Price Gouging vs. Market-Driven Pricing: Evidence during the COVID-19 Pandemic Outbreak

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Abstract

This paper examines the possible existence of price gouging during the COVID-19 pandemic and analyzes the ethical and economic implications of the actions taken by U.S. corporations during a global health crisis. We analyze historical data of essential commodities and draws upon gathered data in an attempt to determine whether pricing of certain necessary items such as N95 masks, isolation gowns, and hand sanitizer during the COVID-19 outbreak can be considered as price gouging or are just the market-driven pricing. Our findings based on N95 masks, hand sanitizer, and isolation gowns are more indicative of price gouging than the market-driven pricing. Moreover, our findings suggest the lack of effectiveness of the current U.S. anti-gouging legislation during the COVID-19 pandemic outbreak. Overall, corporate-level and/or third party price gouging, by only focusing on short-run rent seeking as opposed to the long-term value creation, does not purport to serve broader community, society, and the moral responsibility of corporate citizens, and does not support the premise that the enactment theory would predict.

Keywords: Covid-19, price gouging, market-driven pricing, pandemic outbreak, rent extraction.

Introduction

In light of the COVID19 pandemic, this paper examines the relationships between companies, markets, and available resources. The importance behind the pricing of goods is directly related to necessity and overall profits gained during this time because perceptions of unfair pricing practices can harm firm reputation and limit its long-term profits (Campbell, 2007; Ferguson, Ellen, & Piscopo, 2011). Unfair pricing also does not serve broader society and the states. This paper responds to the claim that the market prices of “essential” goods during this pandemic, like masks, sanitizers, and other disinfectants are at where they stand today purely because of market forces. Market forces are the invisible hand of supply and demand (Smith, 1790) based on market capitalism, shifting the prices of a variety of things; the smaller the supply the higher the price, the larger the demand the higher the price, and vice versa.

According to Snyder (2009a) and Zwolinski (2008), price gouging occurs when, in the wake of crisis or emergency, sellers of a certain necessary goods sharply raise their prices beyond the level needed to cover the increased costs. Price gouging typically arises when sellers trying to take unfair advantage of consumers during an emergency or disaster by substantially increasing prices for essential consumer goods and services (Snyder, 2009a; Zwolinski, 2008). We hypothesize that there is an abnormal change in price for these essential items of N95 masks, hand sanitizer, and isolation gowns, above and beyond where market forces should take them, and speculate that price gouging is taking place during this COVID19 pandemic. Price gouging from the corporate level or from third parties who are selling through e-commerce mechanism, i.e., Amazon, in that regard, does not meet the moral responsibility of corporation citizens in the age of globalization (Matten & Crane, 2005; Moon, Crane, & Matten, 2005). Price gouging, by only focusing on short-term profit maximization, does neither purport to serve broader community, society, and environment (Dargie, 1999), nor provides accountability between the public and administration.

Since the outbreak of the novel coronavirus, or COVID-19, reports have surfaced nationwide that certain supplies and goods—many now deemed essential or in high demand—are being offered at exorbitant prices: a small bottle of hand sanitizer selling for $49.95; a package of disinfecting wipes priced at $220; a single zip-lock bag for $10 (Fishman et al., 2020). Such reports have put local, state, and federal authorities on the lookout for "price gouging"—the practice of unjustifiably and unreasonably increasing the price of high-demand goods or services above their prevailing pre-crisis cost (Fishman et al., 2020). For example, on March 23, 2020, Attorney General William Barr announced the development of a Covid-19 Hoarding and Price Gouging Task Force, and identified law enforcement strategies for pursuing "bad actors who treat the crisis as an opportunity to get rich quick." (Arnold & Porter Kaye Scholer LLP, 2020). Both before and following that announcement, state attorneys general across the country made similar commitments. However, price-gouging is immoral and ethical scholars suggest that free market economist arguments are not completely correct because (a) markets are not perfect and (b) human psychology was well as market trades conspire to change market behavior beyond free-market predictions.

In particular, consumers in California have filed a class-action lawsuit against Amazon.com accusing the retail giant of violating state consumer-protection laws by price gouging during the COVID-19 public health crisis, according to attorneys at Hagens Berman. According to the attorneys, after COVID-19 was declared a public health emergency, prices of third-parties who are selling through Amazon increased as follows: Face masks by more than

500% (from less than $20 to $120); cold remedies by 634% (from $4.65 to $35.99). The lawsuit seeks repayment directly by Amazon.com (notice that the lawsuit is not seeking repayment by third parties who sell necessary mask and health-related items through Amazon) to the consumers due to the claimed price gouging (Business wire, 2020).

Amazon, however, claims they are monitoring their sites. “There is no place for price gouging on Amazon, and that’s why our teams are monitoring our store 24/7 and have already removed tens of thousands of offers for attempted price gouging,” a spokesman says. “We are disappointed that bad actors are attempting to take advantage of this global health crisis.” (Soper, Porter, & Baker, 2020). Amazon is struggling to stamp out third-party sellers charging exorbitant prices for virus-killing cleaning supplies, hand sanitizer and other products in high demand amid coronavirus fears (Terlep, 2020). Amazon has requested that Congress pass a law that would make price gouging illegal during times of national crisis, in light of inflated prices on crucial goods like hand sanitizer and N95 masks that have hounded the online retailer during the COVID-19 pandemic (Guartenberg, 2020).

