

## *Original Paper*

# The Impact of the Covid-19 Crisis on Common Stock Dividend Payout Policy

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Received: August 20, 2020      Accepted: September 1, 2020      Online Published: September 8, 2020  
doi:10.22158/rem.v5n4p68      URL: <http://dx.doi.org/10.22158/rem.v5n4p68>

### **Abstract**

*For many investors, dividends play a key role in evaluating the return of a common stock and the main reason for making the investment. For those investors, dividends are a necessary aspect since they are a vital source of income. But with the Covid-19 pandemic, many corporations have been adversely affected by a global economic slowdown. For publicly traded corporations, depending on its industry, dividends have been sharply affected to the point of either being reduced or suspended indefinitely. Using the Standard and Poor's 500 stock index as a guide, stock analysts can possibly acquire a better understanding as to how reduced or suspended dividend income will affect different investors. The aim and purpose of this paper is to examine the affect the reduction and suspension of dividends will have as a source of needed income for private investors, pension funds, mutual funds, insurance companies, and real estate investment trusts.*

### **Keywords**

*Covid-19, dividends, Standard and Poor's 500 stock index (S&P 500), pensions, annuities, mutual funds, Real Estate Investment Trusts (REITs)*

### **1. Introduction**

The Covid-19 pandemic has been devastating many nations not only in terms of the people who have become ill, the number of deaths from the disease, and the medical costs incurred by countries, but also from an economic and financial perspective. Many nations have seen their economies literally halted overnight due to government ordered shut downs in order to stop the spread of Covid-19. This has

caused consumers to stop spending money in restaurants, retail stores, movie theaters, shopping malls, bars, and amusement parks, to name a few places.

The Covid-19 pandemic has caused businesses, whether large, small, or medium-sized to see a precipitous drop in their revenues and subsequently in net earnings. The businesses fortunate enough to remain open due to their large amounts of cash and a healthy cash flow have been able to survive. But for many other businesses, they have been forced to permanently close their operations due to the sudden halt in revenues. This has not only caused workers to lose their jobs, but vendors to lose customers, and ultimately for investors to lose their capital investments. For those businesses still able to function and that are publicly traded, they have had to reduce or suspend their dividends to shareholders until the economy rebounds with increased revenues and substantial net profits. The problem is that no one knows for sure when that will be.

For those investors who rely on dividends for income, this is a very dangerous time. Whether those investors are private individuals who depend on dividends from common stock investments to supplement their personal income, or pensioners who get dividends indirectly through their pension funds, or annuitants who receive dividends through their investment in an annuity purchased from an insurance company, they are starting to see drastic reductions in their earnings. While they may have a government issued pension such as Social Security in the United States, or savings accounts with a commercial bank, or investments such as corporate or municipal bonds, it may not be enough to sustain them through these perilous times.

The Standard and Poor's 500 (S&P 500) stock index has been regarded by investors and analysts as a reliable source of not only common stock performance, but a way to find out how many large corporations are performing financially. By using the S&P 500 as a guide, stock analysts can attain a better understanding in how reduced or suspended dividend income will affect different investors. The aim and purpose of this paper is to examine how the reduction and suspension of dividends will have on investors and its affect as a source of needed income for private investors, pension funds, mutual funds, insurance companies, and Real Estate Investment Trusts (REITs). Also, to see how many companies in the S&P 500 have actually either reduced or suspended their dividends. The problem becomes worse when more and more companies, whether in the S&P 500 or other indices, either reduce or suspend their dividends and for longer periods of time than was originally anticipated.

## **2. Method**

### *2.1 Sudden Rise Covid-19 Pandemic*

The first confirmed coronavirus case was reported in the city of Wuhan, Hubei Province, China, on December 8<sup>th</sup>, 2020. The disease first swept the rest of China's provinces, then various countries around the world with its highly contagious state. Hubei Province was the first city in China that officially announced it was fully locked down after realizing the high-risk transmission of Covid-19 on January 23<sup>rd</sup>. The duration of the Wuhan Lockdown was 76 days (Ewan Somerville 2020). Lockdown involves

any kind of strict mandatory quarantine. According to Juliana Kaplan, Lauren Frias, and Morgan McFall-Johnsen (2020), Italy became the second country declaring its lockdown with the surge of massive Covid-19 infections starting from March 8<sup>th</sup>, 2020. In order to curb the threat of Covid-19, many countries followed up by geographically quarantining themselves in declaring a state of emergency and using severe restrictions of mandating stay at home orders except for essential workers. As it was reported by The World Health Organization (WHO), more than 100 countries were infected by Covid-19 causing a severe global pandemic. Those countries included the Czech Republic, Spain, Iran, New Zealand, Germany, India, Brazil, Japan, South Korea, and the United States. Figure 1 shows daily confirmed cases globally by the definition of the WHO with regions starting from January to June 2020. Figure 2 depicts the total up-to-date confirmed infected cases and death tolls worldwide during the first half year of 2020.

