AN EXPERTEZE CIRCLE OF EXCELLENCE IN ECONOMICS ARTICLE

MANAGING FUTURE PANDEMICS -
LESSONS LEARNED FROM PAST EXPERIENCES

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Introduction:

"*But one of the biggest threats out there is one of the oldest: infectious disease*". In 2017, Bill Gates uttered these words, which became a grim foreshadowing of the current global pandemic crisis. COVID-19 has created immense economic problems that our modern governments have never faced before. Though infectious diseases in the recent past such as Zika and Ebola have been overcome and contained, in today's interconnected world, COVID-19's unique qualities allow it to flourish in every part of the globe. Forced Curfew and Quarantine has provided futile results, as the virus continues to exponentially grow in western nations. As a result of a governmental stay at home orders, industries around the globe have struggled immensely. Foreign governments were completely unprepared for a pandemic crisis, and these improper provisions have transformed into wide economic implications.

Thus, this investigation will begin a literature review of relevant economic models, which will provide a relevant framework for further study. Then, an examination of the past responses of these systems to stress conditions similar to the current pandemic. Based on these findings, predictions of America's future behavior will be derived. Finally, recommendations shall be made to curb the effects of pandemics in the future.

American Economic Model:

The American Economic model is evidently one of the most powerful economies in the world. Known to be a mixed economic system, the American economy relies on both capitalistic and socialistic features to run. The American model emphasizes the ideals of supply and demand which determines the prices of goods and services. For example, the price of a good indicates what the business should produce. If customers' demand for a particular good is higher than what the economy is currently producing, the price of the goods rises. By contrast, if the supply of a certain good is higher than the demand for such good, prices will fall. The features categorize the United States into a market economy, as principles supply and demand fuel the economy and determine the price of goods. However, as stated before, the United States is not a true market economy as the government plays an important role in influencing the market. For instance, the United States places subsidies on industries on industries such as agriculture and oil to help these industries stay afloat. Thus, this economic mix between private ownership of the business and governmental inference allows the American system to be extremely successful.

This economic success as a result of this economic structure has been tremendous. The American economy toutes the world's largest economy by nominal GDP, at 20.54 trillion dollars.[1] Moreover, for the past decade, the American economy has been growing steadily, recording a 2.3% percent growth rate in GDP.[2] The United States also leads the world in

[1] Song, Sun Hwa, et al. "World Bank Open Data." *Data*, 14 May 2020, data.worldbank.org/.
[2] "Report for Selected Country Groups and Subjects." *International Monetary Fund*, Apr. 2020, www.imf.org/external/pubs/ft/weo/2019/01/weodata/weorept.aspx?pr.x=73&pr.y=8&sy=2019&ey=2019&scsm=1&ssd=1&sort=country&ds=.&br=1&c=001&s=NGDPD&grp=1&a=1.

FDI(Foreign Direct Investment) at 258.7 billion in 2019, a clear sign of America's economic dominance as investors around the world want a share of the economic prosperity in the country.[3] This willingness of large foreign investment can be attributed to the positive economic growth in the country and how immensely diversified the American Economic system is. The American economy specializes in many industries such as technology, trade, agriculture, and manufacturing. But in the past decades, the US economy has been changing similar to many developed economies.

The American economy has adapted from a manufacturing/ industry economy to an economy that is primarily focused on services. This is evident from slow industrial growth in the United States according to the Industrial Growth Index. However, this slow industrial growth has been counteracted by the large gains in the service sector in the economy. Currently, the service industry holds 77% of the total GDP of the United States.[4] This transition to a service-based industry has allowed America to dominate on a global scale. Today, America has become a center of innovation and ideas in the world. The largest tech firms such as Google and Apple dominate the world market.

Though this great economic system has adapted to the changing times, the coronavirus age has brought a new obstacle to the American economy. Unlike any situation our world has faced, the COVID-19 crisis brings a vast variety of unique consequences to our economy, primarily the effects of unemployment. The government has issued a stand at-home order which has forced millions of American workers to stay at home and quarantine. For Americans, who

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[3] Song, Sun Hwa, et al. "World Bank Open Data." *Data*, 14 May 2020, data.worldbank.org/.