Given the expanded role of corporations in the age of globalization as corporate citizens (Matten & Crane, 2005; Moon, Crane, & Matten, 2005), exorbitant over-pricing of essential items is not morally legitimate because it dampens the social license to operate of associated firms (Melé & Armengou, 2016). This evidence of price gouging during the COVID-19 crisis does not help reduce the gap between what businesses actually do and what they should ethically do. Whereas the enactment theory, a theory of moral change, predicts that during the crisis period, the gap between moral principles and value should be reduced (Brenkert, 2019), price gouging actually suggests ongoing problems of exploitation and widening the gap between moral principles and social value, at least in the short term. Interestingly, Amazon’s Jeff Bezos, at the same time period, has added almost $24 billion to his wealth in 2020 (Alexander, 2020). However, it is not clear whether the increased wealth is just the stock price going up or it has actually related with price gouging.

It is the responsibility of governments around the world to ensure that essential items are affordable and available for all the consumers that need it, and when they fail, the responsibility falls on the large corporations because the government regularly fails to find an optimal solution to the price gouging problems. To combat against the “grand challenges” (Ferraro et al., 2015; George et al., 2016) of the COVID-19 crisis, governments worldwide are sounding alarms about potential price gouging and threatening crackdowns as the COVID-19 pandemic spreads fear and a surge in demand for hand sanitizer and face masks (Soper, Porter, & Baker, 2020). In the following sections, we discuss the economic as well as ethical ground surrounding price gouging during the Covid-19 pandemic, examine the existence of price gouging effect, and evaluate the effectiveness of anti-gouging legislation.

Literature Review and Hypothesis

We first review prior economics literature. Pioneer economists have always understood that markets, despite their growing value, have limits. Ronald Coase’s seminal articles, “The Nature of the Firm” (1937) and “The Problem of Social Cost” (1960), explained that markets have limitations and costs. Adam Smith’s most seminal book, *The Theory of Moral Sentiments* (1790), explains that our societies work mainly because our big, adaptable brains imbue us with a common sense. Smith guides us that culture and morality are as important as supply and demand in helping us understand how economies work.

Extending the view of Smith (1790) and Coases (1937, 1960), Akerlof (1980) suggest that there is a social custom that is a persistent fair wage or price (rather than a market clearing price). Individuals or companies are penalized by loss of reputation for disobedience of the social custom. The term ‘price gouging’ is not simply a term to explain the price increases. Instead, it is a term that has a serious negative moral character associated with it. The negativity here is that price increase is a way to *unethically* profit from another’s misfortune (Ferguson, Ellen, & Piscopo, 2011). Similarly, Snyder (2009) suggests that when prices for basic commodities abnormally increase following a disaster or crisis, these price increases are often condemned as 'price gouging.'

As can be seen in the following Figure 1, during the crisis, price can unexpectedly surge from P1 to P2 and the new market price of P2 is much higher than the normal equilibrium market price of P1. During pandemic disasters such as widespread disease of COVID-19, we can see an unexpected surge in demand for certain products. The disaster may also cause a fall in supply. Therefore, for basic necessities, the market equilibrium may jump – several hundred or even sometimes thousand percent. Economics scholars follow the amoral law of supply and demand based on market capitalism, whereas ethics scholars emphasize moral validity.

However, there is a strong reason for companies with a national reputation to not leverage their hard-earned reputation over short-term gains from price gouging. Cowen (2017) suggests that the continuing sellers have more to lose than the new entrants in the market and those with a higher market share have more to lose than others. He further claims that buyers are less likely to repeat a purchase from a seller who has engaged in price gouging. A seller who places a substantial amount of importance on the future growth of his company, stands to lose most from engaging in price gouging for short-term gains.