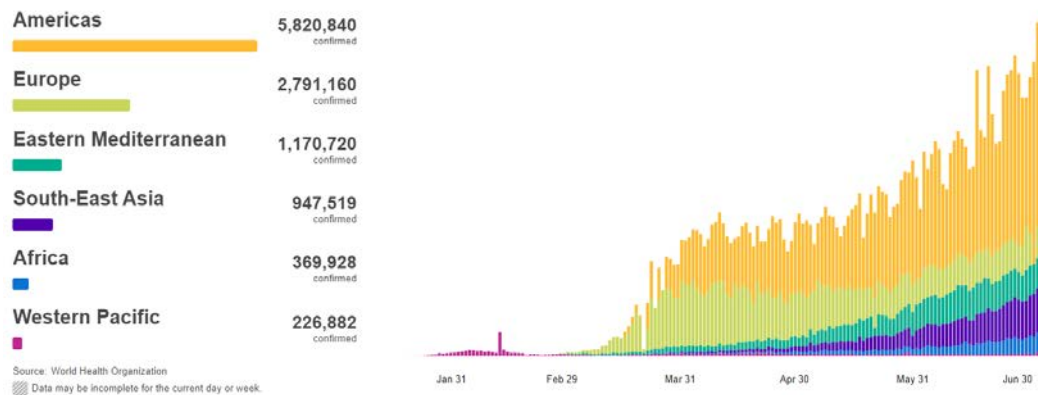


Figure 1. Daily Confirmed Cases of Covid-19 in the Year 2020 by WHO Region

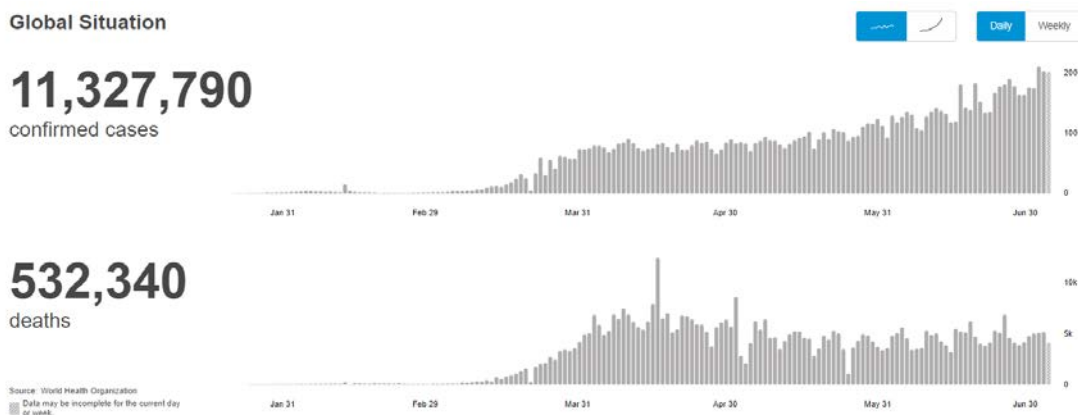
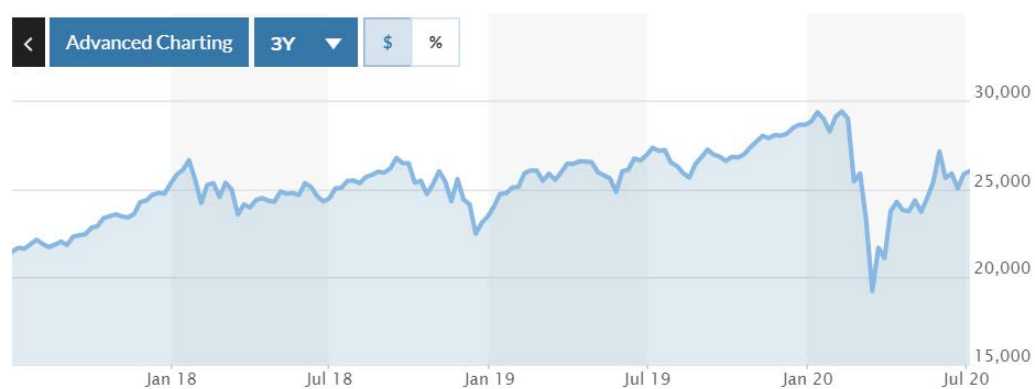


