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THE SPRING GROUP

AN ECONOMIC ANALYSIS OF UNITED STATES HEALTH POLICIES DURING COVID-19

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An Economic Analysis of the United States Health Policies During COVID-19

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2. Executive Summary

As the world has slowly begun to resurface following the aftermath of COVID-19, health policies during the pandemic have also begun to draw attention regarding their effectiveness. From the mask mandate to vaccine development, the public has varying opinions on how the U.S. government handled the pandemic. Now, with rising fears about emerging pandemics, the health and safety of the nation become a primary concern; it is now imperative to see how the U.S. government should handle the next pandemic and quell public fears.

Public health policies and pandemic prevention are topics of the utmost importance to the SPRING Group. As an organization composed of students who are young adults, SPRING fellows have lived through the pandemic during the peak of our childhoods. Concerns regarding pandemic prevention surface not just as a memory of online school or quarantine, but to also ensure that fellows can live both healthy and happy lives.

As part of our continued goal to highlight youth viewpoints on issues of concern to them, SPRING seeks to bring in the unique perspectives of students into the economic incentives behind policies made to combat COVID-19. This brief first provides the economic context from which COVID-19 rose, then provides a cost-benefit analysis of six national-level policies and 7 state-level policies and their economic implications.

3. Background

Five years ago, a microscopic virus brought the world to a halt. From millions stocking up on toilet paper, to the United States' stock market crashing by trillions, COVID-19 has shaped the way our nation functioned and survived for two years. COVID-19 (coronavirus disease) is an infectious respiratory disease caused by the virus SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2).[1] The first case of COVID-19 was identified in Wuhan, China on December 31st, 2019, and the first case in the United States was identified in Snohomish, Washington on January 19th, 2020.[2] As of December 2024, COVID-19 is the fifth documented pandemic in human history.[3]

COVID-19 first emerged in the United States when a traveler returned to Seattle, Washington from visiting family in Wuhan, China. COVID-19 was able to spread very rapidly in the United States due to slow initial response, increased travel, high urban density, and healthcare and testing challenges. For example, Louisiana was one of the earliest places where COVID-19 was able to spread rapidly. Mandates such as mask requirements, social distancing, and quarantines were not implemented in the state and country until March 2020, weeks after the event.[4]

Around one year after COVID-19, specifically in the last week of December 2020, over 79 million COVID-19 cases were prevalent globally.[5] By December 25, 2020, there were over 18.5 million reported cases in the United States.[6]

Before COVID-19, the United States economy was growing and headed toward a strong path. The stock market was performing well, with S&P's (Standard & Poor's 500) index reaching record high stocks in 2019 with a 31.9% value increase, the highest since 2001.[7] This indicates that economic conditions were strong just a few months before the pandemic. Inflation before COVID-19 was also low, and unemployment rates were on a decline being 3.68% in 2019.[8] Overall, the United States was showing a promising economy in the years preceding COVID-19, following a steady path to low unemployment rates, high stock values, and low inflation rates.

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[1] World Health Organization, n.d.
[2] World Health Organization, 2020
[3] Wu et. al., 2020
[4] Zeller et. al., 2021
[5] World Health Organization, n.d.
[6] Elflein, 2022
[7] Liu, 2019
[8] O'Neill, 2024

During COVID-19, there was a strong correlation between an increase in cases and a decrease in the economy. With that said the United States economy rapidly fell due to the spread of COVID-19 happening within the short timeframe of a few months. As a result, the United States faced the 2020 Recession, where US company share prices fell by 20%, inflation reached its highest since 1981, and the United States workforce, public health sector, and e-commerce sector were extremely disrupted.[9][10] In the workforce, restaurant employment dropped by 40%, nonfarm employment fell by 1.4 million jobs in March 2020, and 20.5 million jobs in April 2020, and United States unemployment rates rose by 13.0% in just the second quarter of 2020.[11][12][13] In the public health sector, the United States was the country with the highest number of confirmed COVID-19 cases and deaths, and 90% of Americans felt that the nation was experiencing a mental health crisis.[14][15] Riddled by fear of losing a loved one, not having enough money for dinner, and not having human contact, people during COVID-19 experienced record-high levels of depression and anxiety. Between 2019 and 2022, the average rates of depression symptoms in the United States among adults increased from 18.5% to 21.4%, respectively, and anxiety from 5.6% to 18.2%, respectively.[16] By November 2020, reports of anxiety increased to 50% and reports of depression increased to 44%, with both conditions having rates six times higher than they did in 2019.[17] E-commerce sales during the first year of COVID-19 in the United States increased by 43%.[18] In 2019 total sales were $571.2 billion, and in 2020 they were $815.4. Americans ended up spending $1.7 trillion more in e-commerce during the last two years of the pandemic, which was an additional 55% increase in spending relative to the two years before COVID-19.[19][20]

The collapse of lead industries was a major result of COVID-19. The revenues of vital services contracted, such as health and social services (29.16%), air travel (57.5%), and dining (26.5%).[21] During the first 30 months of the pandemic, these services' revenues all fell by more than 50%.[22] Over the course of COVID-19, the United States economy

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[9] Katole, 2023
[10] Rugaber, 2022
[11] NC State University, 2024
[12] Center on Budget and Policy Priorities, 2024
[13] US Bureau, 2022
[14] Elflein, 2023
[15] Insel, 2023
[16] National Health Statistics Report, 2024
[17] Hayward, 2025
[18] Brewster, 2022
[19] ibid
[20] Koetsier, 2022
[21] Hlávka, Rose, 2023
[22] ibid

was at an all-time low, with the collapse of vital industries being a major reason for the economic downfall.