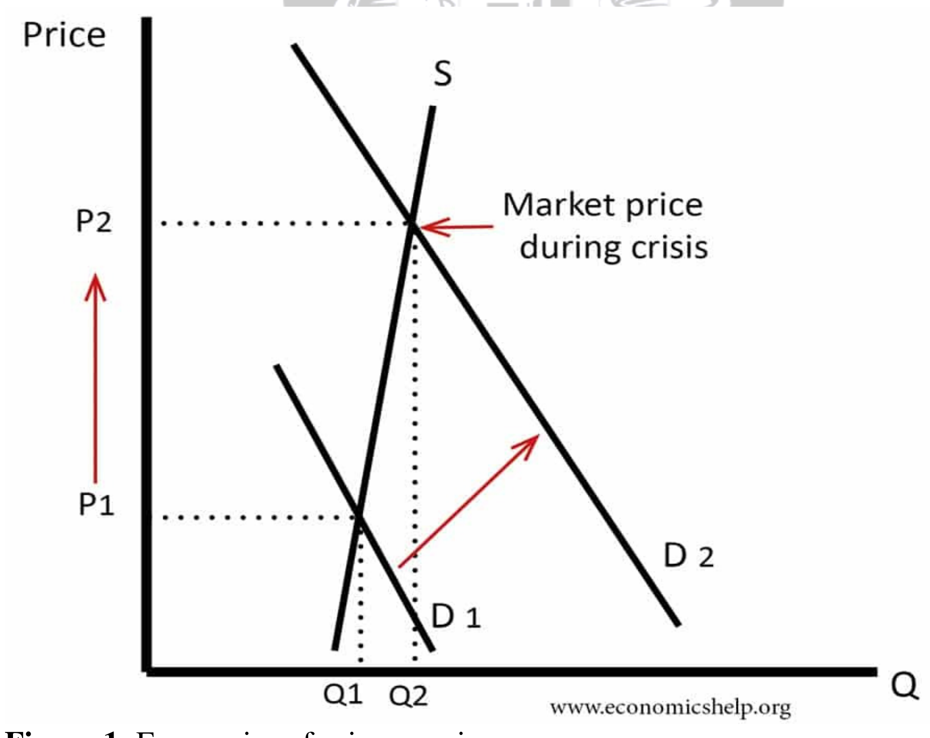

Figure 1: Economics of price gouging

Between what should theoretically happen and what actually happens, we frequently observe a wide gap between the moral principles and 'value'. This is presented in a variety of ways: Thomas Risse argues that "One of the main problems of contemporary global governance is to decrease the growing gap between international norm acceptance, on the one hand, and rule compliance, on the other" (Risse, 2004, p. 305; cited by; Kobrin, 2009, p. 366 and Brenkert, 2019, p. 918.).

David Vogel indicates that "there remains a substantial gap between discourse and practice with respect to virtually all codes and voluntary standards (Vogel, 2005, p. 164; cited by Brenkert, 2019, p.918.). Even though the above statements identify somewhat different situations, they all point out the gap between what global businesses morally ought to be doing and what they are actually doing, and suggests the principle-value gap should be reduced to come up with what the ethical enactment theory would advocate (Brenkert, 2019). Following the spirit of enactment theory (Weick, 1979; Brenkert, 2019), in order to show one of the possible widening principle-value gaps during pandemic, we hypothesize the following;

> **H1**: There exists price gouging of unduly exorbitant pricing of essential commodity items during the COVID-19 pandemic period.

Although we agree with the economic argument to the certain extent, we do not believe it can be made widely compelling without confronting the ethical standpoint that it is immoral for some parties to profit or extract rent from the misfortune of other stakeholders. Current debate about the main purpose of the corporation is, in fact, immersed in a contemplation about value beyond mere economic return (Donaldson & Walsh, 2015; Melé, 2019). Is a more ethical legitimacy or ethical capitalism, one defined by a higher purpose, possible? A distinguished American ethicist Robert C. Solomon (1942-2007) put it: "As we enter the new millennium, there is an overriding question facing global corporate free enterprise, and that is whether the corporations that now or will control and affect so much of the planet's humanity and resources can demonstrate not only their profitability but their integrity" (Solomon, 1999a).

In that context, the prior literature of business ethics regarding price gouging is in order. Snyder (2009) discusses what morally undesirable, if any, are most reasonably attributed to condemnations of price gouging. In particular, he examines existing anti-gouging legislation for commonalities in their definitions of price gouging and then presents premises in favor of the permissibility of price gouging, focusing on the economic benefits of price increases following disasters. He next claims that price gouging takes the form of a particular failure of respect for persons by undermining equitable access to necessary goods. Snyder (2009a) explains in detail the moral misconducts associated with price gouging rather than guidance for developing morally defensible anti-gouging legislation.

In contrast, Zwolinski (2008) challenges the Snyder's (2009) idea and asserts that the common moral condemnation of price gouging is largely mistaken, and presents a qualified defense of price gouging. He further maintains that price gouging is morally permissible in a certain extent. He refutes "three widely held beliefs about the ethics of price gouging: (1) that laws prohibiting price gouging are morally justified, (2) that price gouging is morally impermissible behavior, even if it ought not be illegal, and (3) that price gouging reflects poorly on the moral character of those who engage in it, even if the act itself is not morally impermissible." (Zwolinski, 2008, p. 347.)

Both Zwolinski (2008, 2009) and Snyder (2009a, 200b) agree that price increases in the wake of a disaster can, in some circumstances, be not only morally tolerable but positively morally desirable insofar as they serve to promote the interests of those suffering in the wake of a disaster. They also agree that under other circumstances, price gouging can be wrongfully exploitative, i.e., potential rent extraction (McChesney, 1987, 1998). Given the opportunity for rent extraction, rent seekers may be less likely to engage in shareholder value-increasing activities (Amihud & Lev, 1981; McChesney, 1987, 1998) and more inclined to use their monopoly power to enforce their own private interests (Thomsen & Pedersen, 2000).

The foremost differences between Zwolinski (2008, 2009) and Snyder (2009a, 200b) seem to be the following two points: first, they differ regarding the precise conditions under which price gouging becomes wrongfully exploitative, and second, they differ regarding the desirability of the legal regulation of price gouging in the sense that anti-gouging legislation may (Snyder, 2009a, 2009b) or may not (Zwolinski, 2008, 2009) serve the main task of reducing instances of price gouging. The debate regarding the second point of anti-gouging legislation between Snyder (2009a, 2009b) and Zwolinski (2008, 2009) largely focuses on the effectiveness of anti-gouging legislation.

Price gouging, while it is illegal and prohibited, however, is still happening for the purpose of revenue and profit maximization in various industries including the lodging industry (Lee & Lee, 2020), medical industries (Frosh, 2019), commodity futures market (Naresh et al., 2015) and many others. To make matters worse, the seriousness of "grand challenges" of the COVID-19 pandemic crisis (Ferraro et al. 2015; George et al. 2016) spreads all over the world. Thus, we hypothesize the following;

> **H2**: Current U.S. anti-gouging legislation is not in force regarding the prices of N95 masks, isolation gowns, and hand sanitizer, at least in the short term, during the COVID19 pandemic period.