[4] Duffin, Erin. "United States - Distribution of Gross Domestic Product (GDP) across Economic Sectors 2017." *Statista*, 14 Feb. 2020, www.statista.com/statistics/270001/distribution-of-gross-domestic-product-gdp-across-economic-sectors-in-the-us/.

live on paycheck to paycheck, this has been extremely detrimental. In this 4 week period alone, nearly 40 million Americans have filed for unemployment benefits(New York Times).[5] As a result of the lack of workers, nearly every industry has been impacted in a manner due to the principles of capitalism. For instance, ventilators are in high demand, however, due to lack of a labor force, suppliers are unable to meet the needs of hospitals. The stay at home orders has negatively affected small businesses, such as restaurants, as well. Due to a lack of demand for their services, businesses are cutting costs and laying off staff to make ends meet. This cutting of cost has affected the agriculture industry, as, without consumers in the restaurant industry, they will suffer. This cycle of cost-cutting due to lack of demand, and the lack of labor to support high demand products all point to the failures of a capitalistic system. Though the short term effects of the coronavirus pandemic are obvious, the long term effects are not as straightforward. Thus, a discussion of past stresses on the American economy can offer greater insight on how to recover from this situation and the future events that may occur.

An analysis of the Influenza OutBreak of 1918 can allow for a greater understanding of the future developments of the COVID-19 disease. In 1918, an unusually deadly virus known as the Spanish Flu emerged. This disease killed at least 40 million people worldwide and 675,000 in the United States.[6] Unlike COVID-19, the Spanish Flu did not only target the weakest members of society(elderly and young), as a large portion of the working population was killed.

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[5] Casselman, Ben. “U.S. Jobless Claims Pass 40 Million: Live Business Updates.” *The New York Times*, The New York Times, 28 May 2020, www.nytimes.com/2020/05/28/business/unemployment-stock-market-coronavirus.html.

[6] Brainerd, Elizabeth, and Mark V V Siegler. “The Economic Effect of the 1918 Influenza Epidemic.” *Centre for Economic Policy Research*, no. 3791, Feb. 2003, doi:https://web.williams.edu/Economics/wp/brainerdDP3791.pdf.

Provided by Brainerd, Elizabeth, and Mark V V Siegler

Due to the randomness of this epidemic, it resulted in a widespread labor shock throughout the United States. A simple economic model on the labor market can indicate that a shortage in the workforce, leads to higher wages. This evident in 1914-1919, the labor shortage had a positive effect on per capita income growth across states in the United States in the 1920s.[7] However, this gain in wages for workers is not a reasonable argument as this benefit did not outweigh the costs from the tremendous loss of life and overall economic activity. Aside from the direct demographic consequences of an epidemic, the loss of human capital has an adverse

7 Brainerd, Elizabeth, and Mark V V Siegler. “The Economic Effect of the 1918 Influenza Epidemic.” *Centre for Economic Policy Research*, no. 3791, Feb. 2003, doi:https://web.williams.edu/Economics/wp/brainerdDP3791.pdf.

economic impact on growth.[8] Human Capital, the stock of knowledge embodied in the population, is an important distinction in evaluating future growth. In the Outbreak of 1918, a large portion of educated members in American society perished, which is detrimental to the future growth of the nation as the knowledge of their craft is lost, which directly results in negative economic activity.

Due to a lack of reliable empirical evidence of the economic effects of the Spanish flu, economists have had trouble concluding the long term effects of the disease on the economy. Alternatively, local newspapers written in this era often described how local economies were affected. In these writings the short term effects of the Spanish Flu were clear. Many businesses, especially those in the service and entertainment industries, suffered double-digit losses in revenue, quite similar to the COVID-19 crisis.[9] However, due to the lack of substantial data, the long-term impact of the Spanish Flu is not definite on the American economy.

China Economic Model:

The Chinese economic system is commonly referred to as a socialist market economy. This system is quite different from the US as it relies on communistic and capitalistic features to run. Unlike the United States, the Chinese economy is driven by state-owned companies and a handful of private enterprises. The American economy is driven mostly by private entities that are usually independent of government interference.

This heavy influence of governmental interference in China's economy has reaped its awards. Since the late 1970s, China has grown at an immaculate rate, an average of around 6%

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[8] Barro, Robert, and Xavier Sala-I-Martin. "Technological Diffusion, Convergence, and Growth." 1995, DOI:10.3386/w5151.

[9] Garrett, Thomas A. "Pandemic Economics: The 1918 Influenza and Its Modern-Day Implications." *Review*, vol. 90, no. 2, 2008, doi:10.20955/r.90.74-94.

for more than three decades.[10] Currently, China boasts a nominal GDP of 13.61 trillion, second to only the USA.[11] Attributable to the large economic growth in the country, China generates nearly 110.6 billion dollars of foreign investment, a clear sign of a strong economy.[12] Furthermore, China's Production Index is growing on an average of 5% each year, more evidence of the strong industrial growth in the nation.

