small businesses often play a vital role in job creation, particularly in local economies. As they staggered under the weight of the pandemic, the associated job losses had a wave effect, worsening unemployment rates and stimulating social issues (Ahumada, Cavallo, Espina-Mairal, & Navajas, 2022).

The pandemic also showcased the uneven nature of its impact. For instance, sectors such as hospitality, tourism, and non-essential retail faced a precipitous decline, while sectors such as digital services, healthcare, and essential goods saw increased demand. This sectoral disparity, along with geographical variances, painted a complex picture of the pandemic's effect on small businesses.



Moreover, COVID-19 revealed the critical role of government policies in shaping small business outcomes. Fiscal stimulus, rent deferrals, payroll protection, and other supportive measures became lifelines for many small enterprises, underscoring the need for effective government intervention in times of crisis.

Although the impact of COVID-19 on small businesses has been addressed in previous studies, there has been a significant gap in terms of sectoral and geographical focus due to a lack of comparative data sources and homogeneous economic structures. The purpose of this study is to understand the necessity of public health policies and the sectoral and geographical impact of COVID-19 on small business performance. The problem that we will address with this research is the disparity of small business performance among three different states in the country: Illinois, New York, and California. By compiling raw data from the official state sources and performing in-depth analysis, we hope to discover some of the factors that contributed to the disparity of small business outcomes. Some of the factors to be considered while reviewing the data will include population size, public factors, and resource availability.

In short, the COVID-19 pandemic has had a profound and multi-faceted impact on small businesses worldwide. Its outcomes have been a stark illustration of their vulnerabilities, but it also shone a light on their resilience and adaptability. As the world

gradually emerges from the crisis, understanding these impacts can guide policies and strategies to bolster the resilience of small businesses in the face of future shocks.

## 2. Literature Review

This literature review aims to analyze and synthesize scholarly work focusing on the impact of COVID-19 on small businesses via several key research streams, including immediate impacts and responses, sectoral and geographical differences, digital transformation, government support, and long-term resilience. See Table 1.

In the first research stream, previous studies have analyzed Immediate Impacts and Responses during the beginning of the pandemic (Ågerfalk, Conboy, & Myers, 2020; Moy, Antonini, Kyhlstedt, Fiorentini, & Paolucci, 2023). It would cover the immediate effects of lockdown measures and the initial responses of small businesses, focusing on operational challenges, liquidity crises, employment effects, and supply chain disruptions. Bartik et al. (2020) conducted one of the earliest surveys of small businesses in the U.S. amid the pandemic, revealing immediate challenges, such as significant drops in demand and severe liquidity problems. A similar study by Fairlie and Fossen (2022) corroborates these findings, further noting that small businesses were more vulnerable due to their limited financial buffers and reliance on physical interactions.

**Table 1: List of articles reviewed in this paper**

Topic	Study	Method	Findings
<b>Immediate Impacts and Responses</b>	Bartik et al. (2020)	Quantitative survey	Significant drops in demand and severe liquidity problems
	Fairlie and Fossen (2022)	Public/Secondary data	Small businesses were more vulnerable due to their limited financial buffers and reliance
<b>Sectoral and Geographical Differences</b>	Chetty, et al. (2020)	Public/Secondary data	Areas with more COVID-19 cases experienced a more significant economic downturn
	Ahumada et al. (2022)	Private/Secondary data	Large productivity improvements in infrastructure
<b>Digital Transformation and Business Model Innovation</b>	Giones et al. (2020)	Comparative cases	Small businesses able to quickly adapt to digital platforms were generally more resilient, even thriving
	Ebersberger and Kuckertz (2021)	Private/Secondary data	Business model innovations, with digitally enabled models often outperforming traditional ones
<b>Government Support and Policy Responses</b>	Granja et al. (2022)	Public/Secondary data	PPP provided crucial support for small businesses
	Toshkov et al. (2022)	Public/Secondary data	More centralized countries with separate ministries of health and health ministers acted faster and more decisively.
<b>Long-Term Effects and Resilience</b>	Brown and Rocha (2020)	Public/Secondary data	Businesses that could pivot, find new markets, or leverage digital platforms were more likely to survive and even grow
	Ivanov (2022)	Mathematical modeling	VSC ecosystem can help firms in guiding their decisions on recovery and re-building long-term goals

The research stream of Sectoral and Geographical Differences has investigated the varied impacts of the pandemic across different sectors and regions (Ahumada et al., 2022; Buszko, Orzeszko, & Stawarz, 2021). It has also examined why



certain sectors and regions fared better or worse than others (Dua, Ellingrud, Mahajan, & Silberg, 2020). Research examining the sectoral and geographical differences in the impact of the pandemic has shown that these disparities are substantial. Chetty, Friedman, and Stepner (2020) used U.S. data to illustrate that areas with more COVID-19 cases experienced a more significant economic downturn. Similarly, an OECD (2020) report indicated that sectors relying on close physical proximity, such as hospitality and retail, were hit hardest. However, sectors related to healthcare, digital services, and essential goods fared better, suggesting that the pandemic's impact on small businesses is highly dependent on industry type and geographical location.

Another research stream on Digital Transformation and Business Model Innovation has discussed how the pandemic has accelerated digital transformation in small businesses and prompted innovative changes in business models (Priyono, Moin, & Putri, 2020; Rupeika-Apoga, Petrovska, & Bule, 2022). A critical pivot in response to the pandemic has been the acceleration of digital transformation. Giones et al. (2020) found that small businesses able to quickly adapt to digital platforms were generally more resilient, even thriving in some cases. Ebersberger and Kuckertz (2021) echoed this sentiment, arguing that COVID-19 had triggered business model innovations, with digitally enabled models often outperforming traditional ones.

The research stream, Government Support and Policy Responses has reviewed the impact of government interventions and policy responses on small businesses (Juergensen, Guimón, & Narula, 2020; Toshkov, Carroll, & Yesilkagit, 2022). It has also examined the effectiveness of these measures and their implications. Granja, Makridis, Yannelis, and Zwick (2022) analyzed the effect of government interventions, such as the Paycheck Protection Program in the U.S., concluding that they provided crucial support for small businesses. Similarly, other countries implemented fiscal stimulus packages and other supportive measures, which research indicates have had a positive impact on small business survival (OECD, 2020). However, the efficiency of these measures and the extent to which they reached the businesses in need varies significantly, leaving room for further research and policy optimization.

The last research stream, Long-Term Effects, and Resilience has explored the longer-term effects of the pandemic on small businesses, including studies on business resilience and recovery (Ivanov, 2022). Beyond the immediate effects and responses, some studies have started to explore the longer-term impact of the pandemic on small businesses. Brown and Rocha (2020) found that while many small businesses suffered significant losses, there was also evidence of notable resilience and adaptability. Their study highlighted that businesses that could pivot, find new markets, or leverage digital platforms were more likely to survive and even grow. Yet, this resilience is unevenly distributed, being notably dependent on the sector, location, and digital maturity of the businesses.

While several studies have been conducted to understand the impact of COVID-19 on small businesses, some research gaps

have been identified. Firstly, many studies have focused on the immediate effects of the pandemic, especially during the initial stages of lockdowns and social distancing measures. While this was necessary, it meant that the longer-term effects, including adaptations, resilience, and changes to business models, have been less explored. Therefore, we need more longitudinal studies that track the impact over extended periods, documenting not just the immediate aftermath but also the recovery and evolution of small businesses.

Secondly, there has been a significant gap in terms of sectoral and geographical focus. Some sectors, such as hospitality and retail, have been examined in depth due to their acute struggles. Similarly, research has often focused on businesses in urban areas or developed economies, where data is more accessible. However, this leaves an information gap about the impact on small businesses in other sectors, rural areas, and developing economies.

Thirdly, the studies often overlook the differential impact within the small business sector itself. Small businesses are a heterogeneous group, varying in size, nature, financial health, digital readiness, and numerous other factors. While some studies have acknowledged this diversity, there is a need for more nuanced research that delves into the varied experiences of different types of small businesses.

Lastly, most of the research focuses on the negative impacts of the pandemic, which are undoubtedly significant. However, this focus may overlook the opportunities that have arisen, such as the acceleration of digital transformation, new market needs, or the growth of certain sectors. A more balanced perspective can help in understanding the complete spectrum of impacts and identify strategies for leveraging opportunities amidst the crisis.

Therefore, this study aimed to address a few of these gaps, offering a more comprehensive and nuanced understanding of the impacts of COVID-19 on small businesses.

