

Essential or not? Knowledge problems and COVID-19 stay-at-home orders

Virgil Henry Storr¹ | Stefanie Haeffele² | Jordan K. Lofthouse² |
Laura E. Grube³

¹George Mason University, Fairfax, Virginia, USA

²Mercatus Center at George Mason University, Arlington, Virginia, USA

³Beloit College, Beloit, Wisconsin, USA

Correspondence

Stefanie Haeffele, Mercatus Center at George Mason University, Arlington, VA, USA.

Email: shaeffele@mercatus.gmu.edu

Abstract

In response to the COVID-19 pandemic, governments around the world issued stay-at-home orders, which required that individuals stay at home unless they were engaging in certain activities. Often these orders would designate certain goods and services as “essential” and would permit individuals engaged in the production, delivery, and purchase of those goods and services to leave their homes to do so. Implicit in these policies, of course, is the assumption that policymakers can know *ex ante* which goods and services are essential. As proved true while these stay-at-home orders were in effect, essentialness is necessarily subjective and depends on knowledge that is often dispersed, inarticulate, and changes over time. Policymakers, however, do not and often cannot have access to the local knowledge needed to determine *ex ante* which goods and services are essential, and they lack the feedback mechanisms they would need to adroitly adapt when circumstances change. This paper examines these knowledge problems associated with designating certain goods and services as “essential” when crafting and implementing stay-at-home orders.

KEYWORDS

COVID-19, crisis response, knowledge, pandemic

JEL CLASSIFICATION

H12; B53; H11

1 | INTRODUCTION

In March 2020, the COVID-19 pandemic became widespread in the United States. The following months resulted in hundreds of thousands of deaths and economic hardship for millions. In response to the public health crisis, many state and local policymakers began issuing stay-at-home orders in an attempt to slow down the spread of the disease.¹ These orders restricted the ability of residents to leave their homes, except for the production or consumption of certain “essential” goods and services or engagement in other “essential” activities. Policymakers in many jurisdictions understandably came to a consensus that certain businesses were essential, such as supermarkets, grocery stores, pharmacies, garbage collection, healthcare providers, and banks. However, policymakers in different jurisdictions came to different conclusions about the essentialness of other types of business, such as golf courses, liquor stores, florists, office supply stores, bars, breweries, and cannabis shops.²

Implicit in these stay-at-home orders, of course, is the assumption that policymakers can know *ex ante* which goods and services are essential; that they can decide in advance which goods and services that consumers will find necessary and most valuable. Knowledge of which kinds of goods or services consumers want, and how urgently consumers want them, however, is dispersed, tacit, and not readily apparent to any central authority (Hayek, 1937, 1945; Lavoie, 1985a; Boettke, 2002; Kiesling, 2015). In fact, this knowledge of consumers’ beliefs and preferences regarding essentialness must be discovered. The entrepreneurial market process offers a means to discover, aggregate, and communicate this knowledge so that producers can provide the consumers’ most urgently needed goods and services (Mises, 1949; Hayek, [1968] 2014; Kirzner, 1973; Boettke, 2012). Market entrepreneurs also have feedback mechanisms that discipline their action so that they are fulfilling consumers’ most urgently felt needs first. These feedback mechanisms include monetary prices and profit-and-loss, which give signals to entrepreneurs about when and how to shift resources in ways that better fulfill consumer demand as well as encourage entrepreneurs to find innovative ways to offer the goods and services that consumers believe are essential. Thus, entrepreneurs can ensure that the knowledge of the particular circumstances of time and place are used to direct goods and services to their most valued uses (Lavoie, 1986; Kirzner, 1997; Boettke, 2012; Coyne, 2013; Sautet, 2015). This is true in mundane times and is no less true during a crisis like a pandemic.

Policymakers, however, face an epistemic problem when determining which goods and services are essential because they do not and often cannot have access to the knowledge needed to determine *ex ante* the urgency of the consumers’ needs or the qualities and quantities of goods that consumers demand and they lack the feedback mechanisms they would need to adroitly adapt when circumstances change (Hayek, 1940; Kirzner, 1985; Lavoie, 1985b; Mises [1920] 1975). Without these feedback mechanisms, policymakers are inhibited in (a) identifying consumers’ needs *ex ante*, (b) providing needed goods and services, and

¹For a discussion on the correlation of less economic freedom and the early passage of stay-at-home orders, see McCannon and Hall (2021), and on economic freedom and pandemics more generally, see Candela and Geloso (2021).

²For a discussion on the various policy approaches to liquor stores and marijuana dispensaries, see Redford and Dills (2021).

(c) adapting when circumstances change. Thus, policymakers cannot solve the economic problem of determining the welfare-maximizing use of scarce resources, or in other words, determining accurately which goods and services consumers think and believe are essential. Just as economic central planners lack the contextual knowledge that emerges through market prices to allocate resources to their most valued uses, public officials who engage in non-comprehensive planning also lack the contextual knowledge regarding the essentialness of particular goods and services (Lavoie, 1985b; Coyne *et al.*, 2021).

Additionally, policymakers face another knowledge problem because they do not and cannot fully understand the complex production processes that lead to the final goods and services that may be essential. The production of even the simplest good is extremely complicated because the process directly and indirectly involves thousands, if not millions, of people in many locations with various skills and knowledge (Menger [1871] 2007, 1888; Boettke, 2018; Braun, 2020). Further, many so-called essential goods and services must necessarily be consumed with other complementary goods and services, otherwise the essential goods and services will not fulfill their purpose properly (Lachmann, 1947, 1978; Coyne, 2013). Advanced societies require a massive scale of social coordination among many entangled forms of production and consumption, implying that the designation of one business, good, or service as essential is not straightforward because of all the contributing factors and processes. In other words, the knowledge problem is magnified by the challenge of deeming what inputs are “essential” for final consumer goods (where errors can lead to shortages) as well as the unintended consequences that hamper and shift entrepreneurial activity (Kirzner, 1985).

This paper examines the knowledge problems associated with designating certain goods and services as “essential” when crafting and implementing stay-at-home orders. In short, policymakers do not have the requisite knowledge nor epistemic capabilities to identify accurately *ex ante* which goods and services are essential for any individual’s physical, social, and psychological well-being because those needs are subjective and must be discovered. As such, policymakers’ attempts to plan “the essential economy” during the COVID-19 pandemic has been fraught with challenges that can do more harm than good (see Boettke and Powell, 2021). In Section 2, we offer a brief review of the stay-at-home orders that were adopted within the United States. Next, in Section 3, we discuss the knowledge problems that policymakers face when trying to determine which goods and services consumers think are essential, particularly in times of crisis. In Section 4, we apply this framework to the stay-at-home orders and designations of essential goods and services in the US. In Section 5, we then discuss how the entrepreneurial market process discovers, aggregates, and communicates the necessarily dispersed and often tacit knowledge that is necessary to fulfill consumers’ most urgently felt needs. And, in Section 6, we conclude with the implications of this research.