4. National Economic Implications

4.1 Benefits of Federal COVID-19 Policies

The benefits of federal U.S. policy during the COVID-19 pandemic warrant thorough examination. This section focuses on federal investments in the private vaccine sector and key legislative measures enacted during the pandemic, including the Coronavirus Aid, Relief, and Economic Security (CARES) Act and the American Rescue Plan Act.

4.1.1 Vaccine Development

4.1.1.1 Operation Warp Speed

Federal investment in vaccine development was pivotal in controlling the COVID-19 virus and stabilizing the U.S. economy. One notable initiative was Operation Warp Speed (OWS), a public-private partnership involving U.S. government agencies and private pharmaceutical companies such as Moderna, Janssen, and Pfizer/BioNTech.[23] Officially launched on May 15, 2020, the program aimed to accelerate vaccine development and manufacturing by allocating over $18 billion for rigorous clinical trials and production.[24]

The program achieved significant advancements in private-sector vaccine development. While vaccines take anywhere from 10 to 15 years of laboratory research to develop, OWS reduced this time to approximately 10 months alongside achieving significant technological advancements.[25][26] By the end of January 2021, 63 million doses of the COVID-19 vaccine were delivered to Americans.[27] Unfortunately, this was only 32 percent of the 200 million doses that companies were contracted to provide by the end of March.[28]

As the program transitioned to the Biden Administration, further federal initiatives under OWS helped address vaccine manufacturing and distribution challenges.[29] For example, the U.S. Army Corps of Engineers undertook construction projects to expand vaccine production capacity, while the Department of Defense (DOD) and Department of Health and Human Services (HHS) worked to mitigate supply chain issues and expedite the

[23] CRS, 2021
[24] Lalani et. al, 2022
[25] CDC, 2024
[26] D'Souza et. al, 2024
[27] GAO, 2021
[28] Ibid
[29] GAO, 2021

delivery of critical equipment, among other actions.[30] These government measures enhanced private-sector manufacturing and distribution, further bolstering vaccine availability.

4.1.1.2 Economic Impact of Vaccine Development

The distribution of the COVID-19 vaccine yielded substantial benefits for the economy and the financial stability of Americans. Vaccination reduces the risk of infection and disease transmission, curbing the spread of the virus. One study estimated that within the first 10 months after OWS was implemented, COVID-19 vaccines prevented 27 million infections, 1.6 million hospitalizations, and 235,000 deaths.[31] Another analysis projected that without U.S. vaccination programs, there would have been an additional 1.1 million deaths and 10.3 million hospitalizations by November 2021.[32] By reducing hospitalizations and fatalities, the distribution of vaccines facilitated a faster return to economic activity for Americans. Indeed, vaccines were estimated to have generated $5 trillion in economic value for the U.S. through avoided infections leading individuals to re-engage with social and economic activity.[33] This contributed to increased consumer spending and reduced initial unemployment rates, directly adding 0.27 percentage points to the U.S. GDP in 2021 just through the impact on consumption alone.[34]

During the pandemic through the end of March 2022, the U.S. government invested an estimated $31 billion towards clinical trials and COVID-19 vaccine development.[35] This was accompanied by approximately $330 million of investment in research and development throughout the 35 years leading up to the pandemic.[36] Despite such significant investment costs associated with COVID-19 vaccination programs, research indicates that these initiatives delivered substantial economic returns. For instance, vaccines were found to reduce hospital days and mortality by more than 50 percent, with program cost savings potentially exceeding up to 60 percent.[37] A simulated study further reported that, when considering health and education loss, every dollar invested in a COVID-19 vaccine would see a return of anywhere from $13 to $28 depending on the vaccine company, with vaccines Moderna and Pfizer, demonstrating the greatest

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[30] Ibid
[31] Steele et. al, 2022
[32] Schneider et. al, 2021
[33] Kirson et. al, 2022
[34] Mano & Hansen, 2022
[35] Lalani et. al, 2023
[36] Ibid
[37] Padula et. al, 2021

effectiveness.[38] These findings highlight the cost-saving nature of mass COVID-19 vaccination programs due to reduced healthcare costs and lives lost.

4.1.2 The CARES Act

4.1.2.1 Background

The Coronavirus Aid, Relief, and Economic Security (CARES) Act, signed into law in March 2020, was a $2.2 trillion stimulus package designed to alleviate the economic damage of the COVID-19 pandemic.[39] As one of the largest financial rescue packages in U.S. history, the legislation provided direct payments to individuals who met income-level criteria and allocated substantial funding to state and local governments, healthcare systems, and public health initiatives.[40] Notably, the bill expanded unemployment assistance and payroll subsidies for small businesses, helping uplift millions of Americans during a period of unprecedented economic disruption.