### **3. Methodology**

To fill the literature gap and to understand the various impacts of the pandemic on different sectors and geographical areas, this paper applied a comparative case study method, an approach used to facilitate an understanding of complex phenomena within real-world contexts (Yin, 2003). Comparative case studies have roots in comparative sociology, anthropology, and comparative politics, disciplines that have long recognized the benefits of comparing entities to draw meaningful conclusions about societal structures and interactions. However, the method also has a firm place in modern qualitative and mixed-methods research (Creswell, 2007). This study involves the in-depth analysis of three cases at a state level to investigate the relationships between the cases' variables and the context in which they operate.

#### **3.1 Case Selection**

New York, Illinois, and California offer an ideal cross-section of the US to study the impact of COVID-19 on small businesses due to their diverse economic, demographic, and





geographic characteristics. New York and California on the East and West coasts respectively are two of the country's largest economies, with busy urban centers, while Illinois provides a combination of urban and rural dynamics with a distinct Midwestern flavor. These states were also among the hardest hit by the pandemic and implemented varying degrees of lockdown measures, offering rich data on the differential impacts of COVID-19. Another reason why this study analyzed these states is the different approaches each of the local governments set in motion to manage this public health crisis. Additionally, the variety of industries prominent in these states finance and entertainment in New York, tech in California, and manufacturing in Illinois allows for a multidimensional understanding of the virus's impact across sectors. Studying these states provides a comprehensive perspective on small business outcomes, likely to be representative of broader trends across the US.

### 3.2 Contextual Scope

This study selected three US states instead of three different countries to compare the impact of COVID-19 on small businesses because different countries have different economic structures and they issue different public policies depending on what regime they have, while the three US states share similar economic structures, and they are ruled under the same federal government. The availability of comparative data about small businesses also contributed to the selection at a state level. The sample corresponds to the longitudinal data collected through official sources for Illinois, New York, and California between the onset date of the first US COVID-19 case reported on January 15, 2020, and the end of restrictions on February 01, 2022.

### 3.3 Identifying Variables

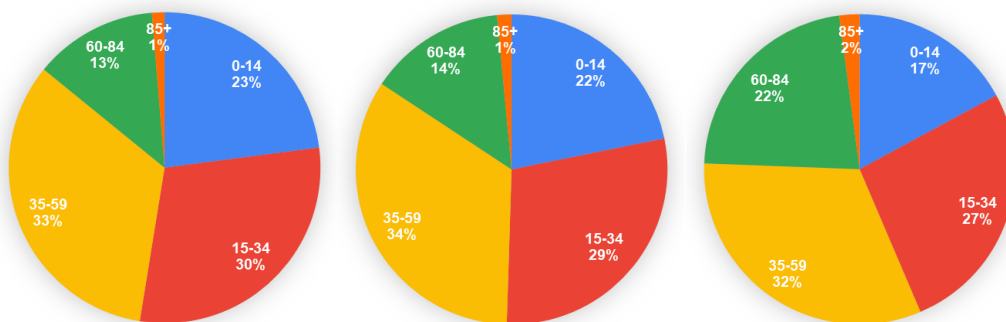
Variables are elements or factors that can vary within the cases under study. Identifying variables is essential to understanding the interactions between different elements within the cases and provides the basis for comparison. Among the different categories of data made available to the public through these sources, we decided to narrow our scope for this research to the following variables: number of positive and cumulative cases per state, number of fatalities per state, the percentage change in the small business opening, percentage change in small business revenue, the percentage change in small business opening vs. state vs. sector, percentage change in employment vs. state. Note that change in small business openings is defined as having financial transaction activity.

### 3.4 Data Collection

Data collection involves gathering data related to the variables identified. To ensure consistency, this study would apply the same data collection methods across all cases. Multiple data sources were also utilized to enhance the robustness of the analysis. This study will use longitudinal and secondary datasets. To gather unbiased data for this analysis, only the official data sources were collected. These include the Illinois, California, and New York Department of Public Health websites, the Center for Disease Control and Prevention, the U.S. Census, the U.S. Bureau of Labor Statistics, the Coronavirus Resource Center at Johns Hopkins University, and the Womply Economic Tracker at Harvard University.

## 4. Analysis and Results

### 4.1 Demographic Population



State	California	Illinois	New York
Population (residents)	39,237,836	12,671,469	19,835,912
Density (resident/mile <sup>2</sup> )	251.8	228.3	420.9

**Figure 1: Demographic comparison among states**

Demographically, California and Illinois appear to have a younger population compared to New York, with a larger percentage of their populations in the 0-34 age range. In contrast, New York has a higher proportion of individuals aged 60 and above, suggesting an older demographic. While California has the highest population, New York has the highest density among the

three states. See Figure 1. These characteristics are very critical to understand why New York emerged as one of the first U.S. epic centers and why California had the most cases. Understanding these differences is crucial for state-level policy-making, particularly in areas such as education, employment, healthcare, and social



services, which need to cater to the specific needs of these diverse age groups.

**4.1 Public Policy Responses to COVID-19**

After the first confirmed U.S. case was reported in Washington State on January 20, 2020, new cases began to emerge sporadically across the United States. As January closed, the U.S. declared a public health emergency and imposed travel restrictions. Throughout February, community spread was identified in multiple locations, including California, Illinois, and New York. March marked a significant escalation of the pandemic within the U.S. New York City emerged as an early epicenter, with a rapid increase in cases and hospitalizations that strained the city’s healthcare system. On March 13, the U.S. government declared a national emergency in response to the pandemic. Then, all three states declared a state of emergency in March 2020, followed closely by the closure of public schools and the issue of stay-at-home orders, with California making an early decision on March 4, Illinois following on March 9, and New York taking these measures around mid-March.

In the early phases, California and Illinois followed similar trajectories, both implementing a regional reopening strategy in May, with select businesses reopened. New York, on the other hand, began its regional reopening slightly later, in mid-

May. In terms of statewide reopening, California was the slowest due to surges in cases, while Illinois and New York started on May 29 and June 8, respectively. However, California took stringent steps to control outbreaks, with selective re-closures in June and July 2020, and a statewide prohibition of all indoor operations. See Table 2, Table 3, and Table 4.

Each state adopted a region-based strategy to manage the virus later in 2020. California introduced a tier-based reopening system in August, whereas Illinois divided the state into 11 regions in July. New York instituted an area-based strategy in October. California took a hardline stance in November 2020, pausing all reopening’s and moving counties back to the most restrictive tier. Illinois similarly implemented a stay-at-home advisory in Chicago, while New York reclosed select businesses in December.

The beginning of 2021 saw all three states moving back towards reopening. California ended its regional stay-at-home orders in late January, while Illinois returned to its regional plan in mid-January. New York reopened certain businesses with limited capacity in April. By mid-2021, all three states had effectively ended restrictions on businesses and gatherings: California on June 15, Illinois on June 11, and New York on June 15.

**Table 2: Timeline of California Public Policy Responses to COVID-19**

Date	Public Policy Responses
3/4/2020	California issued a state of emergency
3/19/2020	California issued stay-at-home order and closed all non-essential businesses
3/19/2020	California public schools closed
5/8/2020	California reopened select businesses on a regional basis (excluded Marin, San Francisco, San Mateo, Alameda, Contra Costa, and Santa Clara counties)
5/22/2020	California reopened select businesses statewide
6/28/2020	California ordered reclosed select businesses on a regional basis (Fresno, Kern, Kings, Los Angeles, San Joaquin, and Tulare counties)
7/13/2020	California prohibited all indoor operations
8/31/2020	California entered a new reopening system wherein each county was placed into a specified reopening tier with health metrics used to determine movement to more- or less-restrictive tiers
11/17/2020	California paused all reopenings and began moving counties back to the most restrictive tier
12/5/2020	California issued a regional plan wherein multi-county regions are subject to nonessential business closures and stay at home orders
1/25/2021	California ended regional stay at home orders and returned to previous county-based reopening plan
6/15/2021	California ended all restrictions on businesses and gatherings
10/1/2021	California announced Covid vaccine requirements for schools
3/31/2022	California extended eviction ban for some renters

