

The Economic Impact of Pandemics on Individuals, Families and Communities

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Abstract

The Coronavirus disease 2019 (COVID-19) pandemic has dramatically changed systems, routines, practices, and beliefs. This pandemic will have a number of adverse outcomes which will continue to be felt for years to come. Understanding the economic impact on individuals, families, businesses, and communities is essential for developing strategies that reduce long-term negative outcomes. However, we are unaware of any evidence synthesis describing the range of economic or financial impacts associated with pandemics. In this paper, we analyze data from a large scoping review of previous pandemics to identify the various economic and financial impacts of global disease outbreaks on families, businesses, and economic systems. We found that individuals and families around the world experienced a reduction or loss of income associated with losing their job or having to work fewer hours, which increased their psychological stress. At the same time, the pandemic has negatively affected the financial outcomes of small and medium-sized businesses due to reduced economy activity, disruptions in the supply chain, and weakened infrastructure. We examine these findings in the light of two topics. First, we discuss how vulnerable and minority communities experience the various financial and economic impacts of global outbreaks to a greater degree compared to the general public. We also discuss the concepts of flexibility and resilience in order to understand how businesses respond to the changes brought forth by the pandemic.

Background

COVID-19 has dramatically changed systems, routines, practices, and beliefs. This pandemic has affected almost every facet of life with long-term implications for social and economic activity lasting years to come. People with mental illness have experienced exacerbation of symptoms, businesses have closed permanently due to reduced economic activity, and families and individuals have lost their jobs, causing ripple effects on their lives and future. Understanding the economic impact on individuals, families, businesses, and communities is an essential component of developing strategies for responding to the pandemic. Appropriate responses to the pandemic may reduce the potential negative and long-lasting outcomes associated with pandemics and global outbreaks. However, there has been no attempt to our knowledge to truly understand the range of eco-

omic or financial impacts that pandemics can have on individuals, families, businesses, and communities. In this review, we analyzed data from a large scoping review of previous pandemics to identify their economic and financial impacts on families, businesses, and economic systems. We conclude our paper by discussing the relevance of our findings within the context of COVID-19, and more specifically how countries will pivot in order to recover and restart their economies.

Overview of Article Scope

We conducted a narrative review of studies on how individuals, groups, and communities have reacted to pandemics. Since responses to pandemics have changed dramatically over time, we focused our attention on studies pertaining to pandemics since the start

of the 21st century, which include the following: Severe Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome (MERS), Influenza A/H1N1, Ebola Virus Disease (EVD), and COVID-19. We based this review from unpublished data generated from a previously published scoping review that attempted to identify the relationship between knowledge, misconceptions, risk perceptions, and behavior change during pandemics¹. In this review, we focused our work on data that specifically outlined the various economic or financial outcomes of families, workers, businesses, and the economy. We reviewed all articles from the scoping review and extracted findings relevant to the economic or financial impact of pandemics on families, workers, businesses, and the economy. We opted to include studies from multiple countries to increase the quality and quantity of data and allow us to make useful comparisons across demographics and cultures. Therefore, the insight we offer in this paper is a representation of multiple countries and contexts. As a team, we analyzed these findings using thematic analysis². Two researchers developed narrative summaries for each theme, which were then all integrated into a single findings section.

Findings

Economic Impact on Families and Workers

Six studies described how the pandemic increased stress, tension and emotional distress in families associated with real or perceived economic losses as a result of pandemics or global outbreaks³⁻⁸. These reactions to the pandemic or global outbreak arose for a number of reasons, such as fear of losing previously held occupations, having to shift to part-time work because of their inability to secure childcare, using more expensive transportation for commuting to reduce their exposure to infection, and paying for health services associated with infection at private hospitals. Families that primarily depended on income generated from a family-owned business were the most affected by the pandemic or global outbreak. In one study conducted in India, “tension” levels were reported as more severe than during the H1N1 pandemic⁷.