4.1.2.2 Unemployment Insurance Benefits

The CARES Act significantly expanded unemployment insurance (UI) benefits to address the unprecedented job losses caused by the COVID-19 pandemic. One of its most impactful provisions was the creation of the Federal Pandemic Unemployment Compensation (FPUC), which added $600 per week to regular unemployment benefits through July 2020.[41] Additionally, the act established the Pandemic Emergency Unemployment Compensation (PEUC) program, which provided an additional 13 weeks of eligibility for those who exhausted their UI benefits, while the Pandemic Unemployment Assistance (PUA) program extended benefits to gig workers, freelancers, and others typically ineligible for unemployment insurance.[42]

These expansions left a significant economic and social impact. By the first year of the pandemic, unemployment benefits supported 1 in 4 American workers, preventing financial ruin for many households.[43] Furthermore, unemployment insurance benefits helped 5.5 million individuals, including 1.4 million children, avoid poverty in 2020.[44]

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[38] Wang et. al, 2021
[39] Investopedia, 2024
[40] Ibid
[41] US Congress, n.d
[42] Ross et. al, 2022
[43] Stettner & Pancotti, 2021
[44] Fox & Burns, 2021

Critically, poverty relief is necessary to bolster economic growth for several reasons, including boosted productivity, increased consumer spending, and a skilled and healthier workforce.

4.1.2.3 Uplifting Small Businesses

The CARES Act was vital in supporting small businesses during the pandemic. Two critical initiatives under the CARES Act, the Paycheck Protection Program (PPP) and the Economic Injury Disaster Loan (EIDL) program provided essential financial lifelines, helping businesses preserve jobs, maintain operations, and stabilize during the crisis.

Paycheck Protection Program (PPP)

Under the CARES Act, the Paycheck Protection Program (PPP) was established to provide forgivable federal loans to small businesses, enabling them to sustain payroll and operational costs.[45] Active from April 2020 to June 2021, the program approved 11.8 million loans—totaling $800 billion—and supported over 60 million jobs through August 2020, with estimates indicating that PPP loans saved up to 14 million jobs during the pandemic.[46] One study found that a 10 percentage point increase in PPP payroll coverage for sub-100 employee businesses was linked to a 1 percentage point reduction in unemployment insurance claims.[47]

Economic Injury Disaster Loan (EIDL)

The Economic Injury Disaster Loan (EIDL) program provided another critical avenue of support for small businesses. It allocated up to $60 billion in low-interest loans to cover fixed debts, payroll, rent, utilities, and other operational expenses between January 2020 and December 2021.[48] The program offered two types of funding: COVID-19 EIDL loans for working capital, which were required to be paid back, and EIDL Advance funds, which were targeted at the most severely affected businesses that meet specific criteria and were not required to be repaid.[4950]

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[45] Thomas Reuters, n.d.
[46] Faulkender et. al, 2024
[47] Ibid
[48] Thomas Reuters, n.d.
[49] SBA, n.d.
[50] SBA, n.d.

Indeed, the business sector fared much better during the COVID-19 pandemic and recovery compared to previous economic downturns, with studies highlighting federal policies like the CARES Act as a contributing factor in this trend.[51] Business bankruptcy filings declined during a recession year for the first time since 1980 and remained below pre-pandemic levels going into 2021, and business sales recovered much faster during the pandemic than during the 2007–2009 economic downturn.[52] Small businesses have continued to thrive in the long term, with new business applications averaging 430,000 per month in 2024—a 50 percent increase from 2019.[53] Small businesses were also responsible for creating a disproportionate share of jobs since the pandemic, accounting for 71 percent of net private job gains since late 2019, a marked increase from their 64 percent contribution in the prior recession and recovery (2007–2009).[54]

4.1.3 The American Rescue Plan

4.1.3.1 Background

Signed into law in March 2021, the American Rescue Plan Act was a $1.9 trillion stimulus bill designed to provide relief to individuals, families, and businesses affected by the COVID-19 pandemic. It addressed several key areas, including expanded vaccine distribution and testing, support for health insurance coverage, improved child tax credits, stimulus checks of $1,400 per individual, rental assistance, and extended unemployment benefits.[55] The Rescue Plan lifted approximately 16 million people above the poverty line through these measures.[56]

4.1.3.2 Health Insurance Expansion

The American Rescue Plan made significant strides in improving access to healthcare coverage, primarily through addressing cost barriers, which 7 in 10 uninsured adults cite as the main reason for staying uninsured.[57] By lowering health insurance premiums, the Rescue Plan led to a 19 percent increase in uninsured individuals eligible for zero-premium plans and a 16 percent increase in eligibility for low-premium plans.[58] During a 6 month special enrollment period in 2021—implemented by the Biden

[51] Wang et. al, 2020
[52] Martos-Vila & Shi, 2022
[53] Nostrand, 2024
[54] Ibid
[55] White House, n.d.
[56] Trisi, 2023
[57] Cha & Cohen, 2020
[58] ASPE, 2021

Administration to encourage health insurance enrollment—2.8 million individuals signed up for new health insurance coverage, with over 2 million enrolled through the federal marketplace (HealthCare.gov).[59] Notably, 45 percent of individuals who enrolled had incomes 150 percent under the federal poverty line, qualifying them for zero-premium plans.[60]

4.1.3.3 Child Tax Credits

The expansion of Child Tax Credits played a significant role in alleviating child poverty during the pandemic. Under the Rescue Plan, the maximum credit amount was increased to $3,600 per child under six and $3,000 per child aged six to 17. The law also made the credit fully available to children in families with low or no earnings in the year—effectively extending full benefits to the families of 27 million children, including roughly half of Black and Latino children.[61] As a result, child poverty dropped by 38 percent between 2020 and 2021.[62] The expansion of Child Tax Credits kept an estimated 3.7 million children out of poverty, contributing to the largest one-year drop in child poverty, driving it down to a record low of 5.2 percent.[6364] These provisions significantly reduced racial inequities while bolstering economic security for low-income families.