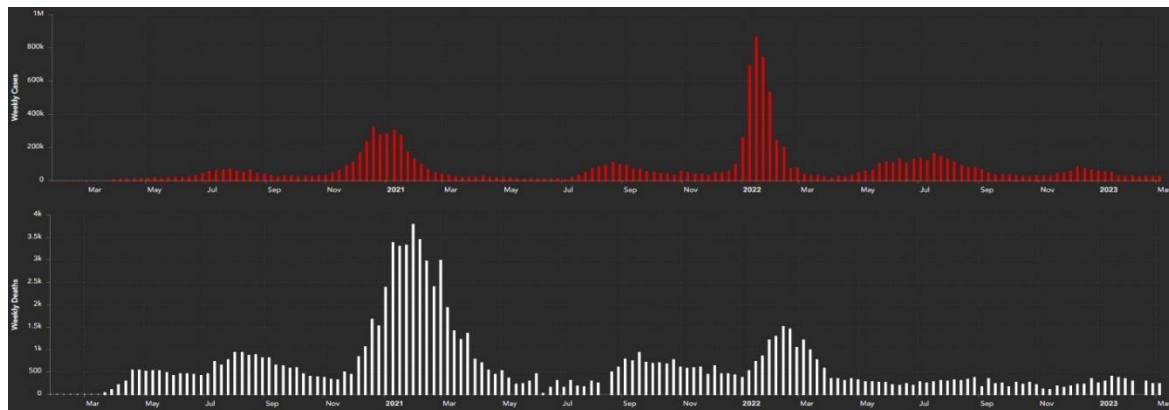
**Table 3: Timeline of Illinois Public Policy Responses to COVID-19**

Date	Public Policy Responses
3/9/2020	Illinois declared a state of emergency
3/16/2020	Illinois ordered closed all in-person dining
3/17/2020	Illinois public schools closed
3/21/2020	Illinois issued stay at home order and closed all non-essential businesses
5/29/2020	Illinois reopened select businesses on a regional basis (excluded Chicago)
5/29/2020	Illinois ended stay at home order statewide
6/3/2020	Illinois reopened select businesses statewide
7/15/2020	Illinois divided into 11 regions which would be individually subject to stricter gathering limits and business closures based on local health metrics
11/16/2020	Chicago implemented a stay-at-home advisory
1/18/2021	Illinois returned to regional reopening plan after 11/20 closure, loosening health metrics needed to reopen businesses
5/14/2021	Illinois entered the bridge phase of the Restore Illinois reopening plan and loosened business restrictions
6/11/2021	Illinois removed all remaining capacity limits and business restrictions

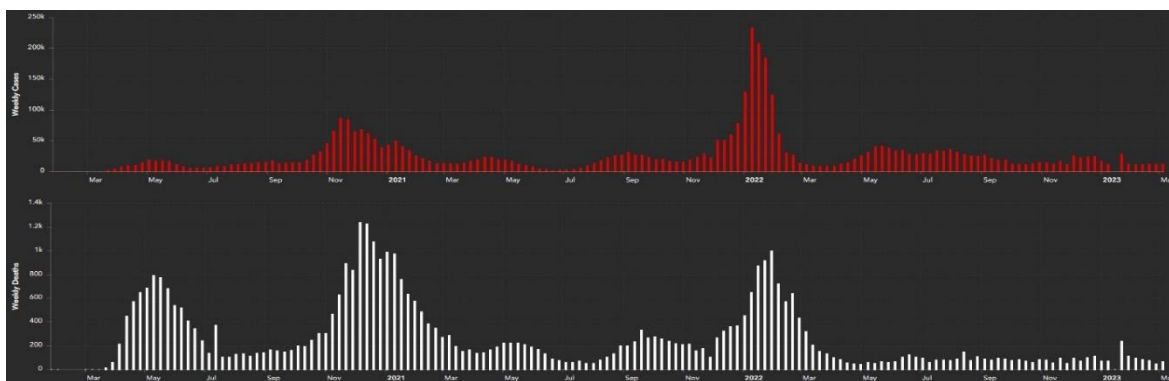


**Table 4: Timeline of New York Public Policy Responses to COVID-19**

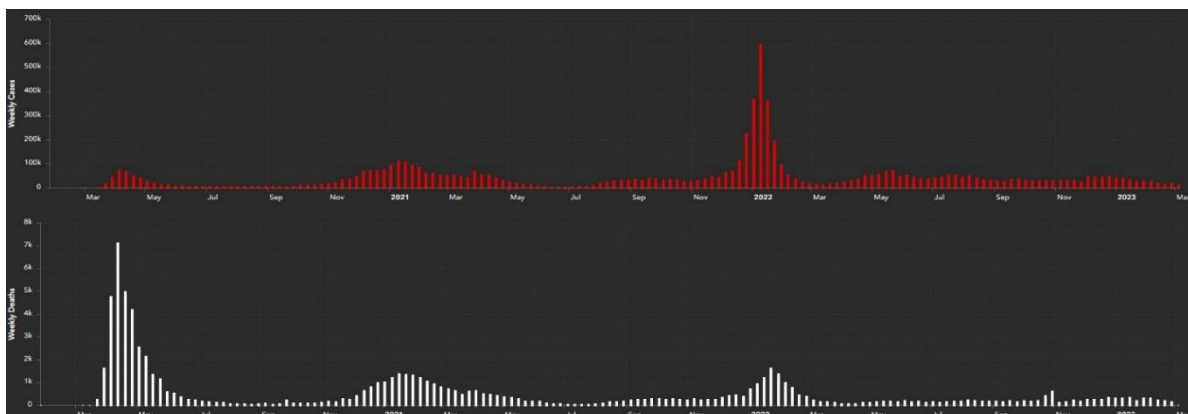
Date	Public Policy Responses
3/18/2020	New York public schools closed
3/22/2020	New York issued stay at home order and closed all non-essential businesses
5/15/2020	New York reopened select businesses on a regional basis (included 35 of 62 counties)
5/28/2020	New York ended stay at home order statewide
6/8/2020	New York reopened select businesses statewide
10/8/2020	New York implemented a new strategy wherein new restrictions and/or business closures were instituted in county and sub-county areas in the state
12/14/2020	New York ordered reclosed select businesses on a regional basis (New York City)
12/21/2020	New York reopened select businesses closed on 12/14/20
4/2/2021	New York reopened select businesses (events, arts, and entertainment venues) with limited capacity
5/19/2021	New York ended most business capacity restrictions
6/15/2021	New York lifted restrictions as 70% vaccination rate is achieved
6/25/2021	New York lifted state of emergency
10/5/2021	New York distributed \$149 million in aid to older individuals and their families



(a)



(b)



(c)

**Figure 2: Positive Cases and Fatalities. a) California b) Illinois c) New York**



In short, all three states demonstrated adaptive strategies throughout the pandemic, each varying in speed and severity. The comparison of the policies implemented by California, Illinois, and New York reveals notable similarities and differences. While New York faced the most cases and fatalities at the beginning, California and Illinois had more cases and fatalities per capita during the second wave of the pandemic. See Figure 2. In the next section, a detailed analysis of the effectiveness of these policies along with small business performance would reveal further the relationship between public health and economic outcomes.

### **4.3 Small Business Performance**

#### **4.3.1 Small Business Open**

Applying a comparative analysis, this section focuses on how small businesses in California, Illinois, and New York varied their performance under each state's COVID-19 public policy measures during the pandemic. COVID-19 led to the global crisis, affecting various sectors, especially small businesses, which are fundamental to the economies of most states in the U.S. Public policy responses to control the pandemic, ranging from stay-at-home orders to business restrictions, have had profound impacts on these businesses. The rise and fall of small businesses in the states of California, Illinois, and New York throughout 2020 and early 2021 illustrates the main part of struggle and recovery amid challenging circumstances. Each state has had its unique strategy, with hard and soft approaches reflecting the up and down of economic conditions. See Figure 3.

Following the state of emergency declaration in March 2020, all three states implemented closure policies for non-essential businesses, affecting small businesses significantly. By late March, the percentage of small businesses open in California, Illinois, and New York had plummeted and then, on April 12, dropped to the bottom at -30.3%, -30.7%, and -38.8%, respectively. Their performance in all three states was below the national average.

California's aggressive early response to COVID-19, declaring a state of emergency on March 4, 2020, and issuing a stay-at-home order on March 19, 2020, led to a significant dip in the percentage of small businesses that were open, going from -0.02% on March 8 to -28.3% by March 29. California started reopening select businesses on a regional basis on May 8, and small business openings increased from -25.5% on May 3 to -11.2% by July 5. However, subsequent orders to reclose select businesses and prohibitions on indoor operations on July 13 appeared to have a negative impact, with small business openings declining again to -15.3% by late July. Then, California entered a new reopening system wherein each county was placed into a specified reopening tier with health metrics used to determine movement to more- or less-restrictive tiers on August 13. The policy helped small businesses to gain momentum again until late 2020. California's back-and-forth approach, reopening and closing businesses based on infection rates, reflected in fluctuations in the number of small businesses open during mid-2020. By January 2021, California returned to the county-based reopening plan, which saw a slow but steady improvement in small business operations. The full lifting of restrictions on June

15, 2021, was followed by an upward trend in small business operations.