2 | A BRIEF HISTORY OF STAY-AT-HOME ORDERS IN THE US

Beginning in March and April of 2020, policymakers at the state, county, and city levels enacted stay-at-home orders or other executive and public health orders that deemed certain businesses essential and forced others to close.³ The purpose of these orders was to limit the spread of the

³While our analysis focuses on the United States, other countries have also initiated various policies in response to the COVID-19 pandemic. For a discussion on the severe lockdowns imposed in India, see Choutagunta *et al.* (2021), and for the more decentralized and voluntary approach taken by Sweden, see Bylund and Packard (2021).

SARS-CoV-2, or novel coronavirus (COVID-19). Under these orders, each jurisdiction designated certain businesses or organizations as essential, allowing them to continue operating. Workers were permitted to leave their homes to work at essential businesses, and consumers were permitted to leave their homes to shop for essential goods and services. Businesses that were not considered essential were forced to shut down temporarily or to alter their modes of operation significantly.

All states, except South Dakota, either issued some form of a stay-at-home order or issued orders to close high-contact businesses and activities (NASHP, 2020). The official names of the stay-at-home orders varied from place to place, including phrases such as “shelter in place,” “stay healthy at home,” and “safer at home,” to more specific directives like “closing non-essential businesses” and “statewide essential services and activity protocols.” Despite the differences in names, these policies largely attempted to bring about the same outcomes: to get residents to remain in their place of residence except to perform a preapproved list of activities that were deemed essential. Some orders were issued by governors, while others were issued by directors of state agencies with the relevant authority, such as state health and welfare departments.

Each state's stay-at-home order (or equivalent policy) provided explicit definitions of “essential” goods, services, and activities, but those definitions varied largely from state to state. Despite the diversity, there are some commonalities across states in their definition of “essential.” For example, Indiana's original stay-at-home order had an extensive list that defined many essential businesses, including grocery stores, pharmacies, farms, charitable organizations, religious entities, media companies, gas stations, auto repairs shops, banks, insurance companies, hardware stores, construction companies, and cleaning services, among others. Colorado's original stay-at-home order deemed establishments like grocery stores, convenience stores, pharmacies, drug stores, food pantries, healthcare facilities, and crisis shelters essential. Whereas North Carolina's original stay-at-home order labeled similar establishments as essential, including hospitals, clinics, dental offices, pharmacies, long-term care facilities, childcare centers, grocery stores, supermarkets, food and beverage producers, and construction companies. Although there were many similarities among the various state's designations, there were also important differences, which are discussed later in this paper.

Although the federal government did not enact a nationwide stay-at-home order, the Cybersecurity & Infrastructure Security Agency (CISA) within the Department of Homeland Security (DHS) identified 16 critical infrastructure sectors “whose assets, systems, and networks, whether physical or virtual, are considered so vital as to the United States that their incapacitation or destruction would have a debilitating effect on security, economic security, public health or safety, or any combination thereof” (CISA, 2020). States either followed the CISA guidance exactly (such as California, Georgia, and Montana), modified it (for instance, Florida, Texas, and Wisconsin), or issued their own lists of essential businesses (like Illinois, New York, and Virginia).

Georgia's stay-at-home order, issued April 2, 2020, provides an example of the structure that many other state policymakers took. The order required residents to remain in their homes, unless they were “conducting or participating in Essential Services,” which included activities like “[o]btaining necessary supplies and services for family or household members, such as food and supplies for household consumption and use, medical supplies or medication, supplies and equipment needed to work from home, and products needed to maintain safety, sanitation, and essential maintenance of the home or residence” (Georgia, 2020, p. 3). In Georgia, all businesses, non-profits, and organizations that did not fall under the CISA list of critical

infrastructure sectors were ordered to engage only in “Minimum Basic Operations,” which was defined as the “minimum necessary activities to maintain the value of a business, establishment, corporation, non-profit corporation, or organization, provide services, manage inventory, ensure security, process payroll and employee benefits, or for related functions. Such minimum necessary activities include remaining open to the public subject to the restrictions of this Order” (Georgia, 2020, p. 3). In Georgia’s order, however, many types of establishments were specifically ordered to close, including gyms, fitness centers, bowling alleys, theaters, live performance venues, amusement rides, estheticians, hair designers, massage therapists, and bars, among others.

The duration of these orders also varied widely, and several states reinstated them weeks or months after their first orders had expired. In many states, their orders evolved throughout the year as infection rates fluctuated in each state. Some states were still under such orders as of October 2020. For example, California’s statewide order went into effect on March 19, 2020, and is in place until further notice. In Delaware, the original stay-at-home order was in effect from March 24 to May 31; however, through the summer and into the fall of 2020, the governor delayed reopening plans and extended the state of emergency several times due to an increase in cases. On September 4, Delaware’s governor announced a sixth extension of the state of emergency, set to last indefinitely (NASHP, 2020).

Most states loosened their stay-at-home orders in phases, with each subsequent phase less restrictive than the previous one. Louisiana provides an illustrative example of the phased opening approach that many states took as the number of cases fluctuated in each state. Louisiana’s original stay-at-home order was issued on March 22, and on June 5, restaurants, bars that serve food, barber shops, salons, and gyms were allowed to reopen whereas churches could open at 50% capacity. However, a few weeks later on June 22, an increase in new cases caused the governor to delay the state’s next phase of reopening. On July 21, the governor announced that the state would remain in phase two, and that order was renewed several times until September 10, when the state moved to a modified phase three. However, New Orleans was forced to remain in phase two for longer moving to phase three on October 3. Louisiana would remain in phase three until at least November 6, 2020 (City of New Orleans, 2020; NASHP, 2020).