4.1.3.4 Overall Economic Impact

The American Rescue Plan contributed to a rapid economic recovery, with the U.S. being the first G-7 nation to recover all GDP lost during the pandemic.[65] Furthermore, the bill added over 4 million jobs in 2021 and studies suggest that it avoided a potential double-digit recession in the spring of that year.[66] Economic growth in 2021, projected at 3 percent without the Rescue Plan, was nearly double at 5.7 percent, and unemployment fell from 4.2 million in March 2021 to 1.2 million by July 2022, around the same as pre-pandemic levels.[6768] Overall, the Rescue Plan was projected to reduce annual

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[59] Straw, 2021
[60] HHS, 2021
[61] Marr et. al, 2021
[62] Hanlon et. al, 2022
[63] Parolin et. al, 2022
[64] Trisi, 2023
[65] OECD, 2021
[66] Zandi et. al, 2022
[67] Ibid
[68] U.S. Bureau of Labor Statistics

poverty in 2021 by more than 12 million people when compared to a scenario without such aid.[69]

4.2 Costs of Federal COVID-19 Policies

4.2.1 Public Health Regulations

Upon the discovery of COVID-19 in the United States in early 2020, widespread public health regulations were strictly employed to effectively combat the spread of the infectious disease, including lockdown mandates, vaccine mandates, school closures, and many more.

One of the most notable regulations to the lives of United States residents included the lockdown. Though there was never a national lockdown enacted by the federal government, 42 states enacted stay-at-home orders in early 2020. The remaining 8 states provided detailed recommendations surrounding person-to-person contact without any clear regulation.[70] The most common regulation enacted was requiring individuals to remain in their homes, allowing them to participate in essential activities like grocery shopping, but preventing them from engaging in social gatherings and circumstances considered non-essential.

In March 2020 alone, U.S. retail sales fell a record 8.7% due to the lack of traffic at stores. The previous record was a 3.8% fall in November of 2008.[71] Additionally, in May 2020, airlines were averaging 17 passengers per domestic flight and 29 passengers per international flight. Boeing Co stated in April 2020 that it would cut 16,000 jobs by the end of the year, GE Aviation planned to cut up to 13,000 jobs, and airplane supplier Spirit AeroSystems Holdings Inc was planning to cut 1,450 jobs, totaling more than 30,000 lost jobs in the airline sector.[72] As of February 2021, over 400,000 airline workers were either fired or told they may lose their jobs due to guidelines surrounding travel in the wake of COVID-19.[73] Additionally, in a study surveying business owners across the United States in 2021, 41.3% of small businesses reported a temporary closure due to COVID-19. Overall employment in these businesses also declined 39% from January 2020 to late March 2020.[74] This led to millions of people losing their jobs or facing the

[69] CBPP, 2022
[70] Moreland A et al., 2020
[71] Reinicke, 2020
[72] Rucinski et al., 2020
[73] Kelly, 2021
[74] Bartik, 2020

possibility of lost employment due to decreased revenue acquired by businesses. Overall, the lockdown mandate heavily impacted recreational activity, social events and gatherings, retail activity, and the airline industry.

Educational regulations and the termination of in-person learning in American schools significantly impacted socioemotional growth in students and incurred substantial costs to the labor market and economic growth. COVID-19 and related school closures impacted over 55.1 million students in over 124,000 public and private schools, and nearly 93% of students reported online learning environments.[7576] In 2024, it was found that the average student was not even halfway to a full academic recovery from COVID-19, largely attributed to school closures and shifts to online learning formats. From the nationwide shift to online learning, the labor market for the parents of school-age children was impacted significantly. With the necessity to care for underage children, both men and women experienced a reduction in working full-time, and mothers saw a 1.5 percent drop in their probability of being at work. Industries that disproportionately employ women saw larger economic consequences than vice versa, potentially negatively impacting the gender gap in employment, though both men and women were equally less likely to work full time.[77] However, there were also significant impacts on the labor market for educators, as overall employment in the K-12 labor market decreased by 9.3 percent at the beginning of the COVID-19 pandemic.[78]

Maintaining a vaccine mandate has additionally yielded significant economic costs related to job cuts and the primary care workforce. 25 states required vaccination for employment in specific sectors including healthcare workers, or frequent testing for unvaccinated employees.[79] In late 2021, it was estimated that 22% of job cuts were due to vaccine refusal, becoming the 10th highest reason for job cuts in 2021.[80] Many state-wide mandates impacted job cuts in the primary care sector. A 2021 study analyzing job cuts in Oregon following its vaccination mandate concluded that 46% of primary care clinics reported job loss and staffing challenges that disproportionately impacted rural areas.[81]

4.2.2 Testing Kit and Vaccination Delays

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[75] Wheeler, 2021
[76] McElrath, 2020
[77] Garcia et al., 2022
[78] Bleiberg, 2022
[79] Pekruhn, 2022
[80] Challenger, 2021
[81] Hatch et al.,2023

Testing kits and vaccination delays created significant social, political, and economic challenges to the federal response to COVID-19.