Illinois declared a state of emergency on March 9, 2020, leading to a significant decrease in the number of small business openings, from -1.26% on March 8 to -30.6% in late March. Similar to California, Illinois then took a regionally segmented approach and also started reopening select businesses on May 29. Despite some fluctuations, this resulted in a steady increase in small business openings, from -25.9% on May 3 to -14.8% by July 5. However, the data does not show a significant decline in small business openings following the implementation of stricter gathering limits and business closures based on local health metrics in July thanks to the fact that Illinois is divided into 11 regions which would be individually subject to stricter gathering limits and business closures based on local health metrics. Illinois displayed flexibility in its policies, adjusting health metrics needed to reopen businesses on January 18, 2021, which again helped small businesses. Finally, removing all capacity limits and business restrictions on June 11, 2021, further accelerated the opening of small businesses.

New York's response was swift with the closure of public schools on March 18, 2020, and the issuance of a stay-at-home order on March 22, 2020. This led to a steep decline in small business operations, from -2.5% on March 8 to -35.7% on March 29. New York initiated its reopening plan on May 15. This move was followed by a significant increase in small business openings, from -32.8% on May 3 to -9.25% by late August. Although select businesses were ordered reclosed regionally in December 2020, this policy does not seem to have had a substantial negative impact on the overall percentage of small businesses open. From May 2020, New York initiated a phased reopening of businesses, with full capacity restrictions being lifted on May 19, 2021, which showed a steady increase in small business operations. New York demonstrated adaptability by implementing new restrictions and business closures based on localized infection rates. Notably, by September 2020, the percentage of small businesses open in New York (-7.54%) was higher than that of California (-13.2%) and Illinois (-13.9%) and by November 2020, small businesses in New York started to perform better than that of the national average. This outcome suggests that New York's approach to managing business operations during the pandemic, including its strategy of instituting restrictions and closures in county and sub-county areas rather than statewide, may have been more successful in keeping small businesses open compared to the other two states.

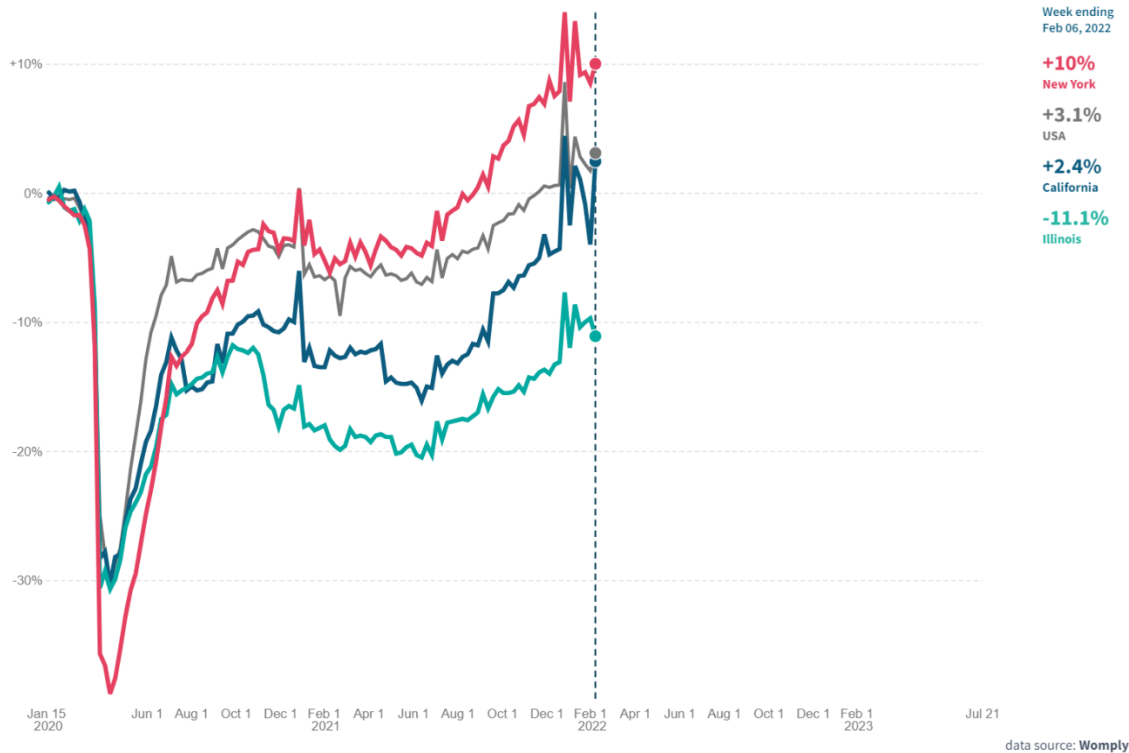
However, by the end of 2020, all three states showed a decline in small business openings. Despite the fluctuations, Illinois saw the most considerable drop to -18.1% by the end of November after Chicago implemented a stay-at-home advisory. The second wave of the pandemic in 2021 negatively impacted small business openings in all three states with a similar pattern. Although business closures during this period were not as severe as during the previous year, small businesses still recovered very slowly. By the end of 2021, New York is the only state to have a better performance than that of the national average.





In addition, all three states saw a dramatic decline in the number of small businesses operating in the immediate aftermath of the first wave of COVID-19 public health restrictions. However, the states' different policy responses and their timing influenced the pace and extent to which small businesses could reopen. California's aggressive strategy to control the spread of the

virus, with more frequent closures and reopenings, caused greater fluctuations in small business operations than in Illinois or New York. Meanwhile, Illinois and New York's flexible and regionally segmented approach allowed for a more steady recovery of small businesses. Finally, the lifting of restrictions in all states by mid-2021 led to a significant upturn in small business operations.



**Figure 3: Small business open among different states**

This analysis suggests that the timing, nature, and scale of public policy responses to the COVID-19 pandemic had varied impacts on small businesses in California, Illinois, and New York. Despite certain challenges, these states managed to navigate through the crisis with phased reopening plans. However, New York appears to have been more successful in keeping small businesses open compared to the other two states, possibly due to its more localized approach to restrictions. Please note that while this analysis is focused on the percentage of small businesses open, the broader socio-economic impacts of the COVID-19 pandemic, such as job loss and public health outcomes, would also be critical considerations for a more comprehensive evaluation of these states' policy responses.

**4.3.2 Small Business Revenue**

A detailed analysis of the COVID-19 public policy responses and the corresponding impact on small business revenue for California, Illinois, and New York highlights significant variances between the states. Although small business revenues mostly share a similar pattern to their corresponding business openings, many other variables might also affect the observed disparities, from the timing and severity of implemented restrictions to their unique geographical, cultural, and economic landscapes. For this reason, major policy actions and correlating

changes in small business revenue will be examined. See Figure 4.

After California declared a state of emergency with a stay-at-home order and closed all non-essential businesses in March 2020, small business revenue decreased quickly in this period, from a drop of 0.93% on March 8 to a substantial 53.8% by March 29. Although California implemented a regional reopening plan in May, revenue had not fully recovered, as exemplified by a 22% decrease on June 14. The state ordered a reclosure of select businesses on June 28, but the impact on business revenue was not as drastic as in March, suggesting possible adaptations by businesses to restrictions. California ended all restrictions on businesses on June 15, 2021. The small business revenue still reported a 12.6% decrease on November 21, 2021, indicating that while policies had evolved, small businesses had not fully recovered.