Obviously, it is an open empirical issue whether price gouging of N95 masks, isolation gowns, and hand sanitizer during the COVID-19 outbreak exists in the first place, and it is unethical or even illegal. In the following section, we use empirical data to examine the existence of price gouging and whether those exorbitant prices could be viewed as market-driven pricing following market fundamental or price gouging.

Methodology

This study employs secondary data, which consist of reports on price changes of necessary commodities during the pandemic, focusing on personal protective equipment (PPE). Based on the report and news, we identify whether the price changes in goods are congruent with market demand or price gouging being conducted by corporations. We determine whether the price changes that occurred during the coronavirus outbreak are concurrent with price gouging through the reflection of these criteria based on the current anti-gouging legislation:

i. The prices are of essential consumer goods, including medical supplies, during a state of emergency
ii. There is a spike in price of more than 10% (California) and 25% (Alabama and Kansas) and other states somewhere between 10%-25%.
iii. The price increase occurs within a 90-day period

Price-gouging laws vary from state to state in the United States (see Appendix A) and vary even more on a global basis. In California, for instance, price gouging is defined as "selling commodities, household essentials, fuel, etc. after a declared state of emergency for more than 10% over the cost of these items immediately preceding the declaration" according to California State penal code 396 (Price Gouging Laws by State, 2020). We determined our criteria of price gouging not just based upon the criteria of California's state laws, but by reviewing the price-gouging laws of all 50 states and averaging the criteria (see Zwolinski, 2008; Price Gouging Laws by State, 2020).

Data and Findings

While it is useful if we collect the real data regarding the prices of N95 masks, isolation gowns, and hand sanitizer during the COVID-19 pandemic period, it is difficult to collect those actual data either from commercial vendors or from e-commerce giant firm, such as Amazon when we conduct this study. It may be because it is too recent or because e-commerce giant firms do not want to reveal those data due to possible litigation and lawsuit problems as a few lawsuits are still going on. As a second best alternative, we choose to analyze several report and news items from January 31st to June 30st, 2020. The period is selected because on January 31st, 2020, President Trump declared a public health emergency under the Public Health Service Act in response to the global crisis. On March 11, 2020, the World Health Organization classified COVID19 as a pandemic and President Trump responded again, declaring a national emergency. We also draw from reported historical data to compare the price of essential items during the crisis and its normal, market-driven price.

To determine whether or not price gouging had occurred during the Covid-19 pandemic crisis, we drew upon empirical data, focusing especially on March 2020, when the pandemic was at its peak. The Society for Healthcare Organization Procurement Professionals, SHOPP, conducted a study that focuses on the price changes of personal protective equipment (PPE) to hospitals and accounted for the previous demand of PPE and the new demand spurred by the pandemic. Hospitals are following the guidelines of the Center for Disease control, which stipulates increased use of commodities to decrease risk of transferring the disease. To follow the guidelines, hospital staffs account for using more soap and switching gloves, masks, isolation gowns, and other personal protective equipment more frequently.

Even with consideration of the increased demand, the amount that PPE prices increased during the pandemic is outrageous, which we can see in Exhibit 1. They utilized the average cost of equipment from a 12-month period before the outbreak of the pandemic and categorized it as the "Pre Covid-19 Cost."

Exhibit 1: Pricing Per Item*

Item	Pre Covid-19 Cost	Current Covid-19 Cost	Price Markup	Percentage Markup
Vinyl Exam Gloves	$ 0.02	$ 0.06	$ 0.04	300%
Latex Gloves	$ 0.03	$ 0.08	$ 0.05	267%
Nitryl Gloves	$ 0.05	$ 0.10	$ 0.05	200%
3ply Masks	$ 0.05	$ 0.75	$ 0.70	1500%
KN95 Masks	N/A	$ 4.00		N/A
N95 Masks	$ 0.38	$ 5.75	$ 5.37	1513%
3M N95 Masks	$ 0.11	$ 6.75	$ 6.64	6136%
Hand Sanitizer	$ 0.26	$ 0.56	$ 0.30	215%
Isolation Gowns	$ 0.25	$ 5.00	$ 4.75	2000%
Face shields	$ 0.50	$ 4.50	$ 4.00	900%
Soap	$ 0.19	$ 0.35	$ 0.16	184%

(Source: Society for Healthcare Organization Procurement Professionals, SHOPP, 2020)

In the above Exhibit 1, we can see that there is clear price gouging in accordance with the criteria previously stated (SHOPP, 2020). In extreme cases, percentage markup ranges 2000% (isolation gowns) to 6136% (3M N95 Masks). We consider those extreme percentage markups cannot be explained by any normal market-pricing drive or market clearing effect, supporting hypothesis 1. We also view that exorbitant markups are not morally permissible, given the fact that N95 masks and isolation gowns are essential items for people to survive.

It's not only Amazon or third parties that are price gouging, but eBay Inc. and Facebook Inc. featured similarly high prices. Walmart Inc. also had instances of higher-than-usual prices online from third-party sellers (Terlep, 2020). The items are essential for the well-being of all people, including food items, hand sanitizer, toilet paper, and masks needed by the people on the front line. There is an argument that these high prices are not unethical because they are the true price of the items. This argument, however, is inherently flawed as the items we discuss are essential for the well-being of every person, and in the case of N-95 masks and hand sanitizer could save human lives. In the US, the Defense Production Act can be used to immediately increase the production of sanitizers, masks, toilet paper, and cleansing wipes, changing the supply and breaking down the argument for such high prices.