During phase two of the reopening process, many businesses that were banned in the height of the lockdown were able to begin their normal functions again. For example, when the state of New York entered phase two, some so-called “non-essential businesses” were permitted to reopen, as long as they complied with health protocols like physical distancing and mask wearing. It also allowed many more industries to open, such as offices, real estate, some in-store retail, vehicle sales/leases/rentals, retail rental businesses, repair businesses, cleaning businesses, commercial building management, hair salons, and barbershops. However, even in phase two, many businesses were still required to remain closed, including but not limited to malls, indoor on-premise restaurants and bars, large venues, gyms, fitness centers, casino gaming facilities, movie theaters, amusement rides, carnivals, amusement parks, water parks, aquariums, zoos, arcades, fairs, children’s play centers, funplexes, theme parks, and bowling alleys (New York State, 2020a). Phase three allowed more businesses to open, such as indoor food services and personal care businesses, including tattoo and piercing facilities, appearance enhancement practitioners, massage therapy, spas, cosmetology, nail specialty, tanning, and waxing (New York State, 2020b). Phase four allowed educational institutions, entertainment venues, media production, malls, gyms, and fitness centers to open, as well as professional sports with no fans (New York State, 2020c). By early October 2020, all of New York State was in phase four, with some additional restrictions for New York City.

From late October through December 2020, there has been a surge in COVID-19 infections in many states (CDC, 2020). In response, many states and local governments reinstated their stay-at-home orders or issued new orders to urge residents to only engage in essential activities, implement curfews, and close non-essential businesses. Some of these states include California, Connecticut, Delaware, Illinois, Massachusetts, Michigan, New Mexico, and Rhode Island (NASHP, 2020).

3 | KNOWLEDGE PROBLEMS AND DETERMINING WHAT IS ESSENTIAL

Setting aside considerations of underlying intentions or political influences, policymakers face several knowledge problems when determining which businesses, goods, services, and activities are essential. Economists in the Austrian tradition have focused on the epistemic shortcomings of centralized economic planning and the ability of the entrepreneurial market process to aggregate and communicate knowledge that is dispersed and tacit (Mises, [1920] 1975; Hayek, 1937, 1945, [1968] 2014; Mises, 1949; Kirzner, 1973, 1985, 1997; Lavoie, 1985a, 1985b, 1986). To understand knowledge problems, it is first important to understand that the Austrian approach emphasizes methodological subjectivism, meaning an appreciation that human preferences and expectations are subjective to each individual. Thus, the value of a good depends primarily on the subjective valuations of individuals, how many people want that good and the strength of their demand (Hayek, [1942] 2010).

Since the means to satisfy subjective desires are scarce, the core economic question is how to allocate scarce resources among competing uses. The allocation of resources to fulfill individuals' subjective desires requires social coordination on a massive scale. Such large-scale economic coordination requires institutions and mechanisms that discover, aggregate, and communicate knowledge that is dispersed and tacit among millions of people. In the market, private property rights, monetary prices, and the feedback mechanisms of profit and loss provide the institutional structure for overcoming this knowledge problem and encouraging producers and consumers to engage in exchanges of mutual benefit (Mises, [1920] 1975).

This epistemic advantage of the market can be contrasted with the epistemological shortcomings of centralized economic planning, such as that of the top-down determination of essential businesses, goods, and services. This framework was first established during a series of debates in the 1920s and 1930s, known as the Social Calculation Debate, where Mises and Hayek critiqued the feasibility of central economic planning used in the Soviet Union and other communist countries (Hayek, 1940; Lavoie, 1985a; Mises, [1920] 1975). Socialist thinkers at that time were advocating for the abolishment of private property and implementation of centralized planning for all economic activity. Government planners would have to determine what goods and services would be produced and in what quantities as well as how they would be produced and distributed to consumers. In essence, centrally planned economies were a society-wide exercise in deciding which goods and services were essential. Central planners were attempting to determine which goods and services were essential, how much of each good or service was essential, and what quality of goods and services was essential.

Mises and Hayek's critiques of the socialist project was not a condemnation of the socialists' motivation or morality. Instead, they critiqued the idea of comprehensive economic planning because such a system does not allow for rational economic calculation, or in other words, the

ability to weigh the economic feasibility of a given decision from the array of technologically possible possibilities. When private property exists, the various owners of the means of production can compete with each other over resources and property can be exchanged among people who have different endowments and who place different subjective values on various goods. When private property is exchanged, monetary prices can emerge, which provide a common unit of calculation to weigh the relative scarcity of goods and compare alternative choices, even when those options are very different. Market prices contain relevant knowledge that is necessary for the social coordination of many competing and complementary plans (Mises, [1922] 1981). These prices reflecting relative scarcities allow actors to determine if they are using resources in socially useful ways (which earning profits would signal) or socially wasteful ways (which suffering losses would signal). Only the market system, with market prices that economize on knowledge and profit-and-loss mechanisms that allow for rational economic calculation, can facilitate large-scale social coordination of plans in a way that maximizes value among scarce resources. Additionally, the possibility of profit and the threat of loss incentivize producers of goods and services to constantly look for ways to satisfy consumers while using resources efficiently. Markets allow producers to determine what to produce, how to produce it, and in what quantity and quality, and individuals are able to distinguish between the most economically efficient courses of action compared to the myriad of technologically feasible alternatives.

The central economic problem facing societies is how to coordinate the activities of individuals, each of whom are attempting to advance particular plans and each of whom possess particular knowledge of their circumstances which form the basis of their decisions (Hayek, 1945). Plan coordination is difficult precisely because the knowledge which informs action is dispersed, local, possibly ephemeral, and often tacit nature (i.e., the *complexity knowledge problem*). Market prices, however, allow for the coordination of plans because they serve as knowledge surrogates and can communicate some of this dispersed, local, possibly ephemeral, and often tacit knowledge about time and place. In fact, market systems with emergent prices are the only way humans have found to economize on knowledge that allows for the large-scale social coordination of millions of disparate, subjective plans (Mises, [1920] 1975, 1949; Hayek, 1937, 1945, [1968] 2014; Kirzner, 1973, 1997; Lavoie, 1985a, 1985b, 1986). This is because some of the knowledge that informs action does not exist and cannot exist outside a market context because it is created through our market interactions (i.e., the *contextual knowledge problem*).

Since the Socialist Calculation Debate, economists have applied the core logic of knowledge problems to other government interventions and policies, particularly exploring the limitations of central planning and the potential of bottom-up solutions in times of crisis and turmoil (see Haeffele and Storr, 2020a, 2020b). For example, Sobel and Leeson (2007) argue that knowledge problems are inherent in natural disaster management. They argue that natural-disaster management is similar to “normal” economic contexts because they still require massive social coordination. After a natural disaster, demanders need disaster-relief supplies, which may include food, shelter, medications, etc., and suppliers are willing to bring the needed goods, services, and expertise to meet demanders’ needs. To succeed in supplying disaster recovery, suppliers must be able to identify that a disaster has taken place, determine which goods and services are needed and where, and make adjustments when changes occur. In the wake of disasters, government is often seen as the primary supplier of relief as well as of the resources and coordination for reconstruction. Yet, Sobel and Leeson (2007) find that the Federal Emergency Management Agency (FEMA) struggled with each step in the aftermath of Hurricane Katrina

in 2005; they were delayed determining the scale of the disaster, faced challenges in getting essential goods and resources to those who needed it most, and were slow to adapt when circumstances changed. Instead of facing losses, however, FEMA received more funding and personnel. In essence, FEMA faced insurmountable knowledge problems in determining which goods and services people needed, which quantities and qualities of goods and services were needed, and when and where those goods and services were most needed.