Similar to California, Illinois declared a state of emergency in early March, followed by a closure of non-essential businesses in late March. The immediate impact was severe, with a drop in small business revenue from -3.73% to -56% by the end of March. The reopening of businesses on a regional basis (excluded Chicago) was announced on May 29, followed by a statewide reopening on June 3. Yet, revenue was still down by 36.8% on June 14. Unlike California, Illinois was divided into 11 regions with independent restrictions, which may have influenced

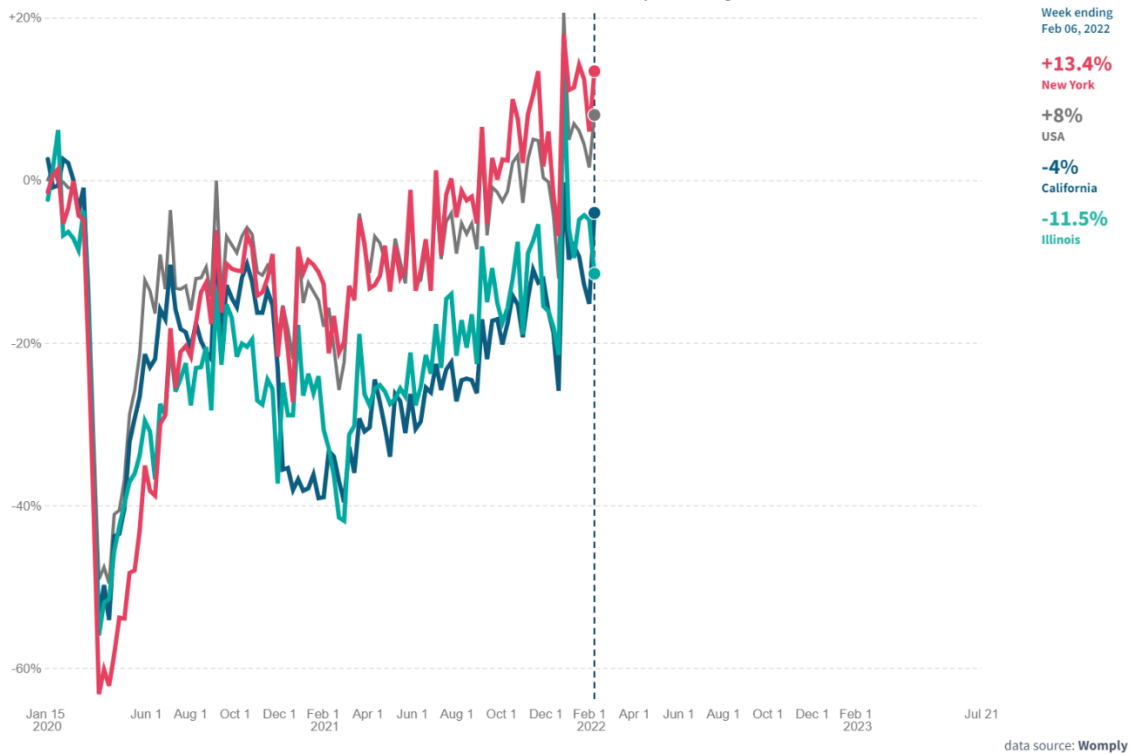




a slower recovery. By November 21, 2021, small business revenue had decreased by 5.4%, illustrating a lengthy recovery process.

The state of New York closed public schools and all non-essential businesses, followed by a stay-at-home order on March 22. The subsequent impact was severe, with a small business revenue horrifically decreasing from -4.92% on March 8 to -63.2% on March 29. New York's regional reopening plan on May 15 helped rebound some revenue, but it still recorded a decrease of 38.8% on June 14. On June 15, 2021, New York lifted all restrictions due to a 70% vaccination rate. The situation had considerably improved by the end of 2021, with small business revenue increased only by 18%, reflecting a more robust recovery compared to California and Illinois.

From the above analysis, a clear trend emerges. All three states experienced significant decreases in small business revenue following the implementation of strict COVID-19 public health measures. The recovery period was also prolonged despite the gradual lifting of restrictions. The data suggests New York, due to its possibly more effective policy responses, improved vaccination rates, or other local factors, was recovering at a quicker pace than California or Illinois by the end of 2021. However, none of the states had reached pre-pandemic levels of small business revenue, indicating the profound and long-lasting impact of the pandemic on the small business sector. It is critical to recognize the intricate factors involved in economic recovery, which extend beyond merely lifting restrictions.



**Figure 4: Small business revenue among different states**

In short, California, Illinois, and New York experienced significant declines in small business revenues following public policy responses to COVID-19. While there were attempts to balance public health and economic considerations, the data suggest that the timing and execution of public policy responses significantly impacted the revenue of small businesses. However, the longitudinal data available highlighted some initial conclusions on the long-term impacts of these policies, especially after restrictions were fully lifted. Although small business revenues mostly share a similar pattern to their corresponding business openings, the lost revenues had a much larger amplitude and a slower recovery due to multiple factors. Further investigation into specific industry impacts, financial aid programs, and unique local factors is necessary for a more comprehensive understanding.

**4.4 Cross-Sectoral Performance**

This section seeks to understand the relationship between each state’s public policy responses to the COVID-19 pandemic and the cross-sectoral performance of small businesses in three major industries: health, food, and retail.

**4.4.1 Small Businesses in California**

Firstly, the data suggest an initial phase between March and April 2020 where the percentages of open small businesses across the three sectors demonstrated minor fluctuation<sup>1</sup>.

However, with the issue of the state of emergency in California, the percentages of open small businesses in the food, retail, and all sectors started a downward trend. When California issued a stay-at-home order and closed all non-essential businesses, that decision aligns with the sharp decline of small business operations. Specifically, by April 12, 2020, there was a

<sup>1</sup> California health data is not available. <https://ijbassnet.com/>

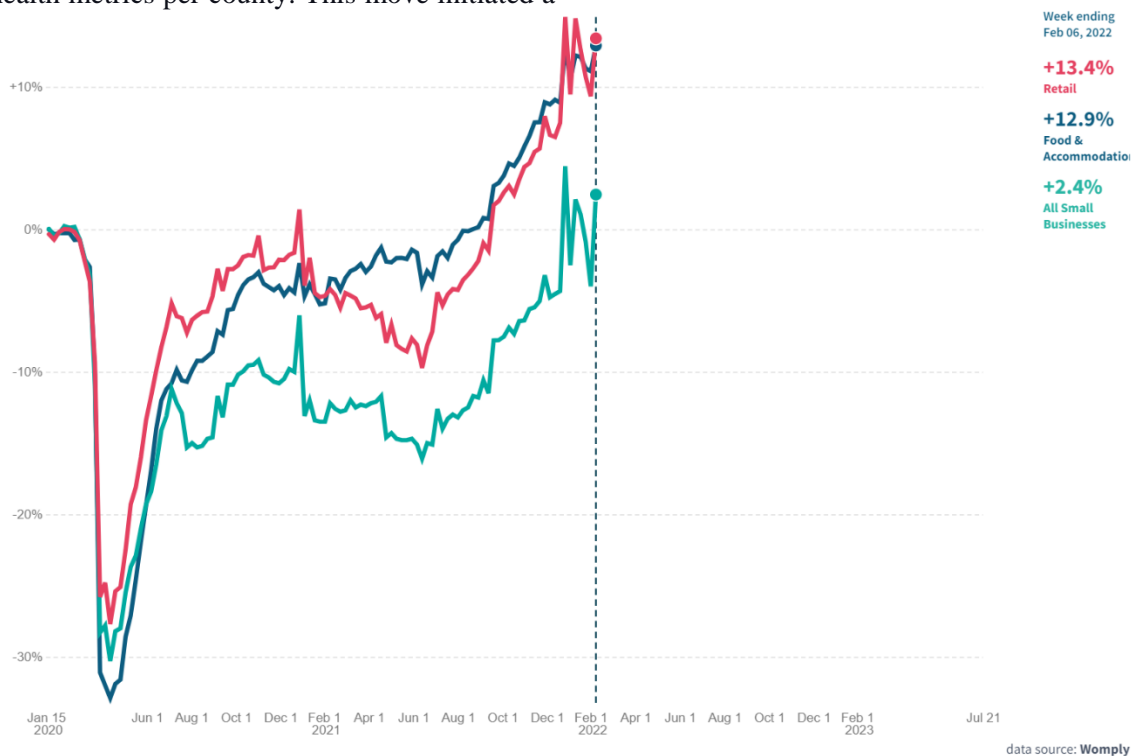


sharp drop across all sectors with the food sector experiencing the deepest decrease from -2.10% to -32.9%, retail from -2.23% to -27.7%, and the overall sector from -2.03% to -30.3%. See Figure 5.

In the gradual reopening phase between May and November 2020, the decline started to slow down, and a slight rebound began, which further solidified by the end of June. This pattern was disrupted in late June and early July when California ordered the reclosure of select businesses on a regional basis and prohibited all indoor operations, respectively, causing a re-decrease in open businesses across all sectors. A different approach was taken from August 31, with California implementing a new reopening system based on health metrics per county. This move initiated a

slow but steady recovery period that lasted until October 2020. A small downturn was observed after the pause of all reopenings and the initiation of the most restrictive tier on November 17.