Testing kit delays uncovered significant supply chain issues in the medical industry which exacerbated already existing challenges related to the economy. In February of 2020, China was administering 1.6 million tests a week and South Korea tested 65,000 individuals, while the United States only tested 459. When the CDC started to distribute testing kits to health labs, most couldn't validate the tests due to a faulty reagent, a chemical property of the COVID-19 detection result, leading to the mass delay in testing for COVID-19.[82] Additionally, many health labs reported shortages of the required reagent and other key materials necessary for executing the test reflecting a supply chain shortage, including swabs and nitrocellulose paper. In February 2020, clinical laboratories were operating at 40% of their capacity, and many key materials for the testing kit were affected as a result.[83] As a result of the supply chain shortages, testing kits were delayed in distribution causing a delay in the national response to COVID-19.

Vaccination delays similarly incurred economic consequences for the United States. By December 31, 2020, only 3 million vaccination doses were administered, 17 million less than the Trump Administration's goal for the end of 2020.[84] Studies indicate that vaccinations specific to COVID-19 have a high probability of reducing healthcare costs, and a reduction in hospital days and mortality by 50%.[85] As a result of the vaccination delays, it can be assumed that the delay in vaccination incurred substantial financial burdens to healthcare industries, increasing operational costs.

4.2.3 Misinformation

As the COVID-19 pandemic progressed, misinformation on the internet flourished, creating several misinformed claims that significantly impacted the welfare of individuals living in the US alongside the economy. Whether through social media, traditional media, or other forms of news consumption, misinformation became a significant challenge to rapid response policies, promoting equitable practices, and other essential tools required to mitigate the harms of COVID-19.

One of the most widespread narratives shared across the internet was the rise of anti-Asian sentiment. This largely stems from the origins of COVID-19 in Wuhan, China,

[82] Cohen, 2020
[83] Congressional Research Service, 2021
[84] Horton, 2021
[85] Padula et al., 2023

which perpetuated claims that Asian individuals residing in the United States are more likely to contract and spread COVID-19. In February 2020, Asian American-owned businesses saw a remarkable decline in customers, upwards of 75%, and owners received hateful rhetoric both online and in person.[86] Additionally, a disproportionate number of Asian American-owned businesses were forced to shut down, affecting Southern California the hardest, where over 60% of Asian American businesses saw severe economic losses from the pandemic in a survey of 400 business owners, compared to 40% in general.

Another common claim linked to COVID-19 was surrounding vaccines. Many misconceptions arose in light of COVID-19 and its vaccine emergency approval, sparking fears related to safety. Several fears included the vaccine facilitating fertility issues and reflecting a global effort to decrease the world population. Several theories were formed, but all yielded economic consequences, such as disregarding vaccination measures in several states and hindering employment where vaccinations were required.[87]

Additionally, a widespread belief that COVID-19 was going to lead to a shortage in certain essential goods like toilet paper spurred erratic consumer spending patterns. This unusual behavior began in March 2020 and spurred hoarding of toilet paper, food items, and other essential goods in drastic amounts. This consequently exposed key global supply chain shortages in certain essential goods, creating a shortage for some products and a surplus of others.[88]It was estimated that extreme error events—a term indicating when economic forecasts fail to predict increasing or decreasing consumer demand—rose to 38% during the pandemic when normally it was 27%.[89]

4.2.4 CARES Act

The CARES Act, a pivotal part of the national response to COVID-19, yielded many benefits yet many negative consequences.

Though the financial support the CARES Act sought to implement for families appeared promising, a lengthy process awaited individuals. The implementation of the first round of support through the CARES Act included long delays, alongside a confusing process for individuals seeking benefits. Additionally, the delays disproportionately impacted the

[86] Olson et al., 2020
[87] Caceres et al., 2022
[88] Kar et al., 2022
[89] Banker, 2021

most economically vulnerable populations. Low-income and low savings households would face significantly more delays than their higher-income counterparts, further exacerbating the socioeconomic gap already worsened by the onset of the pandemic. This occurred due to the IRS not having direct deposit information on file from 2018 or 2019, typically seen in older and lower-income individuals.[90]

Another key provision in the CARES Act was the Paycheck Protection Program (PPP). The goal of the program was to provide emergency funding to small businesses. However, fraudulent lending was rampant in this program, with over 15% of PPP loans going to fraudulent borrowers. Only 23%-34% of the $800 billion lent went towards workers who would have otherwise lost their jobs. It was a common pattern for corporations that were well-resourced to utilize PPP funds, like McDonald's, and luxury hotels like the Chateau Marmont.[91] The racial disparities were vast in the execution of the program as well. Empirical data from metro areas with a population of over 1 million showed that predominantly white areas received loans at twice the rate of predominantly Latinx, Black, and Asian areas.[92] As a result, thousands of workers failed to receive the benefits they needed, as corporations used the funds to aid business owners and non-payroll expenses, contributing to the socio-economic crisis already exacerbated by the pandemic.

4.2.5 American Rescue Plan Act

Though the American Rescue Plan Act addressed several key disparities in terms of affordability for families and businesses, there are substantial fallbacks with the legislation.