State-led humanitarian action also suffers from the knowledge problem. Coyne (2013) argues that governments often lack the ability to actually deliver on their supposed moral obligations to provide humanitarian aid because bureaucrats do not possess the ability to coordinate the disparate plans necessary to achieve economic progress. In other words, advocates of state-led humanitarian action lack the relevant knowledge to accomplish their goals, often leading to various forms of unintended harms to the very people the aid is intended to help. Coyne refers to the “planner’s problem,” which is the inability to allocate scarce resources to their highest-valued uses because they do not have the advantage of market prices and profit-and-loss accounting. Thus, government bureaucrats do not have the ability to singlehandedly spur economic progress, which requires fulfilling consumers’ desires by discovering the particular goods that consumers want in the correct quantities and qualities. In other words, the planner’s problem that Coyne (2013) discusses is the archetype of the Hayekian knowledge problem.

Seshadri and Storr (2010) argue that India’s export processing zones (EPZs), used as a development strategy since the 1960s, have underperformed at promoting exports and creating jobs. Policymakers have blamed the shortcomings of the strategy on these zones’ poor infrastructure and bureaucratic inefficiencies. However, as Seshadri and Storr (2010) assert, knowledge problems are the primary root of the lackluster performance of EPZs. Policymakers lack the knowledge of where to locate new zones, which industries to promote within established zones, and which proposed units are likely to be successful and should, therefore, be allowed into the zones. The failure of EPZs has largely been because the Indian government pursued a top-down export plan, rather than allowing a bottom-up strategy that would have discovered, aggregated, and communicated necessary knowledge about the correct locations, industries, and goods that need to be produced. India’s top-down export plan largely failed because knowledge regarding which zones, industries, or units will be economically successful must be discovered through our market interactions; they cannot be known *ex ante* by technocrats.

Further, Desrochers (1998) describes the nature of local knowledge in urban areas, as well as the knowledge problems that governments face when attempting to develop industrial regions. Additionally, Desrochers (2001) argues that industrial clusters facilitate the transmission of tacit knowledge, allowing learning and innovation to flourish when people can engage in face-to-face communication. Much of the knowledge that is necessary to run successful and innovative businesses cannot be generated by government officials because government officials do not have access to the kinds of tacit knowledge that emerges within industrial clusters. Similarly, Desrochers and Sautet (2004) argue that the geographical concentration of related manufacturing and service firms, known as clustering, is important for economic growth, but policymakers cannot know *ex ante* how clusters should be formed. Government officials have correctly identified that clustering is important to make economies grow, but the particular form that clustering takes in any given location is a bottom-up, spontaneous result of the entrepreneurial market process. Government officials do not have the knowledge necessary to design a successful cluster. Such attempts at social engineering reflect what Hayek would call a “scientific error.” Policymakers can attempt to set up broad institutions that facilitate the

spontaneous emergence of growth-producing clusters, but they cannot comprehensively plan a successful cluster.

Stay-at-home orders and essentialness designations suffer from many of the same epistemic shortcomings as the public policies described above. The knowledge necessary for such coordination is dispersed and tacit, and policymakers often lack the knowledge necessary to make accurate determinations about the essentialness of any particular good or service. Even if the intentions of policymakers are assumed to be benevolent, good intentions do not remove the epistemic limitations that policymakers face when trying to interfere in the complex, entangled functions of markets. Governments do not occupy the correct epistemic position to determine which services and activities are essential for any individual's physical, social, and psychological well-being. Government officials' ability to plan "the essential economy" is as plagued with the same knowledge problems as their ability to plan the general economy in non-emergency times.

4 | KNOWLEDGE PROBLEMS AND ESSENTIALNESS DESIGNATIONS IN STAY-AT-HOME ORDER

Policymakers who want to designate products as essential *ex ante* face at least three knowledge problems: they lack the relevant knowledge of the thoughts and beliefs of the millions of consumers that they govern; they lack a knowledge of the complex production processes that lead to final consumer goods; and they lack feedback mechanisms to know if they have made a mistake and when to adapt, unlike entrepreneurs in the market.

When policymakers created stay-at-home orders beginning in March and April 2020, they made assumptions about what kind of goods and services people would need to maintain a basic standard of living, while also shutting down any supposed superfluous businesses or activities that could potentially lead to the spread of the virus. However, such assumptions are problematic because, as discussed above, policymakers cannot know the subjective thoughts and beliefs of millions of constituents. A subjectivist approach acknowledges that the facts of the social sciences are what people think and believe. Individuals take purposeful action to accomplish their ends, and those ends are subjectively interpreted by each individual based on their unique circumstances of time and place (see Lachmann, 1977, 1986). Viewed in this way, determining which goods and services are "essential" is not straightforward. For example, the first marginal unit of water and the first marginal unit of food may be reasonably defined as essential for all individuals because they are necessary for sustaining life. However, any food or water beyond the first few marginal units used to maintain biological functions in a human body may not be essential to anyone.

Each individual also has a unique, subjective intensity of preferences for various goods and services. An individual's most intensely preferred goods and services could be reasonably considered as essential for them. Policymakers, however, have no way of knowing the intensity of consumers' preferences *ex ante*. They can attempt to make educated guesses about what they think people prefer most intensely, or they may use introspection to determine what they personally view as most essential as a heuristic for everyone else's preferences. The relevant information about people's preferences is fragmented, diverse, and inarticulate, and only the market process provides an effective means to discover, aggregate, and communicate the knowledge of millions of individuals' subjective preferences. Since this knowledge is decentralized in nature, only decentralized private actors, like those participating in markets,

can effectively direct economic decision-making in such a way that delivers the goods and services that people think and believe are essential. Policymakers who seek to make essentialness designations, even with the best of intentions, have no way of accessing such knowledge.