Exhibit 2: Amazon Pricing History of Lysol Disinfecting Wipes, Lemon & Lime Blossom (Source: Wolff-Mann, 2020)

Exhibit 2 is a graph of the Amazon price history of lysol disinfecting wipes over a month-long period from February 4, 2020 to March 4, 2020 (Wolff-Mann, 2020). The blue line is third party sellers through Amazon selling the product, and the green line is Amazon selling directly the same product. One clear observation from Exhibit 2 is that Amazon has held steady in their pricing of the product, which can be viewed as the "real price of the product". The real price holds at around $12 per item. Third party sellers are selling the same item through Amazon in the $170 range. This graph is, however, mute about how the short-term profit is shared between Amazon and third party sellers.

There is another evidence in the data below. The prices charged for N-95 respirators are abnormally high for the new sellers who are using Amazon's selling mechanism whereas for Amazon itself and the existing sellers, they are within acceptable limits. Exhibit 3 is a graph of the Amazon price history of N95 respirators masks over a 3-month period of December 4, 2019 to March 4, 2020 (Wolff-Mann, 2020). Again, the blue line is third party sellers and the green line is Amazon. Let's call the real price of an N95 mask $18 based on Amazon's selling price. Third party sellers are pricing the mask at $250. Again, Exhibit 3 is also mute about how the short-term profit is allocated between Amazon and third party sellers.

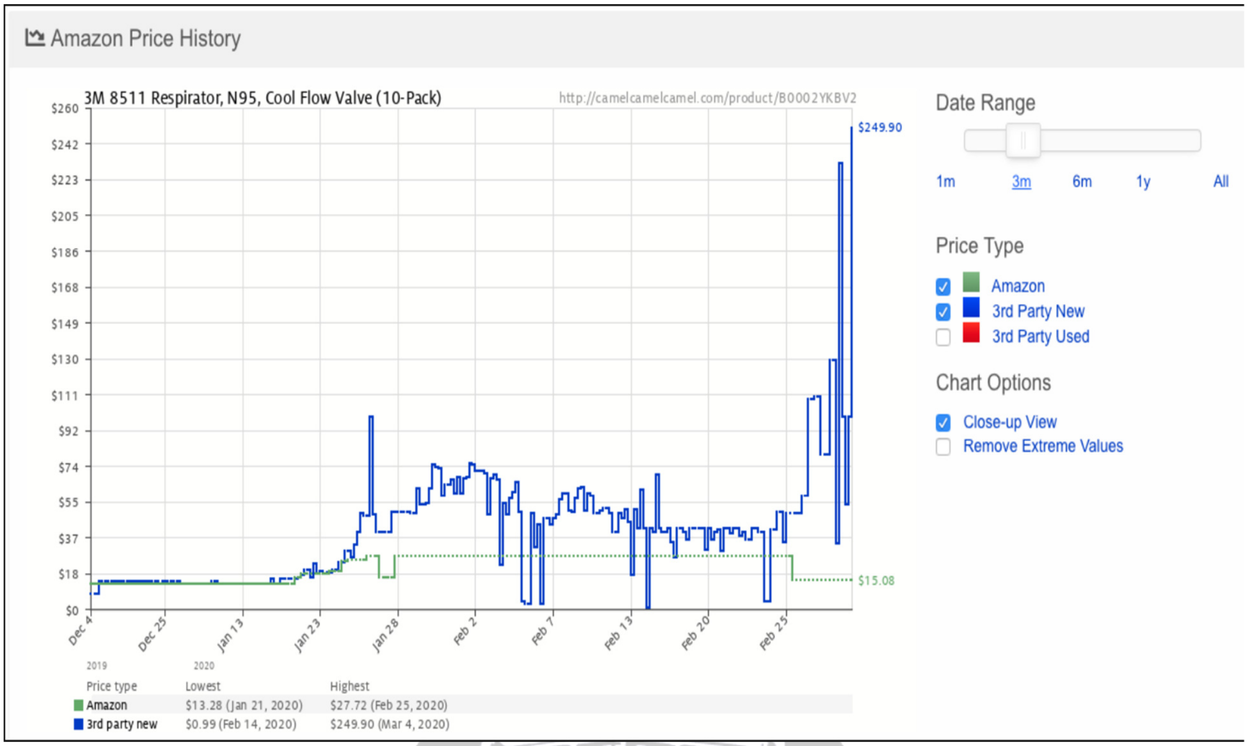

Exhibit 3: Amazon Pricing History of 3M Respirator, N95 masks (10 Packs) (Source: Wolff-Mann, 2020)

Exhibit 4 is the Amazon price history of Purell Hand Sanitizer from December of 2018 to March 4, 2020 (Wolff-Mann, 2020). The lines hold the same meaning. The green line can be the real price of the purell whereas the blue line is the Amazon's third-party sellers. The third-party prices peak at $150 and land at around $60 near the beginning of March 2020. The real price is around $16.