The trend of recovery for both food and retail sectors was stalled and slightly reversed by the regional plan issued on December 5, 2020, leading to closures of nonessential businesses and stay-at-home orders, especially impacting the first two months of 2021. However, since June 2021, with all restrictions on businesses and gatherings ended, sectoral openings have gradually begun to climb again. By the end of 2021, small businesses in the food, retail, and all sectors have rebounded, with some even experiencing growth rates compared to the pre-pandemic level.



**Figure 5: Small business open across different sectors in California**

To conclude, the analysis suggests a strong correlation between California’s public policy responses and the percentage of open small businesses in the food, retail, and all sectors. Public policy decisions such as issuing stay-at-home orders, closing and reopening businesses, adopting county-based restrictions, and finally lifting all restrictions have had clear and direct impacts on the economic health of small businesses in California. However, it is essential to note that correlation does not imply causation, and numerous other factors such as the progression of the pandemic, public sentiment, federal policies, and economic stimulus could also have influenced the changes in business operations.

#### 4.4.2 Small Businesses in Illinois

During the early period (March-April 2020), the first significant policy response to the COVID-19 pandemic in Illinois came in early March, when the state declared a state of emergency. Subsequently, policies rapidly escalated with in-person dining, public schools, and non-essential businesses being closed. The

stay-at-home order was then issued statewide. These measures aimed to curb the spread of the virus by minimizing interactions.

In the week after these closures, the impact is vividly seen in the sharp decrease in businesses open in all sectors. The health sector was less affected initially, possibly due to the essential nature of many health services. However, it saw a significant reduction from -0.83% to -6.88% after the statewide stay-at-home order. The food and retail sectors, which encompass many non-essential businesses, saw a more dramatic decrease. However, the food industry had a more fluctuating response to the COVID-19 policies. The closure of all in-person dining on March 16 saw an immediate impact with a significant drop in the percentage of businesses remaining open.

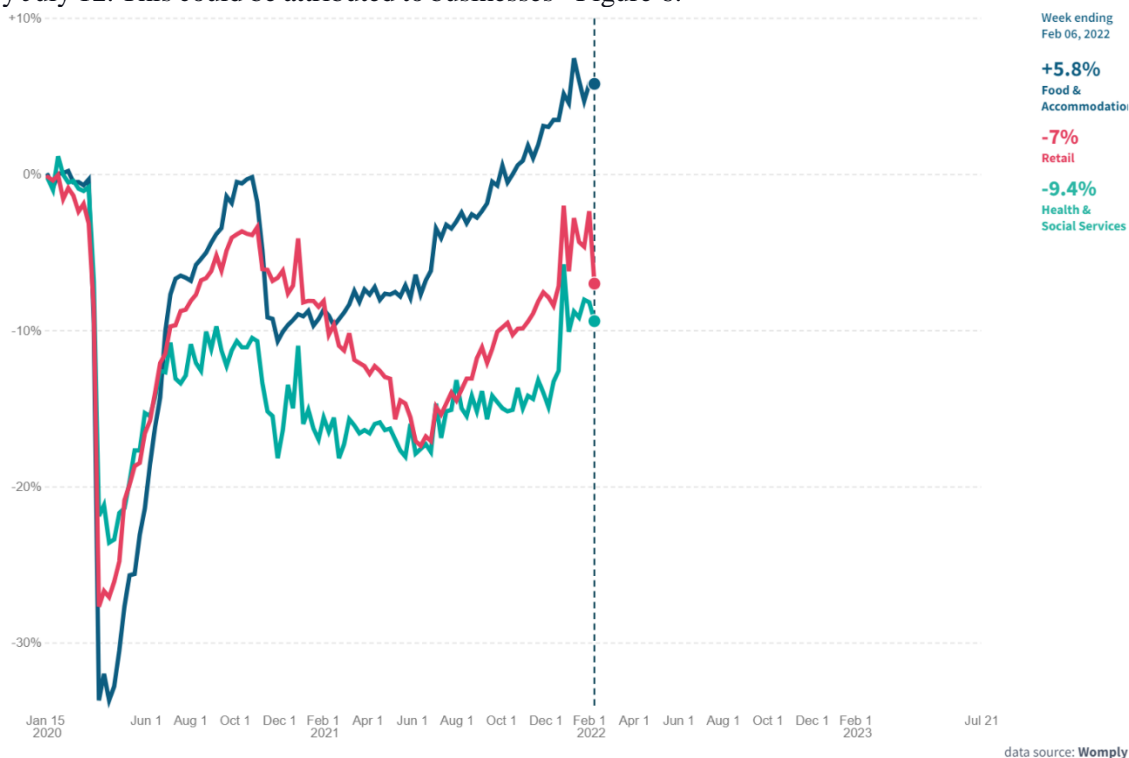
During the gradual reopening phase, the policies started to ease in late May, with the end of the stay-at-home order and the reopening of select businesses. The first federal stimulus payment started on April 14. Significant improvements were noted in all three sectors. However, the recovery did not return to pre-



lockdown levels, even after the full reopening on June 3, 2020. This shows the deep impact the initial closures had on small businesses and how recovery is not an immediate process, even after the lifting of restrictions.

Notably, the food industry had one of the sharpest decreases at -33.70% on March 29 during the height of the pandemic. However, it showed a remarkable ability to adapt, with businesses in this sector showing some recovery even during the strict lockdown period. For example, despite the closure of non-essential businesses, the food sector saw an improvement from -33.70% to -6.7% by July 12. This could be attributed to businesses

pivoting to takeout and delivery services. Nevertheless, the food industry displayed a sensitive reaction to policy changes, evident from the immediate steep drop to -9.18% after the stay-at-home advisory was issued in Chicago on November 16. The response to the loosening of restrictions in 2021 was also dramatic, with the percentage of businesses open in the food sector increasing notably after the removal of all remaining capacity limits and business restrictions on June 11. By December 26, 2021, the food industry completely recovered and had the highest proportion of businesses open compared to the health and retail sectors. See Figure 6.



**Figure 6: Small business open across different sectors in Illinois**

The retail sector exhibited a comparable trend to the health industry, albeit with higher volatility. Both retail and health sectors were not hit as hard as the food sector and they had a steady recovery post-May 2020, after the reopening of select businesses. However, after Chicago implemented a stay-at-home advisory, the retail sector had the slowest recovery among the three sectors following the lifting of restrictions, reflecting the enduring impact of the pandemic on consumer behavior and the shift towards online shopping.

In short, Illinois' COVID-19 public policy responses had a tangible influence on the proportion of small businesses that remained open across the health, food, and retail sectors. While the health sector showed the most resilience, the retail and food sectors experienced more volatility. The varying responses between these sectors underscore the nuanced impact of the pandemic and the importance of tailored policy responses to support different industries. Although the measures implemented by Illinois facilitated recovery, the enduring effects on all three sectors demonstrate the significant challenges that the pandemic has posed to small businesses.

#### 4.4.3 Small Businesses in New York

New York's management of the COVID-19 pandemic was marked by a series of strategic public policy decisions aimed at controlling the spread of the virus, with significant consequences for small businesses across key sectors.

Notably, the state's public policies were characterized by a combination of lockdowns and gradual reopening strategies. Since New York was hardest hit by the pandemic, the effect of regulations and measures on small businesses was immediate and severe, with the steepest decline in the percentage of open small businesses across all sectors. However, the impact of the policy responses varied across sectors. The health sector was the least affected in the initial stages of the lockdown. Conversely, the food sector suffered the highest percentage decrease, with a drastic 45.7% drop by April 12, 2020. As restrictions began to ease in May, a gradual uptick was observed across all sectors. The health sector's recovery was relatively slow despite being less affected initially. By contrast, the retail sector rebounded more quickly.