Further, policymakers do not have access to anything akin to a social welfare function. As Buchanan (1959) argues, a social welfare function would conceptually allow policymakers to rank all possible states of society and choose the best state of the world. However, individual utility functions do not exist in a form that can be read and combined by policymakers into a social welfare function. Policymakers, thus, have no real basis on which to make the tradeoffs associated with allowing or disallowing the provision of certain goods and services. There is no unit of account that says that only prohibiting the provision of a specific service has a tolerable or acceptable level of social disutility relative to the benefits of allowing it (Buchanan, 1959).

Among the various state orders, the definitions of “essential” had many commonalities, which centered on the health, safety, and welfare of the public. For example, Arizona’s (2020, p. 2) executive order specified that “an essential function is defined as one specifically identified as such or a function that promotes the public health, safety and welfare of the state or assists others in fulfilling such functions.” The stay-at-home orders of many other states used similar language. Many states considered the following types of businesses essential and allowed them to remain open: healthcare facilities, grocery stores, farms, gas stations, hardware stores, funeral services, pharmacies, automotive repair shops, banks, shipping businesses, internet/phone providers, energy providers, utility providers, and so on. In addition to private businesses, most states also specified essential governmental functions that were to continue while the stay-at-home order was in effect. These essential designations are in a sense largely common-sensical; citizens need access to health care, food and supplies, and utilities in order to stay at home and, if needed, get treated for COVID-19 and other medical issues. They are also in sync with the CISA guidelines released by the federal government, which also designated industries that support national defense and security.

However, there was also significant diversity in the contents of stay-at-home orders, especially regarding the specific types of essential businesses that were allowed to remain in operation. Goods and services deemed essential in one state were deemed non-essential in other states, suggesting the arbitrary nature of essentialness designations. For example, Delaware, Pennsylvania, and Maryland border each other and have some overlapping metropolitan areas (such as Baltimore, Wilmington, and Philadelphia along Interstate 95). Despite their geographic proximity, there were notable differences in the types of businesses that were deemed essential. Pennsylvania (WFMZ, 2020) prohibited the construction of buildings, civil engineering construction, and specialty trade contractors, except for emergency repairs, while Delaware (2020) and Maryland (2020) allowed such construction to move forward. Pennsylvania and Maryland closed fiber, fabric, and apparel knotting mills as well as apparel and footwear manufacturing, but Delaware did not. Pennsylvania closed manufacturing businesses that focused on electrical and lighting equipment, household appliances, motor vehicles, aerospace parts, and other transportation equipment; Delaware and Maryland allowed such businesses to remain open. Pennsylvania closed beer, wine, and liquor stores, but Maryland and Delaware allowed them to remain open (see Redford and Dills, 2021). Delaware closed consumer goods rental businesses, but Maryland and Pennsylvania allowed them to remain open.

Further, Connecticut is one of a few states that identified landscaping as essential because it helps “maintain the safety, sanitation and essential operations of residences or other essential businesses” (Connecticut, 2020, p. 4). In Washington, florists, boat sellers, and toy makers were deemed essential (Podsada, 2020). Pawnshops were classified as essential in Indiana because

they fell under the “financial and insurance institutions” category (Tribune Staff Report, 2020). Ohio had originally forced golf courses to close, but it reversed its decision on March 29, categorizing golf courses as essential and allowing them to operate with proper physical distancing protocols (Jablonski, 2020). While in Michigan, a business named Scott’s Sports Cards, Coins & Jewelry was allowed to continue operating because the selling of gold and silver coins was determined to be an essential financial service (Krafcik, 2020).

The penalties for violating these orders also varied widely from state to state. In Alaska, a business or organization that failed to cease operation could receive a civil fine up to \$1,000 per violation, and a person or organization that failed to follow state COVID-19 mandates could be criminally prosecuted for reckless endangerment (NASHP, 2020). In Virginia, violations of the order were classified as a Class 1 misdemeanor, which could lead to jail for up to 12 months, a fine of up to \$2,500, or both (NASHP, 2020). In Texas, failure to comply with any executive order issued during the COVID-19 disaster could be punished by a fine not to exceed \$1,000, confinement in jail for a term not to exceed 180 days, or both a fine and confinement (NASHP, 2020). The original stay-at-home orders of Alabama, Connecticut, Florida, Kansas, Kentucky, Massachusetts, Michigan, Missouri, New Mexico, New York, Oklahoma, Pennsylvania, Rhode Island, Tennessee, Utah, and Vermont, however, did not mention any penalties for noncompliance (NASHP, 2020).

Such variation is difficult to keep track of and adjust to, especially for individuals in populated metropolitan areas and for those who do business across state lines. While variation can sometimes better match local contexts and needs, it can also add what Chamlee-Wright (2010) calls “signal noise”. In times of crises, there is vast uncertainty and vague, confusing, and shifting policies can add additional uncertainty, making it difficult for business owners and customers to navigate the market. A business that operates within the broader Delaware-Maryland-Pennsylvania area would need to assess all three orders to determine the extent to which their business can continue to operate. A florist in Washington may struggle to determine if they can deliver flowers across the border into Oregon. And, consumers may likewise be uncertain about which goods and services they will be able to find and purchase.

As people adjusted to life under sheltering-in-place orders, demand for cleaning supplies, household goods, and non-perishable foods increased. Yet, at the same time, businesses were scaling back or closing up operations in accordance with stay-at-home orders, leading to disruptions in supply. The first few weeks were plagued with empty grocery store shelves, backorders on Amazon, and ever-changing public health guidelines (see Peltz and Morgan, 2020). As the pandemic continued and stay-at-home orders extended, new needs and challenges arose, making it even more difficult for policymakers to identify which businesses were essential or not. Those working from home sought equipment that would be ergonomically correct and increase productivity, people protested for activities that provided a sense of normalcy (such as being able to get their hair cut, golf, or even walk in their local public park), and others took up baking and crafting that increased demand of a variety of previously less important goods. All these goods and services seem to be essential to at least portions of the population at various points in the pandemic. And, importantly, the range of goods that would come to be viewed by some people as essential could not be known as the stay-at-home orders were being drafted.

There is an additional challenge that is associated with identifying which goods and services are essential. When creating stay-at-home orders and essentialness designations, one important knowledge problem that policymakers face is that they do not fully comprehend the complex production processes that lead to the final goods and services that consumers desire. As such,

policymakers might (accurately) deem that hardware stores are essential but might not have a full understanding of the complex web of people and processes that lead to the final goods that are sold in a hardware store. For example, the production of a hammer requires thousands, if not millions, of people who indirectly lead to its production. Just some of the people necessary to produce and sell a hammer include those who mine ore, harvest timber, transport raw resources, refine ore, cast metal, transport consumer goods, and work in retail. Even more indirectly, people who work in human resources and accounting are necessary to help in the various stages and components of a hammer's production. Additionally, people who work in agriculture and food services feed all the people who help bring about the production and selling of a single hammer. As such, the production of even the simplest tool, like a hammer, is extremely complicated because they involve many people in many locations with various skills and knowledge (Hayek, 1931, 1941; Lachmann, 1947, 1978). By designating any component of a hammer's production process as inessential, the entire system will have to readjust. During the process of readjustment, hammers are likely to become more expensive and/or become scarcer. When states like Pennsylvania closed manufacturing businesses, they cut off the supply of consumer goods, like apparel, footwear, and appliances.