Similar to the US economy, China is an extremely diversified economy, as it generates income from various sources. The defining industries in China are the manufacturing industry, the natural resource industry, and the export industry. Due to vast natural resources, and proximity of other manufacturers, China is able to create very cheap goods at a high volume. Thus, allowing the country to become a modern-day manufacturing giant. As a result of this manufacturing prowess, China holds the title for the world's largest manufacturing economy. Export plays a large role in generating revenue for the country. In a short three decades, this once poor nation has become the second-largest economy, the world's largest trading nation, and the world's most common destination for foreign investment around the globe.[13] To reach this economic dominance, China has evolved politically and economically over the years.

When Mao Zedong and the communist party assumed power in 1949, the Chinese economy was a command economy. This command economy allowed the state to control a large majority of the country's economic output by controlling production goals, setting prices, and allocating resources throughout the whole economy. The state-controlled all industries, and

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[10] "Report for Selected Country Groups and Subjects." *International Monetary Fund*, Apr. 2020, www.imf.org/external/pubs/ft/weo/2019/01/weodata/weorept.aspx?pr.x=73&pr.y=8&sy=2019&ey=2019&scsm=1&ssd=1&sort=country&ds=.&br=1&c=001&s=NGDPD&grp=1&a=1.

[11] Song, Sun Hwa, et al. "World Bank Open Data." *Data*, 14 May 2020, data.worldbank.org/.

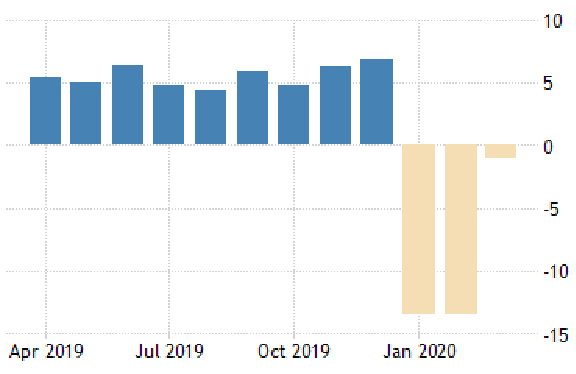
[12] "Report for Selected Country Groups and Subjects." *International Monetary Fund*, Apr. 2020, www.imf.org/external/pubs/ft/weo/2019/01/weodata/weorept.aspx?pr.x=73&pr.y=8&sy=2019&ey=2019&scsm=1&ssd=1&sort=country&ds=.&br=1&c=001&s=NGDPD&grp=1&a=1.

[13] "People's Republic of China and the IMF." *IMF*, 2020, www.imf.org/en/Countries/CHN.

controlled the economy centrally. However, like many command economies, the system was extremely inefficient and corruption was widespread. China remained a poor country, as they could not grow at a rate to support their workforce, and poverty was rampant. But, these failures by the Chinese government, allowed for change. When Deng Xiaoping rose to power in 1976, he drastically changed the economic structure of China. He modernized the economy by allowing for foreign involvement and encouragement of more private industries. He reduced state-set prices, and overall shifted the economy to have more capitalistic features. Accompanied by the rise of globalism, Xiaoping was able to take advantage and create the beginnings of the manufacturing/export industry. Overall, this new capitalistic system has transformed China tremendously.

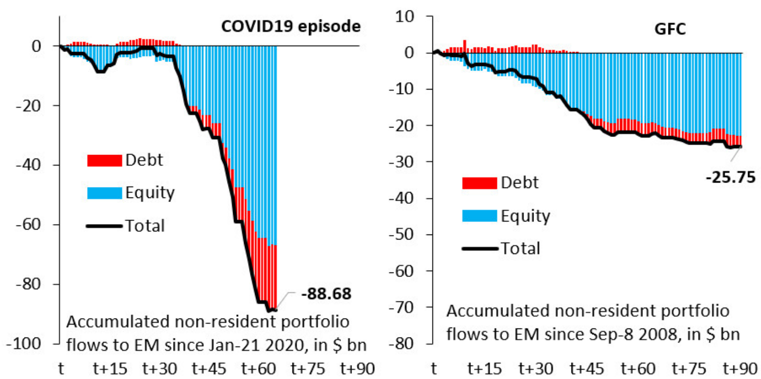
However, the worldwide pandemic has greatly affected the Chinese manufacturing economy. COVID-19 has caused the utilization rate of factories in China to fall by 8.6%. Thus, in the last 4 months of economic shutdown in China, has caused the industrial growth of the country to fall significantly.