Individual family members who held jobs experienced a significant loss of their income, which had ripple effects on their health, safety, and ability to seek health care^{3-5,7,9-12}. Losing income came from having fewer

clients access their services which resulted in lower commission, dedicating less time to the occupation, not being paid for time in quarantine, taking early maternity leave without pay, lack of paid sick days that were used to get tested or when they had the disease, and losing the job⁹⁻¹². Other concerns that participants expressed within included studies were not being able to work from home and health care workers lacking food assistance for their family since they were mandated to provide health services for extended periods of time⁹⁻¹². Furthermore, participants expressed how the pandemic or global outbreak increased the daily cost of living while reducing their income, which caused significant disruption in how they budgeted daily life expenses⁷. Participants resorted to using their savings in order to meet their most basic needs during pandemics or global outbreaks⁷. Finally, participants who recovered from an infection also lost their job due to a disease-associated stigma⁹. For participants who did not lose their job, they experienced daily work-related discrimination which reduced their work performance and income in the long-term¹¹. Finally, feelings of stigma and discrimination towards certain ethnicities contributed to unemployment or even a complete closure of restaurants¹³.

Economic Impact on Businesses and Societies Research has shown that past pandemics and global outbreaks bring about economic decline, causing a devastating impact on businesses. During the SARS epidemic, the drastic decrease in both business revenue and service demand led to a collective loss of about \$60 billion in Southeast Asian and East Asian economies¹⁴. One study also demonstrated that the spread of Ebola was associated with a sharp decline in business in affected communities¹⁵. Business losses incurred during pandemics or global outbreaks have been associated with significant delays in resuming normal economic activity and reduced customer traffic leading to profit declines⁹. The lack of clientele noted at community centres, workshops, and restaurants was at least in part attributed to a fear of infection^{9,13}. Tourism also suffered substantially as a consequence of SARS; people were afraid of getting infected and refrained from travelling abroad in order to stay safe^{13,16}. In fact, financial losses and business closures, particularly those in the travel and tourism industry were associated with avoidance strategies and policy interventions introduced by governments to limit cross-border travel to reduce disease spread^{17,18}.

Global outbreaks and pandemics have negatively impacted the supply chain in businesses; for example, the outbreak of Ebola in Liberia contributed to the weakening of infrastructure and loss of economic resources¹⁹. The spread of disease was frequently associated with a decline in both economic and social activities, placing countries at a risk of economic recession²⁰. The economic activities affected in West Africa during the outbreak of Ebola included the production of cocoa²¹. Similarly, a small proportion of pig producers from Australia experienced drastically lower sales during the H1N1 epidemic²². Furthermore, global outbreaks were accompanied by a significant reduction in the value of housing²³.

tion to emerging evidence on the COVID-19 pandemic. We first discuss the immense impact the pandemic has had on minority and vulnerable communities and what this means for informing policy decisions. We will then discuss flexibility and resilience as potential solutions for identifying how businesses will respond to the pandemic to reduce its adverse outcomes on revenue.

The Impact of the Pandemic on Minority and Vulnerable Communities

Through history, the impact of pandemics or global outbreaks has had inordinate negative consequences on minority and racialized communities. While our list of included studies captured the situations of a variety of countries, we found continuous mention of minority and racialized communities in each country. We recognize, however, that minority groups in each country – especially between high- and low-resource countries – may differ considerably in the challenges they face. For the purposes of this discussion, we focus on “low-income communities” across all countries to attempt to draw out common challenges they have faced around the world since the start of the COVID-19 pandemic. We adopted this focus since included studies primarily mentioned general minority groups without a clear delineate of the demographic or other characteristics of participants.

Similar to previous outbreaks, COVID-19 has adversely affected economies worldwide and triggered financial instability among ethnic minorities, marginalized communities, and vulnerable populations. For example, 42% of Filipinos and 47% of West Asians in Canada lost their jobs due to the pandemic or were forced to work fewer hours; however, only about one-third of the Caucasian participants reported facing similar difficulties²⁴. Moreover, a greater proportion of minority groups compared to Caucasian participants expressed that the outbreak of COVID-19 had rendered them unable to pay for their basic necessities, including groceries and rent²⁴. Similarly, another study conducted in the US demonstrated that Latino families have been subjected to drastic economic challenges during the pandemic, such as unemployment, closure of their businesses, inability to pay for housing arrangements, and an inability to afford healthcare²⁵. In Bangladesh, a single day of lockdown was estimated to have led to a collective loss of \$64.2 million in earnings