Additionally, the sheer complexity of an advanced economy means that production of even the simplest items is potentially complicated by the fact that goods and services are often consumed together. A reasonable person might consider cars as essential during a pandemic, but cars also require gasoline and a host of spare parts to run properly. As such, the effective use of a car becomes entangled with many other people and processes. The essentialness of a car implies that the people who contribute to the production and provision of gasoline and spare parts also becomes essential. The massive scale of social coordination required to live in an advanced society makes it difficult to deem one business, good, or service as essential without also designating all the contributing factors as essential also. Thus, the complex economic interdependencies of a society pose a major knowledge problem for policymakers.⁴ Even though it may seem like common sense that people need food, shelter, utilities, and medical care, policymakers cannot know all the constituent resources, intermediate goods, and production processes that go into the production of even just these essential goods. Policymakers also cannot know all of the complementary goods and services that make the production and provision of essential goods possible. It is only through the spontaneous order of the market process that complex economic interdependencies can function smoothly and reliably, resulting in the goods and services that consumers desire being in adequate supply and available for purchase.

There is another challenge with determining in advance which goods and services are likely to be essential. Since preferences are subjective, supply chains are complex, and circumstances are constantly changing, policymakers need to have some way of determining if they have made a mistake in their essentialness designations. However, policymakers do not have clear-cut signals that they have made mistakes, and policy changes are often too slow to address real-time problems. When adjustments are made, each policy can result in unintended consequences.

Indeed, unintended consequences of public policies are an important manifestation of knowledge problems. For example, in March 2020, the Centers for Medicare & Medicaid Services (CMS) asked people to delay elective surgeries and non-essential medical, surgical, and dental procedures during the COVID-19 pandemic. Many governors issued executive orders that banned elective surgeries and other medical procedures. Waiting weeks or months to check

⁴For a discussion on the knowledge and incentive problems facing social health planners during the pandemic, see Coyne *et al.* (2021).

for possibly malignant tumors, however, could lead to an increase in cancer deaths. Waiting for elective surgery to reduce pain, such as hip or knee replacements, may lead many individuals to use strong pain medications, such as opioids, potentially creating issues with addiction (see Redford and Dills, 2021). Such bans also encourage patients to delay seeking medical assistance, rather than giving doctors the ability to encourage important treatments for those that should not wait (Singer, 2020). Further, the backlog of non-essential treatments will further diminish capacity and reduce the quality of care (Jain *et al.*, 2020). The full unintended consequences of banning elective medical procedures will not become clear for some time.

As stay-at-home orders continued for weeks and months, there were many consequences of the restrictions. The national unemployment rate, which had hovered around 4% for the past year, spiked to over 14% in March and April and remains over 6% as of October 2020 (BLS, 2020). In addition to the mass furlough and laying off of workers, many businesses have permanently scaled back operations or closed altogether. Fairlie (2020) finds that the number of active business owners shrunk by 22% in February and March and has not yet bounced back. A case study in Oakland, California, found that small businesses saw a 7% reduction of in-store foot traffic and faced higher closure risks but could utilize their low-cost operational structures, labor flexibility, and additional revenue or loans as ways to cope (Bartlett and Morse, 2020).

In response, the federal government issued stimulus payments, extended and expanded unemployment insurance, and distributed business loans. While these relief packages have long expired, additional relief has been widely debated in Congress, with some believing that the relief itself was a disincentive for workers whose employers wanted them to return to work. Although many stay-at-home orders had been lifted in the late summer and fall of 2020, consumer demand has shifted in the pandemic, with many people choosing to remain at home or to follow physical distancing protocols and limiting their visits to restaurants, shops, and other business.

In the last few months of 2020, many states have reissued or issued newer, modified stay-at-home orders. California's new stay-at-home orders are some of the most comprehensive and far-reaching. The "Limited Stay Home Order," issued on November 21, 2020, instituted a curfew directing nearly all of the state's residents to "stop non-essential activities between 10PM and 5AM" (CDPH, 2020). On December 3, 2020, a "Regional Stay At Home Order" was issued for several regions in the state, including major population centers in southern California (COVID19.CA.GOV, 2020a). Under the new regional orders, the state's residents are instructed to stay at home as much as possible and limit mixing between households. The regional orders allowed critical infrastructure, schools, non-urgent medical and dental care, and childcare to remain open, as long as safety precautions are heeded. California has defined essential critical infrastructure workers as those in health care, emergency services, energy, food production, water, wastewater, transportation, communications, financial services, and government operations, among others (COVID19.CA.GOV, 2020b). Retail stores, hotels, restaurants, offices, and churches may remain open as long as they follow state protocols regarding mask wearing and physical distancing, and operate at a reduced capacity. The following sectors were ordered to close temporarily: hair salons, barbershops, personal care services, museums, zoos, aquariums, movie theaters (except drive-ins), wineries, bars, breweries, distilleries, family entertainment centers, live audience sports, and amusement parks (COVID19.CA.GOV, 2020c). As with the previous orders, the policymakers crafting these more recent orders also lack the relevant knowledge of the preferences, desires, and needs of their citizens in order to determine which goods and services are essential; they lack knowledge of the complex production processes that lead to final goods that they have deemed as essential; and, unlike entrepreneurs in the market,

they lack feedback mechanisms to know if they have made errors and if they need to adapt. Indeed, the businesses and activities deemed essential and non-essential in these new orders do not appear to have changed much since the initial orders earlier in the year, likely indicating that little learning and adaptation has taken place.

5 | ENTREPRENEURSHIP AND THE DISCOVERY OF ESSENTIAL GOODS

Market entrepreneurs have access to the feedback mechanisms of market prices and profit-and-loss that provide them with the knowledge needed to provide consumers with the goods and services they desire, even during times of great flux. Entrepreneurs are better positioned epistemically than policymakers to discover the goods and services that consumers believe are essential and provide those goods and services in changing circumstances.