The state's strategy of closing and reopening businesses on a regional basis, starting in October 2020, led to periods of

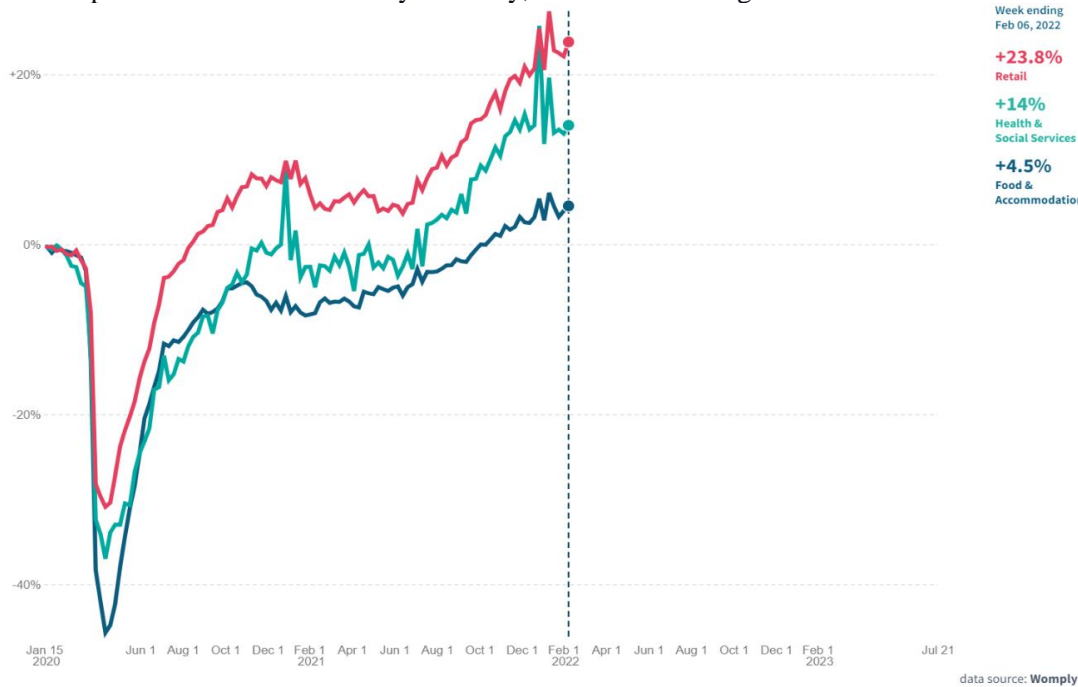




fluctuating openings and closures. A sharp drop in small business openings was recorded in the food sector towards the end of 2020, likely a result of the regional closures in high-density areas such as New York City.

After most business capacity restrictions were lifted on May 19, 2021, all sectors experienced a slow but steady recovery,

although not to pre-pandemic levels. The health sector was the first to rebound, with open small businesses increasing by over 14% by the end of 2021. The food and retail sectors experienced slower recoveries, yet by December 2021, the retail sector had reached an impressive 25.4%, surpassing the health sector's rebound. See Figure 7.



**Figure 7: Small business open across different sectors in New York**

In short, New York's public policy response to the COVID-19 pandemic had a significant impact on small businesses, causing a massive contraction initially, with varying degrees of recovery across different sectors. The state's phased reopening strategy allowed for a gradual recovery, with the health sector recovering faster than the food and retail sectors. However, the retail sector's impressive rebound towards the end of 2021 demonstrates its resilience and adaptability in the face of unprecedented challenges.

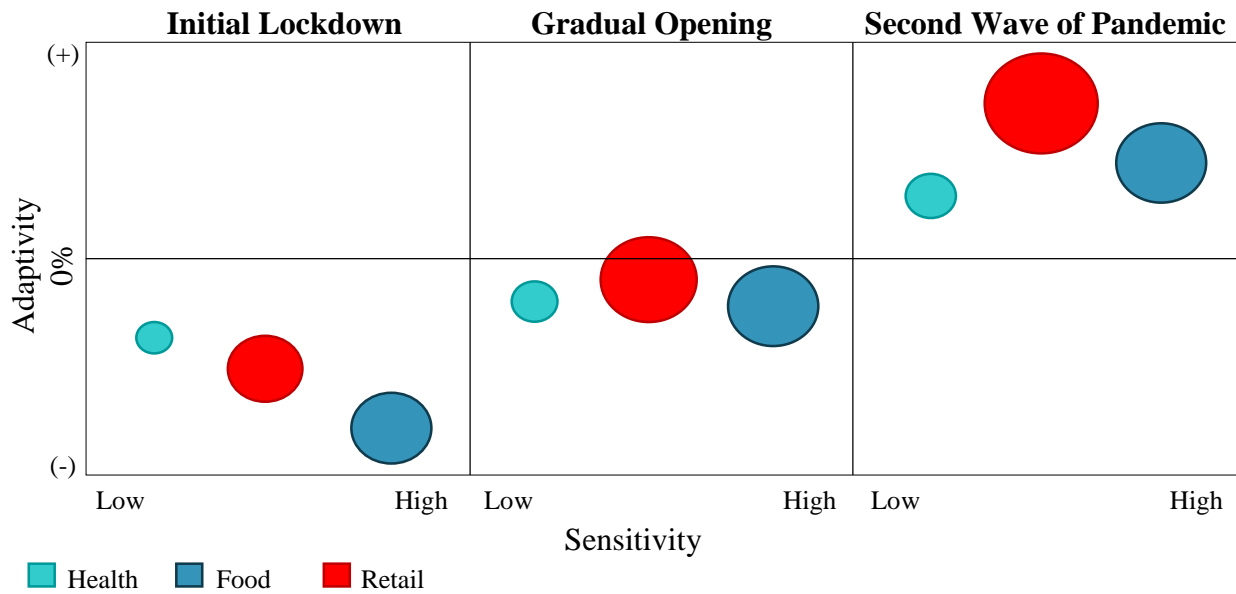
**4.4.4 Cross-sectoral analysis among states**

The comparison among the COVID-19 public policy responses in California, Illinois, and New York, and their respective impacts on the percentage of small businesses open across the health, food, retail, and all sectors, presents an intricate picture of the interplay between health policy and economic vitality.

Starting with California, the state's policy oscillated between reopening and re-closing businesses throughout 2020 and 2021, reflecting the changing COVID-19 situation. Upon the complete end of restrictions on businesses in June 2021, the negative impact on all sectors slightly lessened. By the end of 2021, both food and retail sectors were bounded back to the pre-pandemic level. In contrast, Illinois adopted a similar early approach, declaring a state of emergency and issuing a stay-at-home order. However, unlike California, the state reopened select businesses on a regional basis in late May, leading to a less severe impact on small businesses. In July, the state was divided into 11

regions, each subject to different restrictions based on local health metrics. While the impact on health and retail sectors remained severe, only the food industry was able to recover up to the pre-pandemic level, suggesting some resilience. New York's strategy was to lift restrictions once a significant vaccination rate was achieved. The state had issued more customized policies depending on its outbreak level and vaccination rate. When New York lifted most business capacity restrictions in May 2021, there was a slight increase in businesses open across all sectors. By the end of 2021, all three business sectors made the strongest recovery.

Overall, these data suggest that the COVID-19 public policy responses of California, Illinois, and New York had varied impacts on small businesses across different sectors. The fluctuations in the percentage of open businesses correlate with the timings of these states' COVID-19 policies, emphasizing the balancing act between maintaining public health and ensuring economic stability. Each state's experience underscores the complexity and individuality of the impacts of public health crises on economic health, with no one-size-fits-all solution. These findings underscore the need for nuanced and sector-specific public policies focusing on sectoral sensitivity vs. adaptability to minimize the adverse impact of such crises on small businesses and facilitate their recovery. See Figure 8. Future responses should also consider targeted support for the most vulnerable sectors to mitigate the impacts of policy decisions.