Table 1. Key Findings

Impact	Findings
Families and Workers	<ul style="list-style-type: none"> Increased stress, tension, and emotional distress, primarily associated with real or perceived economic losses from the pandemic or global outbreak Fear of losing previously held occupations, having to shift to part-time work because of inability to secure childcare, using more expensive transportation for commuting to reduce exposure risk, and paying for health services associated with infection Losing income from fewer clients, less time to the occupation, not being paid for time in quarantine, taking early maternity leave without pay, lack of paid sick days, losing their job, not being able to work from home, and lacking food assistance for their families
Businesses and Societies	<ul style="list-style-type: none"> Sharp decline in business due to reduced customer traffic and delays in resuming normal economic activity The tourism industry was negatively impacted due to physical distancing mask-wearing policies, border closures, and movement restrictions on the public Supply chains that supported businesses were negatively impacted that caused further weakened country infrastructure and lead to the loss of economic resources

Discussion

Review of Findings

In this paper, we reviewed studies from previous pandemics and global outbreaks to identify the economic and financial impacts on individuals, families, businesses, and economic systems. In the following sections, we reflect on the aforementioned findings in rela-

among individuals working blue collar occupations ²⁶.

Social distancing policies introduced by the government have adversely affected the following sectors through complete shutdowns of physical operations or substantial reductions in their activity: entertainment, retail, transportation and travel, manufacturing, and bars and restaurants ²⁷. These sectors typically employ increasingly large proportions of recent immigrants, ethnic minorities, and other vulnerable communities. Consequently, these groups have been subjected to higher economic losses as compared to the rest of the population in the COVID-19 pandemic. Since these individuals also typically have lower levels of education, lower paying jobs prior to the pandemic, and a considerably small amount of assets, the outbreak of COVID-19 may have exacerbated the inequities that were already prevalent within society. As a result, these individuals are disadvantaged because they come from a marginalized background and thus have fewer opportunities to find alternative work. These inequities will likely continue to negatively impact vulnerable communities several years after the pandemic unless specifically tailored policies are developed and implemented at the local, provincial, and federal level to offset the economic downturn caused by COVID-19 for vulnerable populations.

We found that people facing financial difficulties in earlier pandemics experienced psychological and emotional distress. Similarly, research has shown that individuals that were either permanently terminated from their employment or temporarily laid off as a consequence of the COVID-19 outbreak experienced higher levels of psychological distress ²⁸. Thus, the psychological toll due to economic challenges associated with the spread of COVID-19 is likely to impact vulnerable communities more intensely than any other group because they form a disproportionately large number of individuals displaced from work by the outbreak ²⁹. Moreover, their financial situation may impede them from being able to seek the appropriate counselling or resources they need to overcome their difficulties. This may potentially be one of the many factors explaining the observation of worse mental health outcomes among racial minorities and LGBTQ communities in the COVID-19 pandemic reported in a study by Pedrosa et al. ²⁹. Minorities and vulnerable populations not only bear the psychological burden that accompanies fear

and panic during pandemics or global outbreaks, but also endure the additional stress that comes from losing their jobs. Previously published literature has demonstrated that previous outbreaks were often followed by discrimination towards racial minorities ^{11,13,16}. There is evidence that suggests an increase in stigmatization of vulnerable groups during the COVID-19 pandemic ³⁰. This type of discriminatory attitude might deter employers from hiring individuals in such groups in the future, perpetuating an ongoing cycle of financial problems and the consequential psychological burden.

Business Flexibility and Resilience During Pandemics
Citizens are more likely during pandemics or global outbreaks to have reduced mobility due to lockdown and stay-at-home orders, and as a result, spend less of their income on amenities, services, and entertainment. Thus, small-, medium- and large-sized businesses have been dramatically impacted by the COVID-19 pandemic due to minimal economic activity. The air transport association predicted loss to air carrier organizations at \$118 billion in 2020 ³¹; and the international film market was predicted to lose over \$5 billion in sales ³². Intensifying this dire situation for businesses, disruptions to supply chains have a cumulative effect on many industries, especially due to an interconnected global market ³³. The rapid slowdown of economic activity will have rippling effects on economies for years to come. Compared to previous pandemics and global outbreaks, however, we believe that the overall impact on revenues will be less during the COVID-19 pandemic because a greater number of businesses have larger portions of their revenues coming from online sales. Furthermore, the diversity and quantity of online businesses will continue to increase ³⁴. While physical economic activity may be at an all-time low, virtual economic activity may increase to compensate some of the revenue losses during the COVID-19 pandemic. However, we recognize that there are certain businesses that do not have the facilities to accommodate increased virtual economic activity and hence compensate for their revenue losses.