The Austrian conception of the entrepreneurial market process can explain how essential goods are discovered and provided without any centralized direction. The knowledge about what goods are essential must be generated through a social learning process, and the market provides a mechanism by which dispersed and tacit knowledge can be discovered, aggregated, and communicated. Entrepreneurs are key players within the market process because they are alert to arbitrage opportunities or other opportunities for pure profit. As they find arbitrage opportunities and discover ways to improve products and processes, they are speculating about which actions will be profitable. They use private property and market prices to guide their decisions. Market prices provide *ex ante* guidance for entrepreneurs regarding which decisions are likely to be profit-maximizing and increase social coordination. After the action is taken, the mechanism of profit and loss, as well as changes in market prices, provide *ex post* feedback to entrepreneurs on their decisions. Profit means that the entrepreneur's decisions were correct and that those actions increased social coordination by fulfilling a larger amount of human wants. Losses mean that the entrepreneur's decisions were incorrect and that those actions decreased social coordination and diverted resources from more highly valued uses. Profits and losses signal to entrepreneurs about how they should adjust their plans based on the desires of consumers. As entrepreneurs engage in economic calculation and respond to profit-and-loss signals, they can adapt their plans in response to the mistakes they have made or respond to external changes in the world. Entrepreneurs can then move resources to uses that are more highly valued, which then increases the well-being of consumers. Humans are prone to make errors in both markets and in public policy, but markets provide the information and incentives to adapt quickly to errors and changing circumstances.

When policymakers intervene in the market process by deeming certain goods and services "essential," unintended consequences rooted in knowledge problems will result. Kirzner (1985) identified at least three problems that can arise when policymakers interfere in the entrepreneurial market process. First is the "unsimulated discovery process," which occurs when policymakers are unable to mimic what the unhampered market would have done because they lack market prices to provide necessary feedback. Therefore, policymakers cannot choose the appropriate price, quantity, or quality of a good or service to meet consumer demands. Second is the "stifled discovery process," which occurs when legal restraints and requirements hamper entrepreneurial activities. When this occurs, it is impossible to know the opportunity costs and foregone discoveries that could have been made in the absence of such regulations. Third, policies often generate entirely new, and often undesirable, opportunities for entrepreneurial

discovery, which Kirzner (1985) called the “superfluous discovery process.” For example, political entrepreneurs may find new ways to engage in socially wasteful rent seeking, even if the motives of the policymakers were beneficent. Stay-at-home orders and essentialness designations, like all market interventions, can trigger these unsimulated, stifled, and superfluous discovery processes. Perhaps not surprisingly, businesses and industries reportedly lobbied to be added to the CISA list of critical infrastructure sectors (Natter, 2020). As mentioned previously, some states fully adopted the federal recommendations and other states used it as a guide and modified the list as they decided what to deem as essential or not.

When policymakers allow the market process to work unimpeded, however, Storr *et al.* (2015) find that entrepreneurs are drivers of post-disaster community recovery. Entrepreneurs played a key role in providing needed goods and services, reestablishing social networks, and signaling that recovery was underway in the aftermath of Hurricanes Katrina and Sandy. This included connecting aid suppliers with those in need in their communities, interconnecting with displaced residents and encouraging them to return, and committing to rebuilding their communities. Further, Grube and Storr (2014) argue that entrepreneurs, motivated by high place attachment, pursue commercial and social goals and provide needed resources in the post-disaster context. Haeffele *et al.* (2020) apply this framework to the current pandemic, highlighting how entrepreneurs have continued to fill these roles. Restaurants opened drive-throughs and began delivering staple foods from their wholesalers when grocery stores faced shortages, distilleries began making hand sanitizer, and clothing manufacturers constructed masks. Gyms, churches, and therapists turned to online platforms to engage their customers, parishioners, and clients. These efforts helped to signal that communities could and would rebound as restrictions are lifted and the pandemic ceases.

During the COVID-19 pandemic, there have been several examples of consumers determining what they think and believe is essential, and entrepreneurs responding to those consumer desires. There have also been examples of entrepreneurs who have switched their business models to address changes in consumer demands. One of the most notable examples was the increase in demand for toilet paper. In early March, consumers saw the rising cases of COVID-19 and the threat of government-imposed lockdowns, causing a steep increase in the demand for common household items, like toilet paper, cleaning supplies, and bottled water. Consumer household spending spiked 845% during this short period, and suppliers temporarily could not keep up with such a dramatic uptick in demand. In addition to the spike in demand, the pandemic exacerbated the problem by disrupting supply chains, leaving many retailers with empty shelves and consumers without ready access to such goods (Kirk and Rifkin, 2020).

Consumers deemed toilet paper highly essential, and entrepreneurs responded. For example, a bamboo-based toilet paper brand named No.2 experienced a 5210% month-over-month surge in sales on Amazon for March compared to February 2020 (King, 2020). Another bamboo-based toilet paper company named Reel also responded to the increased demand for toilet paper. Derin Oyekan, co-founder and Chief Marketing Officer of Reel, said of his experience in early 2020, “We essentially sold out of three-month’s supply of toilet paper in a week. It did put a lot of pressure on our supply chain. We were able to use that opportunity to step up production and feel confident that, should anything like that happen again, we would be well-positioned to be able to meet demand. We were able to secure a credit facility solely for our inventory production and that has allowed us to continue to scale” (Ceniza-Levine, 2020).

The lack of toilet paper on the shelves in many places prompted consumers to switch to bidets, and entrepreneurs also responded accordingly. Entrepreneurs at two bidet companies

named Toto and Tushy saw massive increases in sales as consumers sought alternatives for their essential needs. Jason Ojalvo, CEO of Tushy, said in March 2020 that “Tushy’s sales over the past few weeks have grown from double to triple to more like 10-times what they were in weeks before word spread about TP shortages” (Boone, 2020).

Another entrepreneurial discovery and response to consumers’ needs during the pandemic was veterinary telehealth. When Kerri-Lynn McAllister initially launched the website Pawzy, she had intended for her site to offer vet-approved, pet-health content on dogs and cats. However, the COVID-19 pandemic caused McAllister to change her business model into a software provider to help vets offer telehealth to pet owners. McAllister said, “The needs of our primary audience—pet parents—changed drastically. The vast majority of clinics were not set up to offer telemedicine and were triaging over busy phone lines and e-mail. Pets that did require in-person care were dropped off at the door to clinics while pet parents waited outside” (Balfour, 2020). McAllister saw an opportunity to partner Pawzy with a telemedicine platform for humans, but that same platform could be altered to offer a medically focused teleconferencing tool for veterinarians. Many veterinarians and consumers have been able use Pawzy Telehealth to answer necessary questions that would have been difficult or costly during the height of the lockdowns (Balfour, 2020).