Exhibit 4: Amazon price history of Purell Hand Sanitizer (Source: Wolff-Mann, 2020)

In accordance with the criteria set earlier, we can see that there is price gouging during the pandemic crisis. The increases in price far surpass the 10% - 25% criteria, with hospital masks even experiencing a spike of 1500%. The price increases of these essential items during the pandemic reported in the above exhibits 2-4 clearly show the existence of price gouging, supporting H1. In addition, the evidence above exemplifies a huge increase in price, falling within the criteria of price gouging, suggesting that current U.S. anti-gouging legislation is not in force for the prices of N95 masks, isolation gowns, and hand sanitizer, at least in the short term, during the COVID19 pandemic period. This is supportive of H2.

Market-Driven Demand Examples

After establishing an abnormal price change in necessary goods like masks, sanitizers, and disinfectant wipes we will discuss the price changes of other industries. The importance behind doing so is to establish that during this pandemic, prices of goods in all markets have a shift. However, this shift is largely due to changes in consumer behavior and less likely due to the manipulation of prices which we have seen for necessary goods. To highlight this, we observe a variety of markets and the change in price of goods during this time. This section will go into price changes of energy, the airline industry, food and beverages and then compare these changes to the change in masks and other essential items. This will allow us to distinguish between price gouging and actual market driven forces changing the prices of goods.

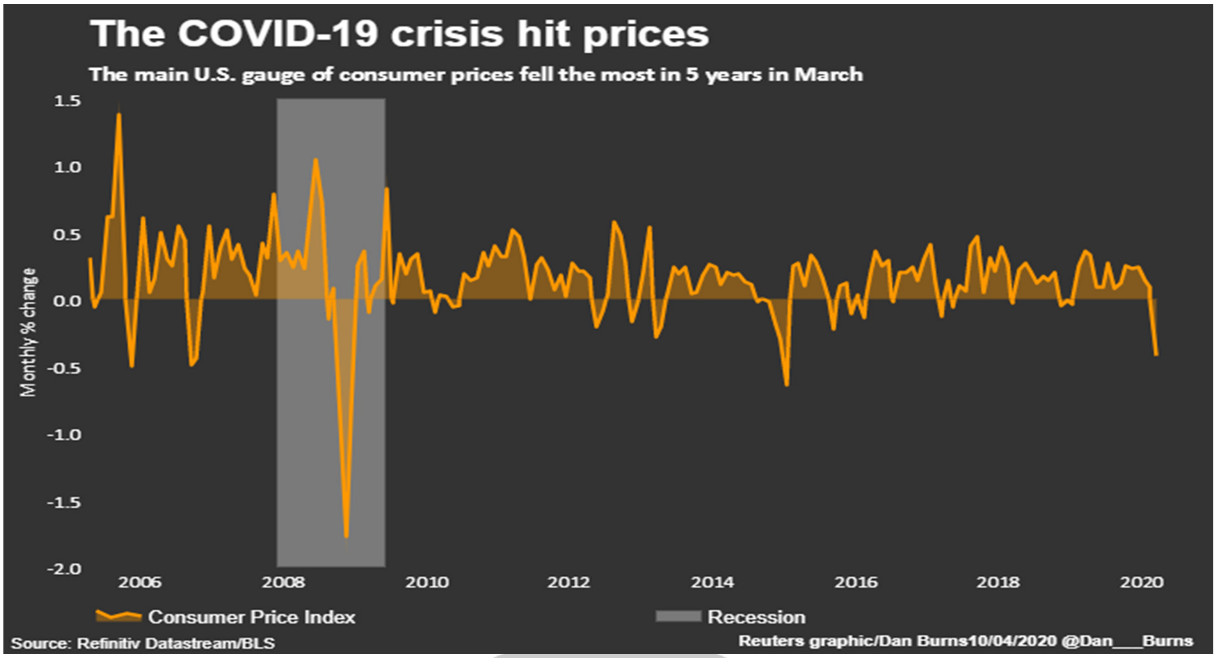

Exhibit 5: The overall Consumer Price Index (CPI) in the United States (Source: Burns, 2020)

Exhibit 5 shows the overall CPI in the United States over the past 15 years. The most notable part of the graph is the ending of course, the time period that we are currently experiencing. We can see that the overall CPI has declined since the start of the pandemic. At the same time, however, we would expect and observe that a majority of goods and industries would follow similar price changes and see evident declines.