Provided by Trading Economics



This fall in industrial production will have immense consequences on the overall Chinese economy. So far, the Chinese Economy has fallen 6.8% in GDP alone in the first quarter compared to other previous years.[14] This is the first time GDP growth has been negative in decades. Industrial Production is not the only factor negatively affecting the economy. Foreign Investment in the country is withdrawing from the country in large numbers, which can impact the future growth of the nation.

Provided by Vox



Due to the overall confidentiality of the Chinese government, the statistics may be understated. However, it is sensible to claim the Coronavirus pandemic poses a difficult problem for China. According to the International Monetary Fund (IMF), China was the single most important contributor to world economic growth in 2016. As a result, a Chinese economic slowdown (or recovery) could also have significant global implications. But, an analysis of past stresses on this economic system , such as the 2008 Depression's effects in China, can forecast the future problems China will face.

The 2007-2008 Economic Crash was the most severe economic global crisis since the Great Depression. This economic emergency devastated global markets leading to an overall -

[14] "Report for Selected Country Groups and Subjects." *International Monetary Fund*, Apr. 2020, www.imf.org/external/pubs/ft/weo/2019/01/weodata/weorept.aspx?pr.x=73&pr.y=8&sy=2019&ey=2019&scsm=1&ssd=1&sort=country&ds=.&br=1&c=001&s=NGDPD&grp=1&a=1.

5.1% decrease in worldwide GDP.[15] It was primarily linked to an event known as the "subprime mortgage crisis" and the bursting of the US housing bubble. Due to the housing boom in the US in the early stage of the 2000s, mortgage companies wanted to capitalize on rising home prices. Thus, mortgage lenders acquired thousands of high-risk mortgages, in hopes of a quick profit. These choices would be cataphoric for the global economy. When the housing market declined in the late 2006s, refinancing was greatly curtailed causing over-extended homeowners to default on their mortgages. The resulting financial panic caused the demand for new houses to collapse, triggering the Great Recession.

This crisis disturbed the booming Chinese economy greatly, especially the export industry. The Chinese economic structure is primarily focused on the export industry. In 2007, China's export industry contributed to one-third of its GDP growth in 2007.[16] This growth in the export industry was immense as China's exports of goods and services as a share of GDP rose from 9.1% in 1985 to 37.8% in 2008.[17] This large portion of the Chinese economy would suffer greatly during this recession.

Provided by Wayne Morrison

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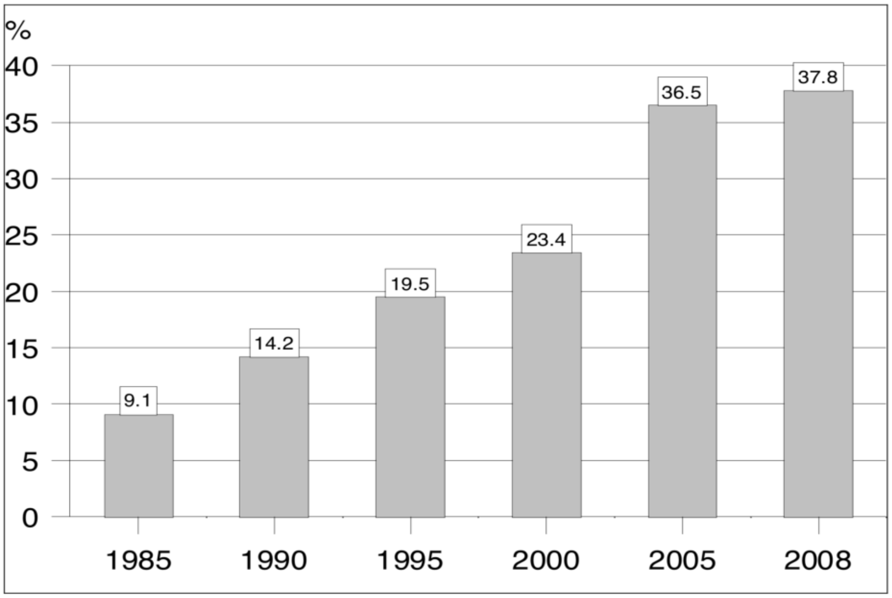
[15] Morrison, Wayne M. "China and the Global Financial Crisis: Implications for the United States." *Congressional Research Institute*, 3 June 2009, doi:https://fas.org/sgp/crs/row/RS22984.pdf.
[16] Morrison, Wayne M. "China and the Global Financial Crisis: Implications for the United States." *Congressional Research Institute*, 3 June 2009, doi:https://fas.org/sgp/crs/row/RS22984.pdf.
[17] Morrison, Wayne M. "China and the Global Financial Crisis: Implications for the United States." *Congressional Research Institute*, 3 June 2009, doi:https://fas.org/sgp/crs/row/RS22984.pdf.