Businesses, particularly small- and medium-sized businesses, who are unwilling or unable to pivot their existing revenue generating streams to leverage the increase in virtual demand for goods and services will experience an immense challenge moving forward. It is a reality of today's economic landscape that busi-

nesses must adapt their services and goods with the shift from physical to virtual economic activity. Businesses that do not adapt will continue to face inadvertent and adverse consequences – such as the same revenue being siphoned to competing businesses that have successfully adapted – which may ultimately lead to the long-term decline of the business and eventual business failure³⁵. One study estimated a 10% failure rate of businesses in accommodation and food services, arts, entertainment and recreation, and education in the United States³⁶. The business literature on failure advises us on what businesses can do when they encounter a rapidly shifting market landscape.

The first approach is to predict these possible shifts in market landscapes through viewing the future, making “big bets” (i.e., determine which shifts are most likely to occur), and then changing business processes and activities to match those shifts before they occur³⁷. If a business’ big bets turn out to be true, then the business will be ahead of competitors and as a result may experience the adverse effects of the pandemic or global outbreak to a lesser degree. Viewing the future and making big bets is a characteristic of highly flexible and resilient organizations that sustain their superiority in a particular industry for decades. One case study of six hospitality firms in Austria found that some firms engaged in a considerable amount of business innovation that successfully adapted their business models to the new pandemic or global outbreak conditions by creating new revenue schemes³⁸. However, few businesses dedicate sufficient time and resources predicting the future, and many have a culture that conforms to the status quo.

The second, more reactive approach, is referred to as organizational isomorphism. In this approach, businesses switch their gears from business processes and service delivery to the acquisition of external knowledge on how other businesses have adapted to the changing market landscape³⁹. Businesses may imitate the structures, strategies, and practices of successful organizations in their marketing landscape⁴⁰. This learning process entails the rapid development of business adaptation solutions, rapid testing of these solutions, and finally implementing and scaling these solutions to optimize the revenue generated from new business processes and activities⁴⁰. Isomorphism for small- and medium-sized businesses might involve the provision of goods and

services that people need because of the pandemic or global outbreak (i.e., goods they did not need before), providing the same goods and services in ways that reach a greater quantity and diversity of people during mass quarantine and stay-at-home orders, and/or letting go of certain goods and services that are in low demand because of pandemic-related considerations³⁹.

Unfortunately, we see a rising number of business closures because of their inability to adapt to the changing market landscape⁴⁰. At the same time, however, new businesses are opening that have already acknowledged that almost all their revenue may be generated from virtual economic activity⁴¹. These businesses have already invested in online platforms that place them in a superior position to generate profit during a pandemic or global outbreak with reduced mobility⁴². This shows that businesses can adapt, but few may lack the resources, expertise, or direction to adapt effectively. Sood⁴³ recommended the following three suggestions based on their analysis of the impact of COVID-19 on consumer behavior in India: be true to your brand and to your intent, communicate to your clients, and find new ways to communicate with your customers.

Limitations

There are two notable limitations for this narrative review. First, we opted to include literature from a variety of countries and cultural contexts. While we recognize the importance of analyzing information on specific communities or populations, we emphasize the need to draw common economic challenges that communities, businesses, and economic systems have faced from pandemics and global outbreaks. Second, while this review focused on previous pandemics and global outbreaks, there is emerging research specific to the COVID-19 pandemic, some of which have been cited in this narrative review. We reflect on the continued need to document the economic impact of the COVID-19 pandemic on communities, businesses, and economic systems worldwide, particularly as some countries head into post-pandemic recovery and vaccination; it may be pertinent to analyze the persistent and long-term outcomes the pandemic will have on certain communities and businesses.

Conclusion

In this paper, we discussed the economic impact of previous pandemics and global disease outbreaks on workers, families, businesses, and economic systems. Overall, we found that families and workers experienced a reduction or loss of income, exacerbating psychological stress. We then discussed how vulnerable and minority communities experience the various financial and economic impacts of pandemics and global outbreaks to a greater degree than the general public. In the context of the COVID-19 pandemic, these groups may also face increasing levels of disease-related discrimination as we transition to post-pandemic recovery that may further stigmatize them and their communities. The pandemic has also had a negative impact on businesses due to reduced economic activity, disruptions in supply chain, and weakened infrastructure. We used the concepts of flexibility and resilience in order to understand how businesses respond to the changes brought forth by the pandemic. We identified viewing the future (proactive response) and organizational isomorphism (reactive response) as two responses that enable businesses to reduce the adverse economic outcomes of the pandemic on their activities and financial performance.

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