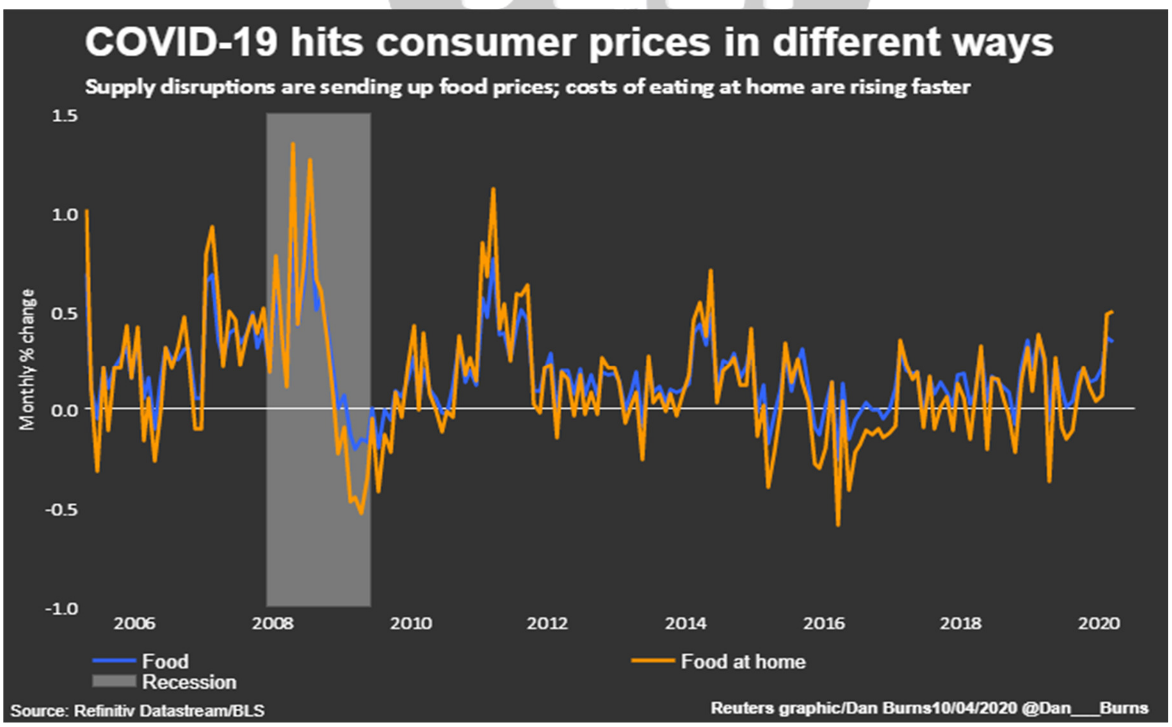

Exhibit 6: Food Prices in the United States (Source: Burns, 2020)

However, in the data presented above, there are obvious increases for certain goods. Now, this increase in prices is not to be alarming, as there are other industries that have seen increases and growth in their prices. For example, food and alcohol have seen price increases due to supply issues. Now, we must compare the amount of increase. In this chart we are able to analyze a price increase of around 0.5%. The pandemic and crisis does not mean detrimental impacts to all markets, however, when there are price increases it should not be to the exorbitant levels we see for the masks and other necessary items above.

Discussion

The ethical concern behind price gouging flare up when the substantial price increases lead to the poor being cut off from essential goods and services (Snyder, 2009a). As such, the responsibility of a retailer selling essentials increases. If the retailer does end up unethically profiting from the crisis situation, then there should be some regulation by the government wherein the retailer has to ramp up its socially responsible activities. Examples include aiding food pantries, free clinics, and funding other organizations to help the community cope with the crisis.

Economists have long criticized anti-price-gouging laws by claiming that market prices are the most effective means of communicating their need for help after a massive disaster (Lee, 2014). However, for ethical scholars, price gouging is primarily a moral issue, not just a purely economic domain, and the economic argument against outlawing it has not been totally effective. During this COVID-19 pandemic crisis, large corporations such as Amazon should serve a broader community and its individual employees as an instrumental necessity for society: a way to obtain and maintain the indispensable 'social license to operate.' (Cui, Jo, & Velasquez, 2016, 2019). To grant businesses a deeper form of legitimacy, the field of business ethics has taken approaches based on various moral aspects including moral legitimacy, moral imagination, moral psychology, moral values, personal integrity and human feelings (Solomon, 1999a, 1999b; Werhane, 1999; Sison & Fontrodona, 2012 Melé & Armengou, 2016; Brenkert, 2019).

When the COVID-19 crisis hit, prices of masks, as shown above, shot up substantially and people had a difficult time securing such supplies temporarily. Without a thorough analysis through investigation based big data, it is difficult to prove the existence of price gouging, which is a serious allegation because it could destroy firm reputation and negatively affect the social license to operate. The verification is important because there is a chance that the business costs of a company have increased dramatically and the pre-crisis prices are just not sustainable. This is what happened during the time when Hurricane Katrina struck the US and the prices of fuel shot up (Ferguson et al., 2011). However, the devastating effects of the hurricane on the supply and distribution line had caused the increase in prices and that is what the investigation had revealed. Similarly, our evidence of price gouging during the COVID-19 pandemic outbreak does not seem to reduce the gap between ethical principles and social value, which is not supportive of what the enactment theory would predict. Furthermore, the existence of exorbitant pricing of certain essential items with unusual markups of 2000-6000% during the COVID19 pandemic period, at least in the short term, shows the lack of effectiveness of current U.S. anti-gouging legislation.

Limitations and Suggestions for Further Research

Obviously, our study has a few limitations. First, our analysis is not based on actually collected data of our own. Second, due to the data limitation, we were not able to conduct statistical analysis. In addition, the exact proportion of profit sharing between third parties and Amazon or any other e-commerce giant is still unclear and which party to be ethically or even legally blamed remains to be further investigated in the future studies. It is also unclear what proportion of the market did exorbitant pricing actually account for. We leave the international context of potential price gouging of essential respiratory items and the effectiveness of international anti-gouging legislation for future research. Furthermore, when the time-series prices of N95 masks, isolation gowns, and hand sanitizer are available around the world, text analysis based on big data and machine learning should be beneficial to deepen our understanding about price gouging, rent extraction, and the choice between rent seeking and moral dignity.