Figure 1. Chinese Exports of Goods and Services as a Percent of GDP: 1985-2008



Over a six month period(November 2008- April 2009), China's trade and FDI plummeted. China's Exports and Imports fell 25.7% and 24.1% in february 2009 alone.[18] The decline in exports was the biggest monthly decline ever recorded. With this, the FDI flows into China declined significantly from pre-depression numbers.[19] FDI flows to China in April 2009 were down 22.5%, compared to April 2008 when FDI surged by 70.2%. [20] As a result of this economic slowdown of the Chinese economic industry, The Chinese government in January 2009 estimated that 20 million migrant workers alone had lost their jobs in 2008 because of the global economic slowdown.[21] Overall, For the first four months of 2009, industrial output rose by 5.5% year-on-year, well below the 12.9% growth rate in 2008.[22] The long term effects of the recession include economic scarring and overall job recovery, as such an abrupt plummet in this

[18] Morrison, Wayne M. "China and the Global Financial Crisis: Implications for the United States." *Congressional Research Institute*, 3 June 2009, doi:https://fas.org/sgp/crs/row/RS22984.pdf.
[19] Morrison, Wayne M. "China and the Global Financial Crisis: Implications for the United States." *Congressional Research Institute*, 3 June 2009, doi:https://fas.org/sgp/crs/row/RS22984.pdf.
[20] Morrison, Wayne M. "China and the Global Financial Crisis: Implications for the United States." *Congressional Research Institute*, 3 June 2009, doi:https://fas.org/sgp/crs/row/RS22984.pdf.
[21] Morrison, Wayne M. "China and the Global Financial Crisis: Implications for the United States." *Congressional Research Institute*, 3 June 2009, doi:https://fas.org/sgp/crs/row/RS22984.pdf.
[22] Morrison, Wayne M. "China and the Global Financial Crisis: Implications for the United States." *Congressional Research Institute*, 3 June 2009, doi:https://fas.org/sgp/crs/row/RS22984.pdf.

industry would take a substantial amount of time to recover from. However, China's government achieved an exceptional economic recovery with its policies. As a command economy, China's government was able to take control of its economy quickly, and institute policies effectively. First off, China's government introduced a stimulus package of 4 trillion RMB, equivalent to 584 billion dollars, to assist economic growth during this crisis.[23] Compared to the US's response, China's stimulus package was extremely aggressive. Coming from a country with an economy ⅓ the size of US's at the time, the effects of such stimulus was drastic. This stimulus spurred economic activity, and overall increased the total demand of goods by creating jobs. The stimulus was proven to be extremely successful for China as total industrial production in China nearly doubled between 2007 and 2013 despite the crisis and an extremely weak international demand for Chinese goods. Comparatively, The US experienced nearly no industrial growth, and European Union's industrial production declined by 9.3%. [24]

Hong Kong's Economic Model:

Hong Kong is a distinctive area in East Asia. Known to be the "special administrative region of China ", Hong Kong accepts different economic ideals from Mainland China. It promotes western capitalistic ideas and promotes them to a great extent. Hong Kong's economy is regulated by market trends and the principles of supply and demand. In short, Hong Kong is characterized by low taxation and low governmental interference.

The Hong Kong economic system is unique from the discussed models as it primarily focused on one industry, business. Due to a lack of valuable natural resources and space, Hong Kong was incapable of replicating China and the US's manufacturing prosperity. However, due

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[23] Szabo, Alexander. "China's Remarkable Recovery From the Great Recession, and Implications For Its Future." *USC Economics Review*, USC, 13 Jan. 2020, usceconreview.com/2018/10/22/chinas-remarkable-recovery/.
[24] Szabo, Alexander. "China's Remarkable Recovery From the Great Recession, and Implications For Its Future." *USC Economics Review*, USC, 13 Jan. 2020, usceconreview.com/2018/10/22/chinas-remarkable-recovery/.

to Hong Kong's prime location in the center of the Asian business world and its capitalistic influences of the west, Hong Kong transformed into the premier center of business in Asia. To become a business capital, the Hong Kong government instituted policies to encourage business growth in the area. For example, Hong Kong has instituted low-interest rates on loans and lox taxation numbers, all characteristics which promote business growth. This emphasis in the business realm is evident in its GDP, as nearly 92.3% of the GDP relies on the service sector of the economy. [25]

As a result of these business-friendly policies, Hong Kong is one of the freest economies in the world, as it ranks 2nd on the 2020 index.[26] Additionally, Hong Kong receives high foreign investment to take advantage of such policies. In 2019, Hong Kong received nearly 115 billion dollars. Hong Kong is so valuable to China, it is nearly 9% of China's total GDP. [27] Ultimately, Hong Kong is a true laissez-faire economy.