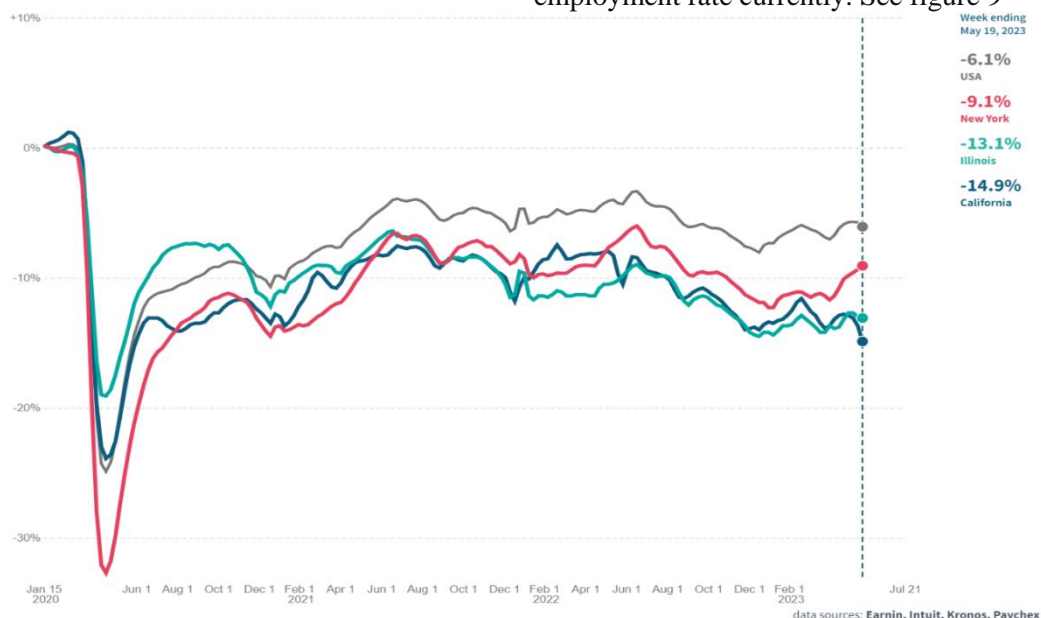


**Figure 8: Sensitivity vs Adaptability across Sectors**

**4.5 Employment among Different States**

The COVID-19 pandemic brought about significant disruptions globally, requiring significant adjustments and policy responses from governing bodies. The states of California, Illinois, and New York are no exception. The impact of COVID-19 public policies on employment in California, Illinois, and New York highlights the challenge faced by state governments to balance public health concerns with economic considerations. While public health measures were necessary to control the spread of the virus, they led to unprecedented disruptions in employment. However, as these states began to reopen and adjust their policies, they saw improvements in employment rates, demonstrating the resilience of their economies.

All three states followed similar public policy paths, including stay-at-home orders, closing non-essential businesses, and closing schools. These measures invariably led to significant declines in employment, especially during the period between March and June 2020. However, efforts to reopen, albeit gradually and selectively, led to an improvement in employment. Of the three states, Illinois maintained a less severe employment dip throughout the pandemic. In comparison, California saw a noticeable fluctuation in employment rates, particularly during periods of reopening and reclosing of businesses. While New York had the sharpest decline in employment at the height of the pandemic but also saw a significant recovery upon reopening, all three states have yet to recover, resulting in a negative employment rate currently. See figure 9



**Figure 9: Employment among different states**



## 5. Conclusion

The purpose of this study is to understand the necessity of public health policies and the sectoral and geographical impact of COVID-19 on small business performance. To this end, the study applied a comparative case study method and collected secondary longitudinal data on three different states to get insights into the disparity between the sectoral and geographical impact of COVID-19 on small business performance. Via a comparative analysis, the study detailed insights into such complex phenomena as the pandemic impact on small businesses and allowed for a more nuanced understanding of variable interactions within specific contexts.

Specifically, all three states saw significant negative impacts on small businesses in the health, food, and retail sectors throughout 2020, reflecting the effects of both the COVID-19 pandemic and public policy responses. The severity and timing of impacts varied, in part due to different approaches to reopening

and reclosing. While improvements were seen in all states by June 2021, businesses were still operating well below January 2020 levels. The long-term recovery of these sectors will depend on the ongoing management of the pandemic and further policy measures, customizing on their sensitivity and adaptivity.

In conclusion, the COVID-19 pandemic has had a profound impact on small businesses worldwide. While the immediate effects were predominantly negative, leading to operational challenges and financial struggles, the longer-term picture is more nuanced. The acceleration of digital transformation and the emergence of new business models suggest that the pandemic also offered opportunities. Government support played a crucial role in mitigating some of the negative impacts, but the effectiveness of these measures varied. Further research is needed to understand the long-term implications fully and to inform policy and practice aimed at supporting small businesses in future crises.

## Reference

- Ågerfalk, P. J., Conboy, K., & Myers, M. D. (2020). Information systems in the age of pandemics: COVID-19 and beyond. *European Journal of Information Systems*, 29(3), 203-207. doi:10.1080/0960085X.2020.1771968
- Ahumada, H., Cavallo, E., Espina-Mairal, S., & Navajas, F. (2022). Sectoral Productivity Growth, COVID-19 Shocks, and Infrastructure. *Economics of Disasters and Climate Change*, 6(1), 1-28. doi:10.1007/s41885-021-00098-z
- Bartik, A. W., Bertrand, M., Cullen, Z., Glaeser, E. L., Luca, M., & Stanton, C. (2020). The impact of COVID-19 on small business outcomes and expectations. *Proc Natl Acad Sci U S A*, 117(30), 17656-17666. doi:10.1073/pnas.2006991117
- Belitski, M., Guenther, C., Kritikos, A. S., & Thurik, R. (2022). Economic effects of the COVID-19 pandemic on entrepreneurship and small businesses. *Small Business Economics*, 58(2), 593-609. doi:10.1007/s11187-021-00544-y
- Brown, R., & Rocha, A. (2020). Entrepreneurial uncertainty during the Covid-19 crisis: Mapping the temporal dynamics of entrepreneurial finance. *Journal of Business Venturing Insights*, 14, e00174. doi:<https://doi.org/10.1016/j.jbvi.2020.e00174>
- Buszko, M., Orzeszko, W., & Stawarz, M. (2021). COVID-19 pandemic and stability of stock market—A sectoral approach. *PLOS ONE*, 16(5), e0250938. doi:10.1371/journal.pone.0250938
- Chetty, R., Friedman, J. N., & Stepner, M. (2020). *The economic impacts of COVID-19: Evidence from a new public database built using private sector data*. Retrieved from <https://www.nber.org/papers/w27431>
- Creswell, J. (2007). *Qualitative inquiry & research design: choosing among five approaches*: Sage Publications.
- Dua, A., Ellingrud, K., Mahajan, D., & Silberg, J. (2020). Which small businesses are most vulnerable to COVID-19—and when. *McKinsey & Company*, 18.
- Ebersberger, B., & Kuckertz, A. (2021). Hop to it! The impact of organization type on innovation response time to the COVID-19 crisis. *Journal of Business Research*, 124, 126-135. doi:<https://doi.org/10.1016/j.jbusres.2020.11.051>
- Fairlie, R., & Fossen, F. M. (2022). The early impacts of the COVID-19 pandemic on business sales. *Small Business Economics*, 58(4), 1853-1864. doi:10.1007/s11187-021-00479-4
- Giones, F., Brem, A., Pollack, J. M., Michaelis, T. L., Klyver, K., & Brinckmann, J. (2020). Revising entrepreneurial action in response to exogenous shocks: Considering the COVID-19 pandemic. *Journal of Business Venturing Insights*, 14, e00186. doi:<https://doi.org/10.1016/j.jbvi.2020.e00186>
- Granja, J., Makridis, C., Yannelis, C., & Zwick, E. (2022). Did the paycheck protection program hit the target? *Journal of Financial Economics*, 145(3), 725-761. doi:<https://doi.org/10.1016/j.jfineco.2022.05.006>
- Ivanov, D. (2022). Viable supply chain model: integrating agility, resilience and sustainability perspectives—lessons from and thinking beyond the COVID-19 pandemic. *Annals of Operations Research*, 319(1), 1411-1431. doi:10.1007/s10479-020-03640-6





- Juergensen, J., Guimón, J., & Narula, R. (2020). European SMEs amidst the COVID-19 crisis: assessing impact and policy responses. *Journal of Industrial and Business Economics*, 47(3), 499-510. doi:10.1007/s40812-020-00169-4
- Moy, N., Antonini, M., Kyhlstedt, M., Fiorentini, G., & Paolucci, F. (2023). Standardising policy and technology responses in the immediate aftermath of a pandemic: a comparative and conceptual framework. *Health Research Policy and Systems*, 21(1), 10. doi:10.1186/s12961-022-00951-x
- OECD. (2020). *COVID-19 and Responsible Business Conduct*. Retrieved from <https://www.oecd.org/coronavirus/policy-responses/covid-19-and-responsible-business-conduct-02150b06/>
- Priyono, A., Moin, A., & Putri, V. N. A. O. (2020). Identifying Digital Transformation Paths in the Business Model of SMEs during the COVID-19 Pandemic. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4), 104.
- Rupeika-Apoga, R., Petrovska, K., & Bule, L. (2022). The Effect of Digital Orientation and Digital Capability on Digital Transformation of SMEs during the COVID-19 Pandemic. *Journal of Theoretical and Applied Electronic Commerce Research*, 17(2), 669-685.
- Toshkov, D., Carroll, B., & Yesilkagit, K. (2022). Government capacity, societal trust or party preferences: what accounts for the variety of national policy responses to the COVID-19 pandemic in Europe? *Journal of European Public Policy*, 29(7), 1009-1028. doi:10.1080/13501763.2021.1928270
- Yin, R. (2003). *Case Study Research: Design and Methods* (3rd ed.). London: Sage Publications.