The landmark economic consequence raised by this legislation was inflation. Consumer Price Index numbers released in 2022 showed prices up 8.3 percent compared to 2021. Additionally, inflation itself rose 0.6% in just one month, significantly worse inflation increases than most countries around the world.[93] Though the US's higher inflation over 2021, (7% increase with energy and food prices, 5.5% increase excluding them) can't only be a result of the American Rescue plan, economists indicate the legislation impacted the inflation rate from 1% up to 3%.[94][95] When accounted for inflation, wages also saw their largest decrease in 40 years, where Inflation was 8.5% in

[90] Roll et al., 2020
[91] Autor et al., 2022
[92] Morel et al., 2021
[93] Prokop, 2022
[94] Strain, 2022
[95] Baker, 2022

late 2021, while nominal wages only increased 5.6%, with a decline in inflation-adjusted wages of 2.7%.[96]

[96] Furman, 2022

5. State-level economic implications

5.1 Benefits of State-level COVID-19 Policies

As COVID-19 forced the US to develop strategies to protect its citizens, several policies implemented at the state level helped the economy at various levels. This section dives deep into policies implemented by states such as the various unemployment policies imposed within states and varying mask mandate policies.

5.1.1 Unemployment Insurance

Unemployment rates during COVID-19 reached an all-time high in April 2020, with 15% as the highest percentage of unemployment since 1948.[97] With this in mind, Congress passed various acts to help increase unemployment insurance benefits for those without a job, through the American Rescue Plan Act, the Federal Pandemic Unemployment Compensation, the Pandemic Unemployment Assistance, and the Pandemic Emergency Unemployment Compensation. All of these plans largely had several benefits for those unemployed and helped them navigate a devastated economy.

5.1.1.1 American Rescue Plan Act

The American Rescue Plan Act had an allocation of funds known as State and Local Fiscal Recovery Funds (SLFRF), which aimed to provide funds to states for pandemic recovery. The SLFRFs were given to each state for their choice in usage, and many states used the money for supporting recovery efforts or trying to revitalize local economies. However, most of these funds were largely used by states for Unemployment Insurance (UI) trust funds, with 21 states putting around 12 billion dollars towards those efforts.[98] This money was sometimes used to make improvements in UI, such as in Colorado, where 600 million was used to strengthen the existing UI system, including removing the one-week waiting period for receiving benefits, ending forced repayments of benefit overpayments if the receiver is living in poverty, or if the overpayment was the result of wrong information provided by the state, and making individuals eligible regardless of immigration status.[99] Other states like

[97] Pandemic Oversight, n.d.
[98] Kamper, 2022
[99] ibid

Washington and Tennessee also allocated $31.3 million and $61 million respectively for better access to their UI system and ensuring the system was quick and efficient.[100][101] Ultimately, these efforts paid off to offset the economic loss due to job loss for each of the individuals affected.[102]

5.1.1.2 Federal Pandemic Unemployment Compensation

The Federal Pandemic Unemployment Compensation (FPUC) was established under the CARES Act designed to increase unemployment benefits to individuals affected by unemployment due to COVID-19.[103] Under the FPUC program, states were able to give out an additional $600 per week on top of existing unemployment benefits, combining for $439 billion during that time.[104] This expansion was later cut to $300 a week by the end of the year, stretching from December 2020 to March 2021.[105] The overall usage and implementation of the FPUC program across the US was an increase of applications by 4.4% and a decrease in job vacancies and labor market tightness by 26% and 31% respectively.[106] This program thus helped the job market in the short term with employers receiving more applicants for empty jobs on average.

5.1.1.3 Pandemic Unemployment Assistance

The PUA extended UI for workers who otherwise would not be able to receive traditional unemployment benefits, such as gig workers and self-employed individuals.[107] These benefits were also extended to last for 79 weeks and a total of around $130 billion was issued under it. Despite ending in September of 2021, it was incredibly impactful by doubling the reach of UI, contributing to 14.6 million workers, almost half of the total UI recipients.[108][109] Although some states such as New York originally intended to waive PUA overpayments, the program still contributed to overall success in supporting non-traditional workers and helping them throughout the dark times of the economy, offsetting the huge negative effect of having so many individuals unemployed and without benefits.[110]

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[100] State of Washington, 2022
[101] Tennessee State Government, 2022
[102] Potts, 2024
[103] Folger et. al., 2023
[104] Pandemic Oversight, 2021
[105] Kovalski, Sheiner, 2020
[106] Marinescu et. al., 2021
[107] Pandemic Oversight, 2021
[108] ibid
[109] Traub, n.d.
[110] Iacurci, 2021

5.1.1.4 Pandemic Emergency Unemployment Compensation

Another emergency program created under the CARES Act, the PEUC extended the time that individuals could receive unemployment benefits from 26 weeks to 79 weeks, leading to a net $84 billion issued.[111] This helped many individuals who couldn't find another job immediately. In New York, over 1.9 million individuals were under PEUC as were 84% of UI recipients in Indiana.[112] This program largely helped to counter the 22.2 million jobs lost during that spring and gave individuals time to recover and find new means of employment.[113] These policies gave individuals a small window of protection that supported the economy for just enough time for individuals to find jobs to support themselves as before.