This unbounded economic system has reaped its rewards and has allowed Hong Kong to become one of the strongest economies in the world. Currently, Hong Kong possesses a GDP of 373 billion dollars, which has been growing steadily for the past decade.[28] Hong Kong's lack of heavy taxes has allowed countries to conduct business in their country and allowed it to flourish. The GDP per capita is approximately 61,400 dollars, the top 20 in the world.[29] Overall, Hong Kong has an extremely strong economy, but the coronavirus crisis and current protests have put strains on the economy.

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[25] "Hong Kong." *Hong Kong Economy: Population, Facts, GDP, Business, Trade, Inflation*, 2020, www.heritage.org/index/country/hongkong.

[26] Song, Sun Hwa, et al. "World Bank Open Data." *Data*, 14 May 2020, data.worldbank.org/.

[27] "Hong Kong." *Hong Kong Economy: Population, Facts, GDP, Business, Trade, Inflation*, 2020, www.heritage.org/index/country/hongkong.

[28] Report for Selected Country Groups and Subjects." *International Monetary Fund*, Apr. 2020, www.imf.org/external/pubs/ft/weo/2019/01/weodata/weorept.aspx?pr.x=73&pr.y=8&sy=2019&ey=2019&scsm=1&ssd=1&sort=country&ds=.&br=1&c=001&s=NGDPD&grp=1&a=1.

[29] Song, Sun Hwa, et al. "World Bank Open Data." *Data*, 14 May 2020, data.worldbank.org/.

In the early 1980s, Deng Xiaoping entered negotiations for the colony of Hong Kong from the British. Under the Sino-British Joint Declaration, Hong Kong was returned to Chinese Sovereignty under certain conditions. Known as the Hong Basic Law, it ensured that Hong Kong would retain its political and economic integrity. In short, the law protects Hong Kong's capitalistic economic systems and western democratic political system for the next 50 years. This constitutional principle governing Hong Kong came to be known as the one country two-systems concept. This political system would be the backdrop of 2019 Hong Kong protests. The protests were triggered by Hong Kong's introduction of the Fugitive Offenders amendment. This bill would have allowed the extradition of wanted criminals and fugitives into Mainland China, exempting the criminals from their rights protected by Hong Kong. Due to this infringement of Hong Kong's civil liberties, fanatical protests besieged the city, urging government officials to repeal the bill. These protests harmed the Hong Kong general economy. Hong Kong's economy shrank 1.2% last year as massive pro-democracy protests paralyzed the city's streets, and the GDP shrank 2.9% in the fourth quarter alone.[30] The onset of coronavirus pandemic has made conditions even worse. In the first quarter alone in 2020, the economy has crashed nearly 4.8% in overall GDP. [31] Additionally, unemployment in the country has risen to 4.2%. [32] Overall, all trends indicate the Hong Kong economy will enter a recession. However, an evaluation of how the SARS Pandemic of 2002 affected the Hong Kong economy can allow for future predictions of what will occur currently.

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[30] Berlinger, Joshua. "Six Months of Protests Wrecked Hong Kong's Economy. A Virus Scare Is the Last Thing This City Needs." *CNN*, Cable News Network, 4 Feb. 2020, www.cnn.com/2020/02/03/business/hong-kong-economy-coronavirus-intl-hnk/index.html.

[31] Berlinger, Joshua. "Six Months of Protests Wrecked Hong Kong's Economy. A Virus Scare Is the Last Thing This City Needs." *CNN*, Cable News Network, 4 Feb. 2020, www.cnn.com/2020/02/03/business/hong-kong-economy-coronavirus-intl-hnk/index.html.

[32] "Hong Kong." *Hong Kong Economy: Population, Facts, GDP, Business, Trade, Inflation*, 2020, www.heritage.org/index/country/hongkong.