The examples above are just a few ways in which entrepreneurs are alert to profit opportunities, discover them, and act on them. Entrepreneurs bring about the goods and services that consumers find essential because entrepreneurs use their local and tacit knowledge to make decisions about what they think consumers need. Entrepreneurial discoveries about what consumers want and need are disciplined by market prices and the profit-and-loss mechanism. Profit during the COVID-19 pandemic is evidence that entrepreneurs are providing consumers with essential goods and services.

6 | CONCLUSION AND IMPLICATIONS

The COVID-19 pandemic has proven to be one of the most disruptive events in recent decades, and policymakers have attempted to mitigate the risks by enacting stay-at-home orders and allowing only essential businesses to remain open. Regardless of the intentions behind such policies, policymakers face significant knowledge problems when determining which businesses, goods, or services are essential. Policymakers do not possess the ability to coordinate the disparate plans and goals of many people. The knowledge to decide how to allocate and reallocate scarce resources effectively, especially as complex situations evolve, is not given in its entirety to policymakers because such necessary knowledge is dispersed and often tacit. Policymakers and experts do not possess the relevant knowledge and information to determine accurately which goods and services people need, and they do not fully understand the complexity of the various production systems that yield the final goods and services that consumers demand.

The Austrian school of political economy is especially helpful in understanding why policymakers suffer from knowledge problems when attempting to determine the essentialness of a business, good, or service. Economic coordination relies on dispersed knowledge, much of which is inarticulate and tacit. This knowledge has to be discovered through processes of experience and experimentation. As Sowell (1980, p. 80) describes, “Prices are important not because money is considered paramount but because prices are fast and effective conveyors of information through a vast society in which fragmented knowledge must be coordinated.” Said another way, Lavoie (1985b, p. 82) argues, “Price information represents knowledge about a continually

and rapidly changing structure of economic relationships.” With dispersed and tacit knowledge embedded in market prices, people can compare various inputs to the expected profitability of the potential alternatives. Profit and loss then signal whether resources were put to their most highly valued uses. The signals and feedback provided by monetary prices and profit-and-loss allows markets to bring about widespread social coordination, despite the lack of a system-wide planner.

Many stay-at-home orders were so broad that nearly all businesses were considered essential, limiting the detrimental effects and unintended consequences of such orders. For example, Massachusetts's “COVID-19 Essential Services” (2020) list, which was based on federal guidance, listed hundreds of jobs directly and indirectly related to the following industries: healthcare, public health, law enforcement, public safety, first responders, food, agriculture, energy, water, transportation, logistics, public works, infrastructure support, communications/information technology, education, government, critical manufacturing, hazardous materials, financial services, chemicals, defense, commercial facilities, residential services, hygiene, and construction. In Massachusetts's (2020) list, such a large number of jobs were listed as essential that there would be relatively few distortions to the overall workings of the economy when compared to more restrictive stay-at-home policies. As a general tendency, the more restrictive a stay-at-home order, the larger the distortions will be to the market process. When the market process is distorted significantly, large-scale economic coordination cannot take place as effectively, implying that consumers will face shortages or higher prices for necessary goods and services. Such unintended consequences arise from the epistemological shortcomings of public policies that interfere in the market process.

These detrimental effects and unintended consequences were observed throughout the United States (see Boettke and Powell, 2021; Coyne *et al.*, 2021). People across the United States have encountered emptied shelves in stores and extended back orders for many goods that are usually easy to find. Just a few of the goods that are still in short supply as of October 2020 include bicycles, dumbbells, laptops, furniture, and appliances, just to name a few (George-Parkin, 2020). The limited supply of these common goods is indicative of the complex, interwoven supply chains that connect raw materials all the way to the final consumer goods found in big box stores. Further, many businesses have laid off workers, permanently scaled back their businesses, or closed altogether.

Even without essentialness designations within stay-at-home orders, the COVID-19 pandemic would likely have impacted the supply chains of these goods because consumers and entrepreneurs would have changed their behavior due to the changing circumstances. However, essentialness designations within stay-at-home orders exacerbate distortions to the market process that brings about the creation and delivery of the goods and services that consumers believe are essential. The full impact of these designations may not be completely understood for some time, but the Austrian school's understanding of epistemological advantages of the market process and the knowledge problems that plague public policies help us understand what we are likely to see.

Given the knowledge problems associated with stay-at-home orders and essentialness designations, policymakers should adopt alternative policies to address the pandemic and its economic fallout that would avoid attempts to determine *ex ante* what consumers will need.⁵ Perhaps an obvious example would be to avoid essentialness designations altogether. Because

⁵Research has also shown that the states that adopted stay-at-home orders early on in the pandemic are less economically free than those that waited (McCannon and Hall, 2021).

policymakers cannot accurately predict which goods and services will be essential over such an extended crisis like the current COVID-19 pandemic, policymakers should presume that a business is performing an essential service until proven otherwise. They could simply allow consumers and producers to decide which goods, services, occupations, and business functions are in fact essential, which can be provided or performed remotely, and which are non-essential and could be foregone until conditions improve. Consumers and producers make these kinds of determinations all of the time, weighing risks (to their safety, the safety of workers, their reputations, etc.) against rewards.

Additionally, policymakers should be careful to avoid confusing and contradictory policies. Arguably, the essentialness designations were both too specific and not specific enough. Consumers and businesses alike were often unsure whether or not a particular business was essential under the stay-at-home orders and so were likely to be unsure if they would be open or closed while the orders were in place. Since policymakers were often not clear on what conditions would need to be met before they might relax existing stay-at-home orders or reinstate orders if relaxed, consumers and businesses often found it difficult to plan for the immediate future. Uncertainty can deter entrepreneurs from fulfilling their important social function of providing consumers with the goods and services that they believe are essential. Uncertainty can also make it hard for consumers to make choices about which goods and services to purchase, when to make certain purchases, and when to look for alternatives. Policymakers should focus on reducing the “signal noise” that comes about from confusing and contradictory policies so that entrepreneurs can better focus on consumers' needs.

ACKNOWLEDGMENTS

We would like to thank Agustin Forzani for his research assistance on compiling and assessing stay-at-home orders for this paper.

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How to cite this article: Storr VH, Haeffele S, Lofthouse JK, Grube LE. Essential or not? Knowledge problems and COVID-19 stay-at-home orders. *South Econ J*. 2021;87: 1229–1249. <https://doi.org/10.1002/soej.12491>