Conclusion

We have documented that our hypothesis of price changes for necessary health items being far above and beyond where the natural market forces taking them is supported. By using the second-handed data, we showed where there were 184 - 6136% profit markups for items like sanitizers and masks which are deemed essential in times of pandemic. In doing so, we compared the difference between price changes of masks, sanitizers, and disinfectant wipes to the Consumer Price Index of a variety of other industries. Although the overall market saw a decline in prices, there have been some cases of positive price growth. However, in analyzing these price shifts, they were less than or equal to 1% which can be attributed to simply market driven forces and increases in demand. When we compare these prices to the price growth of masks and other necessary goods, it is exorbitant and unnecessary. While the exorbitant price is charged by third parties who are selling their product, they sell through Amazon. We view the unduly high pricing of the above goods, although preliminary, as price gouging rather than market-driven pricing based on market fundamental, supporting Ferguson et al. (2011) and Snyder (2009a, 2009b).

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Appendix A: Some Examples of U.S. State Price Gouging Laws during the COVID-19 Period

Generally, when a state's governor declares a "state of emergency," this automatically puts the state's "price gouging" law into place. However, there are some exceptions; for example, in Tennessee, the price gouging law is triggered by a declaration of "abnormal economic disruption." To learn more about actions and authorities triggered by state emergency declarations, visit the Association of State and Territorial Health Officials. Following is a chart showing which states have a price gouging law. Some laws are enacted through the state's legislature while some laws are put in place by the state's office of Attorney General. Where available, we have also included pending legislation. All states give consumers the ability to file a complaint; read more from your state's Consumer Protection Offices. Many states and the District of Columbia have declared a state of emergency. To conserve the space, we only report several states.

	Price Gouging Law	**Notes/State of Emergency Notices**
Alabama	Alabama Unconscionable Pricing Act	Makes it unlawful for anyone to raise prices on commodities or lodging by more than 25 percent during a declared state of emergency. To avoid violation, figure the price charged for each of the previous 30 days. Add the 30 daily prices, divide by 30, and multiply the price by .25, or **25 percent**, to determine the maximum price increase allowed for any one day. The exception is if a wholesale price increases by more than 25 percent and merchants have no choice but to pass along the price increase
California	California Penal Code 396 – Price Gouging Attorney General Issues Price Gouging Alert CA Declaration of State of Emergency and Executive Order Furthering Enhancing State and Local Government's Ability to Respond to COVID-19	Gov. Newsom has declared a state of emergency during which "excessive and unjustified increases" of **more than 10%** on basic goods and services including medical supplies is prohibited. Pending legislation: AB 1936 applies price gouging when there is a declaration of emergency because of a public safety power shutoff.
Kansas	Chapter 50. Unfair Trade and Consumer Protection §,106 50-6,106	Kansas has declared a state of emergency. "Profiteer from a disaster" means unjustifiably increasing during a time of disaster the price at which any necessary property or service is offered for sale to consumers. Actual sales at the increased price shall not be required for the increase to be considered

		unconscionable. In determining whether the price increase described in this subsection is unjustified, the court shall consider all relevant circumstances including, but not limited to, the following: (A) Whether the price charged by the supplier during the time of disaster grossly exceeded the price charged by the supplier for similar property or services on the business day before the disaster, and an increase of **more than 25%** shall be prima facie evidence of gross excess. “Time of disaster" means the period of time when a declaration of a state of emergency by the president of the United States or the governor is in effect; or 30 days after the occurrence of the event that constitutes the disaster, whichever is longer.
New Jersey	56 § 8-107	The governor has declared state of emergency. New Jersey’s price gouging law prohibits excessive price increases during a declared state of emergency, or for 30 days after the termination of the state of emergency. Excessive price increases are defined as price increases that are **more than 10 percent** higher than the price at which merchandise was sold during the normal course of business prior to the state of emergency. Price-gouging violations are punishable by civil penalties of up to $10,000 for the first offense and $20,000 for the second and subsequent offenses. Each individual sale of merchandise is considered a separate and distinct event.
New York	New York Consolidated Laws, General Business Law - GBS § 396-r. Price gouging and Section 396-RR, price gouging for milk	The governor has issued a state of disaster emergency. During any abnormal disruption of the market for consumer goods and services vital and necessary for the health, safety and welfare of consumers, no party within the chain of distribution of such consumer goods or services or both shall sell or offer to sell any such goods or services or both for an amount

		which represents an **unconscionably excessive** price. SB 7932/SB 1798/SB 256 prohibits price gouging with respect to medical supplies during a public health emergency. AB 1452/SB 2893 creates a private right of action for unlawful price gouging. AB 237/SB 803 defines unconscionably excessive price for the purposes of prohibiting price gouging during abnormal disruption of the market. AB 2621/SB 1642 imposes criminal penalties for price gouging among other provisions. AB 3829 prohibits price gouging by manufacturers of prescription drugs and AB 6606/SB 141 penalizes manufacturers for it. SB 7932 prohibits price gouging with respect to medical supplies during a public health emergency.
Oklahoma	Emergency Price Stabilization Act	Emergency Price Stabilization Act prohibits an increase of **more than 10 percent** for the price of goods and services and allows the attorney general to pursue charges against individuals or businesses who engage in price gouging.
Oregon	2017 ORS 401.965	The governor has issued a state of emergency. Proof that a price is unconscionably excessive may be shown by evidence that: (a)The amount charged for essential consumer goods or services exceeds by **15 percent or mor**e the price at which the goods or services were sold or offered for sale by the merchant or wholesaler in the usual course of business immediately prior to or during a declaration of an abnormal disruption of the market; or (b)The amount charged for the essential consumer goods or services exceeds by 15 percent or more the price at which the same or similar consumer goods or services were readily obtainable by other consumers in or near the geographical area covered by the declaration of an abnormal disruption of the market.