In 2002, an unusual form of pneumonia surfaced in Guangdong, China, which infected more than 5,300 people and killed 349 nationwide.[33] Known as SARS, this outbreak affected Hong Kong extremely negatively. When the SARS virus appeared in Hong Kong in 2003, the economy was recovering from the Asian financial crisis. Economic growth was strong after the crisis, as the real GDP in Hong Kong grew at 3.4 percent in 2002:Q3 and at 5.1 percent in 2002:Q4.[34] Thus, the timing of the virus was extremely unlucky. The virus had a large impact on local consumption. The fear of SARS infection leads to a substantial decline in consumer demand, especially for travel and retail sales service. The fear of contracting the virus caused Hong Kong citizens to stay indoors, prompting an immense decrease in non-essential services and travel. The decrease in local consumption weakened the already poor job market.

Provided by Siu, Alan, and Y. C. Richard Wong.

[33] Wha Lee, Jong, and Warwick J McKibbin. "ESTIMATING THE GLOBAL ECONOMIC COSTS OF SARS." *Learning from SARS*, 2004, doi:10.17226/10915.
[34] Siu, Alan, and Y. C. Richard Wong. "Economic Impact of SARS: The Case of Hong Kong." *Asian Economic Papers*, vol. 3, no. 1, 2004, pp. 62–83., doi:10.1162/1535351041747996.

Table 6. Anecdotal evidence of losses from SARS according to selected businesses (all dates 2003)

Sector	Source	Date	Reported loss
Food and catering	Hong Kong Federation of Restaurants and Related Trades	Mid-April	50 restaurants closed temporarily
	Café de Coral	Early April	Sales dropped by 20%
Retail	Hong Kong Retail Management Association	Early April	Retail sales fell by 50%
	Sa Sa International	Early April	Sales dropped by 10%
	Giordano International	Mid-April	Sales dropped by 30%
	Mirabell International	Mid-April	Sales fell by 50% from a year prior
Tourism	Hong Kong Tourism Board	Early April	10.4% drop in visitor arrivals in the last 16 days of March over a year prior
Airline	Cathay Pacific Airways	Mid-April	Estimated loss per day was US$3 million; cancellation of flights rose from 10% in late March to over 40% in mid-April
	Dragon Airlines	Mid-April	Flight schedule was cut by 48%
Transport	Citybus	Early April	Passenger level fell by 10%
	New World First Bus	Mid-April	Passenger level fell by 20%
	MTR Corporation	Mid-April	Airport Express Line frequency was cut as passenger levels fell by 50%
Others	The Hong Kong Convention and Exhibition Centre	Early April	12% of bookings were cancelled or postponed
	Cinema Association	Mid-April	Revenue in March dropped by 47%

In the first two quarters of 2002, the value of exported goods rose by 17.6 percent and 12.2 percent,, compared with the values in the same period of 2002.[35] With this, The value of re-exports surged by 20.3 percent in 2003:Q1 and by 14.4 percent in 2003:Q2. [36]

Overall, once this disease in Hong Kong was contained, the SARS disease did not leave a significant long term impact on the Hong Kong economy. Once the fear and panic amongst citizens of Hong Kong abated, the negative economic impacts of SARS on local consumption and unemployment were short-lived.

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[35] Siu, Alan, and Y. C. Richard Wong. "Economic Impact of SARS: The Case of Hong Kong." *Asian Economic Papers*, vol. 3, no. 1, 2004, pp. 62–83., doi:10.1162/1535351041747996.
[36] Siu, Alan, and Y. C. Richard Wong. "Economic Impact of SARS: The Case of Hong Kong." *Asian Economic Papers*, vol. 3, no. 1, 2004, pp. 62–83., doi:10.1162/1535351041747996.

Concluding Investigation:

Presently, Covid-19 has brought numerous challenges to global economies, financially and politically. The main goal in this investigation was to use past stresses on the studied economic models, to forecast future predictions of what will occur domestically and globally due to the COVID-19 crisis. Using the historical precedents and data from past economic stress points of different models will allow for a greater understanding of what will happen to America in the future.

Before understanding the future effects of COVID-19 on the studied models, an acknowledgment of the differences between coronavirus crisis and the other past stresses must be made. These differences will allow for greater accuracy in predicting future events. Unlike past pandemic situations, COVID-19 has emerged in an era of large scale global interdependence between international businesses. As a result, any decisions taken by notable governments(China and the US) will result in long term repercussions on countries that rely on their goods and services. This interconnectivity would also increase transmission rates across countries, as international business calls for travel.

In the short term, the pandemic will have a profound effect on services that provide nonessential goods. As discussed earlier, the stresses had a negative impact on non-essential services in each model. This is self-explanatory, as in times of crisis individuals are less likely to spend on non-essential goods. However, many Non-essential services in SARS Pandemic in Hong Kong rebounded quickly after reopening the city. However, the SARS Pandemic recovered quickly due to it occurring on a very small scale, with minimal infections and unemployment loss. In the United States, COVID-19 has nearly 2 million infections and 40 million unemployed.