5.1.2 Mask Mandate

While varying in different states, virtually every single one had its own version of a mask mandate, varying in time enforced and other restrictions. Despite initial concerns about compliance and the need to buy many masks, the larger effect of the mask mandate was the perception of safety among consumers. State-enforced mask mandates were shown to significantly increase consumer willingness to go out in stores and buy goods, despite the acceptance that compliance was not always certain.[114] Thus, not only did mask mandates have a significant reduction in COVID-19 infections, but they also helped businesses return to previous levels of production. Not only were mask mandates effective, but so were social distancing protocols that accompanied the mandates. When tracking the impact of mask mandates on consumer spending, the most important thing was keeping the pandemic at bay which was the best route to recover the economy, with millions of lives saved as a side benefit.[115] Comparing areas of low levels of social distancing to areas with mask mandates and social distancing regulations, they found that there would have been 83,000 more American deaths, a 36% increase in the total count.[116] The tradeoff of all of these lives would have been a 9% increase in the economy, leading to the study's conclusion that this tiny tradeoff in the very short term would not be enough to mitigate the thousands of lives lost and the potential for economic disaster that would create.

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[111] ibid
[112] Horrigan, 2020
[113] ibid
[114] University of Utah, n.d.
[115] Savat, 2020
[116] ibid

Furthermore, more often than not, areas where mask mandates were in place saw much higher increases in consumer spending after quarantine policies were lifted, with those areas seeing much swifter economic recovery within 70 days of reopening.[117] The overall impact was around $3.15-$4.46 million more in consumer spending in counties that had mask mandates compared to counties that did not enforce them.[118] Increased consumer spending also helped to rebuild a decimated economy, allowing areas with mask mandates to bounce back much more quickly than otherwise. The reason for the huge difference was largely the difference in individuals' perception of their safety against COVID-19. In Utah, people reported to be much more likely to enter stores that had mask mandates compared to stores where other individuals did not wear masks.[119]

States generally had different reactions and policies regarding how shutdowns and mask mandates worked which led to various different results. For example, Washington and New York mandated masks and limited business a month before other states on March 15th and 22nd respectively compared to April 6th and March 27th, and were slower to reopen compared to states such as Missouri and Alabama, reopening during mid-May compared to mid-April and early-May.[120] Washington and New York also had the most detailed plan for reopening, leading to their positivity rates of COVID-19 being double to triple times lower than the rates of Missouri and Alabama. This impact largely impacted businesses and the local economies as areas with high rates of infectivity saw a smaller increase in consumer spending after reopening while those with plans like Washington and New York saw a much larger bounce-back in their economies as a result of the decreased number of infected and higher positivity rates.

The general consensus regarding mask mandates, and business shutdowns/reopenings across states was that the longer mask mandates were in effect and the more planning states had for reopening saw higher economic activity than in states that did not have those in effect.

5.2 Costs of State-level COVID-19 Policies

With the rapid surge in COVID-19 cases throughout the nation, states began implementing policies with the intention of alleviating stress factors such as unemployment, eviction, and opening restrictions. However, several unintended effects

[117] Dunphy et. al., 2022
[118] ibid
[119] ibid
[120] Erwin et. al, 2022

closely followed the implementation of these policies, and states began to see large amounts of pressure being placed on their economies.

5.2.1 Unemployment Insurance Benefits

Unemployment rates rose higher during three months of COVID-19 than they did during the two-year span of the Great Recession.[121] With that said, states had to pay their workers, leading to the rise of unemployment benefit policies during COVID-19.

Unemployment benefits created a disincentive to return to work during COVID-19 as many low-wage jobs paid less than the federal supplement payment under the national federal CARES Act. The CARES Act (Coronavirus Aid, relief, and Economic Security Act) allowed for UI (unemployment insurance) recipients to be paid $600 in addition to the standard UI benefits given by their state. The average American under UI benefits earned $380 weekly during COVID-19.[122] Since the UI benefits under COVID-19 paid most people more than what they would earn in employment, many Americans became disincentivized to return to work. Specifically, a study from the National Library of Medicine found that a 10% increase in UI benefits led to a 3.8% decrease in job applications.[123] Twenty-six states withdrew from UI benefits before the federal benefits expired on September 6, 2021, because they believed that the benefits were disincentivizing people from returning to work, leading to the largest cutoff in employment benefits in history.[124] As of September 11, 2021, 5 million people were receiving UI benefits, a major cut from the 11.3 million people receiving benefits a week prior.[125]

While the increase in money supported the livelihoods of families across America, the costs of unemployment insurance benefit policies took a major toll on the economy of the United States during COVID-19 as they promoted consumption which therefore simulated labor demand, and since there wasn't much laborers in the workforce, the economy suffered.[126] In the United States, consumer spending was 15.7% higher in the second quarter of 2021, where COVID-19 was the most prevalent than it was in

[121] Kochhar, 2020
[122] Stone, 2020
[123] Marinescu et. al., 2021
[124] Kovalski, Sheiner, 2021
[125] ibid
[126] Congressional Research Institute, 2022

2020.[127][128] As a result, the GDP decreased by an annual rate of 0.9% in the second quarter of 2021.[129]