Thus, with the fear of contracting the virus and the high rate of unemployment, the non-essential service industry will likely recover much slower than in Hong Kong. The Spanish Flu's labor shock can also be compared with unemployment in the United States. In the Spanish Flu, a large portion of the workforce perished, resulting in higher wages for the remainder of the workforce. This effect will be reversed in the current situation. Currently, with high unemployment, a large number of people are competing for a low number of jobs. Using simple capitalistic ideals, this will result in lower wages for employees. The economy will also struggle with economic scarring. With such abrupt in production for various industries, it will take time for the economy to return to its former state.

These effects on the US economy are evidently detrimental, however, the country's response to address this situation may be called into question. On March 27, the US government passed the CARES ACT, a bill which injected nearly 2.2 trillion dollars into the economy. As studied before, in 2009, China passed a successful stimulus package which helped boost its economy. However, as an authoritarian regime, Chinese's success can not be replicated with the political systems in the United States. This bill relies on the idea of the Multiplier Effect, the idea that an increase in spending produces an increase in national income and consumption greater than the initial amount spent. However, with low-interest rates, and a large amount of money entering the US economy, inflation will rise drastically. With the rising costs of services, the 1,200 dollar stimulus check will lose value, thus undermining the whole idea of the multiplier effect. India may provide a unique solution to the inflation problem. Instead of handing checks to the citizens of the country, India's government is handing out certain passes, which all allow citizens to exchange these passes for a certain amount of food. This service is very similar to food stamps, but can be used for various products such as healthcare products. With this type of service, the government can reduce the amount of money entering the economy, and reduce the amount of inflation that will occur.

Overall, as the pandemic shutdown continues, unemployment will continue to rise, which will affect all industries in the United States, especially non-essential services. The large-scale unemployment shock will take years to recover from, and result in lower wages for individuals competing for limited jobs. With the slow unemployment recovery, the United States may also suffer from major economic scarring, as a result of such an abrupt drop in industrial production. The US response to COVID-19 can also be called to question. The 2.2 trillion dollar rescue plan and the low-interest rates will undoubtedly cause inflation inside the country.

Recommendations for the Future:

The COVID-19 dilemma has undoubtedly revealed the weaknesses of our governments. Government officials were completely unprepared and overwhelmed in handling this situation. Thus, I suggest a plan global governments can introduce to reduce the impact of a global pandemic in the future: Plan, Prevent, Action.

Firstly, planning is fundamental in hindering the financial impact of a future pandemic. Political leaders worldwide were completely unprepared in the wake of this pandemic. Lacking the amount of equipment and supplies, healthcare workers are currently struggling to fight the epidemic. Thus, in the future, a national stockpile of healthcare equipment and supplies is necessary to avoid medical shortages healthcare workers are currently facing. With this, a proposal of global cooperation is necessary, in order to detect and find the solutions to future viruses. A large problem in our current circumstance was the lack of transparency by the Chinese government. They understated the true abilities of COVID-19 and hesitated to release the data they collected from their experiences with the disease. Overall, this lack of transparency allowed for COVD-19 to flourish in our connected world. Thus, as a global community, we must work together as a group to detect and solve future pandemics.

Secondly, the Prevention of a future pandemic is key. According to the CDC, nearly 6 out of 10 infectious diseases originate from wildlife. Diseases such as SARS and MERS were able to jump from bats to human hosts. To effectively limit the threat of future pandemics, we must stop the worldwide wildlife trade, which includes shutting down animal markets around the globe Additionally, in the long term, we must protect human encroachment onto the natural habitat of these species.

Above all else, effective action by global administration must be taken if another infectious disease appears. In our current global crisis, governments did not take substantial measures in curbing the disease in its introductory stages, devastating their current economies. However, countries such as Singapore and South Korea have been able to control the spreading virus, without completely shutting down their workforce. Primarily, the South Korean plan centered around widespread testing, early initiative, and effective surveillance. Moving Forward, South Korea should be used as a worldwide example on how to handle pandemic situations.

Closing Remarks:

The COVID-19 Crisis has devastated economies around the globe. But, by learning from the past and using current information, we can combat the economic difficulties that arise with smart effective action. With this, we must force our governments to take greater measures in preparing for future situations. As a global community, epidemics threaten our future existence, but by learning from the past and using present-day analytics, we can ensure economic safety for our future generations.

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