In New York, for example, the Federal Pandemic Unemployment Compensation (FPUC) was a branch under the CARES Act and provided the additional $600 UI benefit. A major impact of the FPUC was the immense debt the state went into due to the surge in unemployment claims. There were around 1.66 million unemployment claims filed in New York City between March 8th, 2020, and August 15th, 2020.[130] The claims proved to go up by 1,061% since the same time period in 2019.[131] As a result, there was an overall 15.5% decline in All Funds tax recipients, a $20-25 billion loss in hospital revenue, and $8.1 billion in debt in New York, making the state one of seven states or US territories with UI funds to be in debt to the United States federal government in 2021.[132][133]

5.2.2 Eviction & Rent Policies

As COVID-19 progressed, unemployment significantly rose, leading to around one in six Americans unable to afford rent, eventually leading to eviction.[134] In order for states to combat mass evictions, several policies were put in place to give tenants more time to pay rent. These policies were often funded by Emergency Rental Assistance funds. Some of these policies include the California COVID-19 Tenant Relief Act, the New York COVID-19 Emergency Rental Assistance Program, the Texas Rent Relief Program, the Washington State Eviction Rent Assistance Program, the Michigan COVID-19 Emergency Rental Assistance Program, and the Florida Emergency Rental Assistance Program.[135]

The Emergency Rental Assistance program was approved by the American Rescue Plan Act of 2021 and has $21.55 billion to financially assist households.[136] Funds from the Emergency Rental Assistance assisted states with home energy costs, rental payments, utility costs, and more.

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[127] US Bureau, 2022
[128] CDC, n.d.
[129] Bureau of Economic Analysis, 2022
[130] Partnership for New York City, 2020
[131] ibid
[132] ibid
[133] New York State Comptroller, 2022
[134] Llobrera et. al., 2020
[135] US Department of the Treasury, n.d.
[136] ibid

The state of California took a large economic strain due to the California COVID-19 Tenant Relief Act (CTRA). The CTRA was an act funded by California's Emergency Rental Assistance program and extended eviction protections. A major policy under this act included the protection of a tenant from eviction if they paid at least 25% of their rent owed between September 2020, and June 2021.[137] Although they still had to pay their renter back, rental assistance claims were still processed very slowly, leading to a huge delay in rental payments, and placing a financial strain on the economy. By late 2022, over 278,000 Los Angeles renters owed more than $981 million in rent.[138] This accumulation of rent was exacerbated by pandemic-related financial hardships. Policies and acts along with those related to eviction and rent led to a 10% drop in California's GDP by the first quarter of 2021.[139]

[137] State of California, n.d.
[138] National Low Housing Coalition, 2024
[139] Governor's Budget Summary, 2023

6. Summary

As COVID-19 becomes less of a global health crisis, a focus on addressing the pandemic has shifted to analyzing the economic implications and effectiveness of public health regulations domestically, specifically the CARES Act, the American Rescue Plan Act, and other public health initiatives.

The CARES Act was a pivotal part of the United States's response to COVID-19. The unemployment benefits offered by the legislation supported 5.5 million Americans avoiding poverty in 2020. However, the long delays in getting financial support due to a lengthy and confusing process resulted in lower-income individuals having a significantly harder time acquiring financial support than their higher-income counterparts, disproportionately impacting the individuals and families who needed it most.

The Paycheck Protection Program (PPP) similarly established substantial benefits to American businesses, estimating that the loans provided that exceeded $800 billion saved up to 14 million jobs. The Economic Injury Disaster Loan also allocated up to $60 billion in loans to businesses to cover payroll expenses, significantly aiding the economic consequences incurred by the pandemic, especially in light of quarantining measures destimulating economic activity. However, fraudulent lending and borrowing were unbridled and pervasive following this legislation, with only up to $192 billion of the $800 billion allocated actually going to individuals who otherwise would've become unemployed.

The American Rescue Plan Act, on top of leading America to be the first G-7 country to recover lost GDP, also successfully made improvements in healthcare coverage for uninsured individuals by addressing financial burdens. By lowering health insurance premiums, millions of Americans who cited their reason for being uninsured as the financial burden gained access to critical healthcare support. Additionally, the child tax credits afforded under this legislation granted full benefits to the families of over 27 million children, keeping millions of children out of poverty. As a result of these provisions, equalizing healthcare for marginalized communities significantly decreased the racial inequalities present in the healthcare system and the socio-economic status of Americans. However, a key issue present with both the CARES Act and the American Rescue Plan Act was rising inflation. Though these cost-heavy laws were not the only reason for rising inflation during the pandemic, they still were measured to impact the inflation rate from 1%-3% dependent on different analyses, significantly affecting the economic state of the US following COVID-19.

Additionally, key public health regulations like ending in-person learning in American schools heavily impacted employment levels and socioemotional growth in students, with students still not even half academically recovered after the pandemic. With parents needing to take care of underage children, both men and women saw a decrease in overall employment levels and a decrease in employment for companies that disproportionately employ women. There is data to suggest that the pandemic helped exacerbate significant issues in the gender gap for employment. Additionally, with retail sales falling more than in the 2007 recession, and over 400,000 workers in the airline industry being fired or being told they might be, several public health regulations like the lockdown and school closures incurred significant economic and social costs. Misinformation also remained rampant, with vaccine refusal being the top 10 reasons for job cuts in 2021, erratic consumer spending patterns in essential goods like toilet paper, and a disproportionate economic loss to Asian-American-owned businesses.

Overall, several public health regulations, though ultimately necessary, led to significant economic consequences that are still felt in 2024.