Figure 2. Global Confirmed Cases and Deaths up-to-date from WHO Official Website

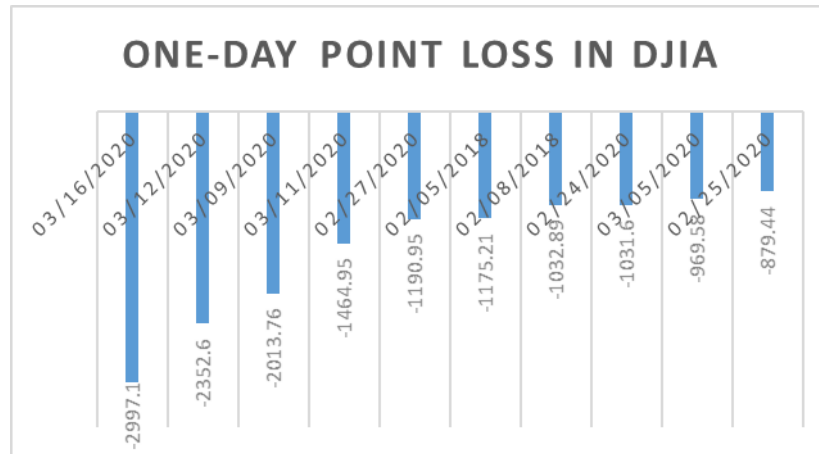
*The anxiety caused by the Covid-19 pandemic started to reflect on global financial markets.* According to Pippa Stevens (2020), the Organization of the Petroleum Exporting Countries (OPEC) meeting between Russia and Saudi Arabia about slashing oil production in 2020 occurred on March 6<sup>th</sup>

in Vienna resulting in a failure and causing an oil price war, which brought significant tension to the world's stock markets. Moreover, as confirmed coronavirus cases were climbing in the United States, on March 10<sup>th</sup> Harvard University in Cambridge, Massachusetts decided to ask its students to leave the school's dorms within five days and shift all their courses online for both undergraduates and graduates. More schools in the United States followed suit by shutting down their campuses. Mike Kennedy (2020) reported that by March 20<sup>th</sup>, 45 states in the United States closed their grammar, middle, and high schools because of the growing Covid-19 pandemic. According to the National Center for Education Statistics, more than 52.6 million students were impacted in the United States. On March 20<sup>th</sup>, New York Governor Andrew Cuomo ordered a lockdown, restricting all non-essential businesses across the state. Non-essential employees were required to work from home (Bernadette Hogan, Julia Marsh, & Nolan Hicks, 2020).

Munir Quddus (2020) wrote in his article that the Dow Jones Industrial Average (DJIA), which was experiencing an almost 11-year bull market, came to an end on February 12<sup>th</sup>, 2020 reaching its highest point of 29,551.42. According to Figure 3, within the next six weeks until March 23<sup>rd</sup>, the Dow lost 37% from its all-time high to 18,591.93. Figure 4 illustrates the ten biggest single-day losses in the history of the DJIA. On March 11<sup>th</sup>, the WHO formally defined Covid-19 as a global pandemic, causing the DJIA to have its second biggest single-day loss in history on March 12<sup>th</sup>. On Monday, March 16<sup>th</sup>, American President Donald J. Trump spoke in a press conference pointing out that the coronavirus would last until August in a worst-case scenario, and might lead to a recession. The DJIA lost nearly 3,000 points that day achieving the largest single-day loss since 1987. The Federal Reserve Bank announced that it would cut its interest rate to zero and purchase bonds by hundreds of billions of dollars on March 15<sup>th</sup>. However, this still could not stop the sharp fall of the DJIA on March 16<sup>th</sup>.

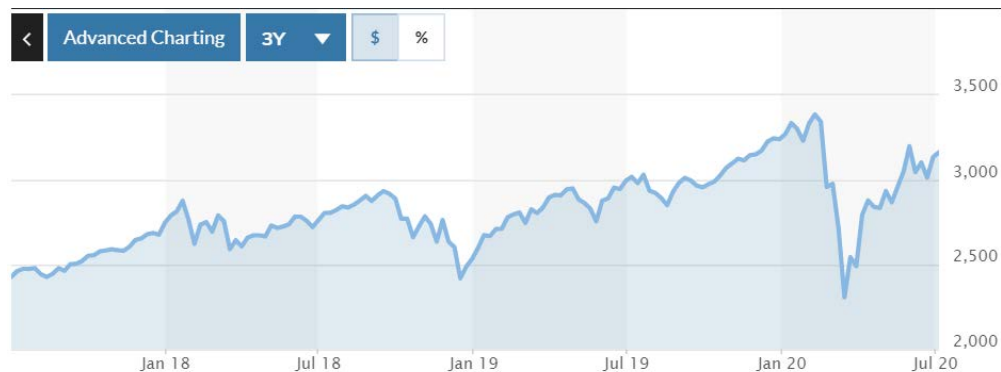


**Figure 3. 3-Year DJIA Curve. Source: MarketWatch**



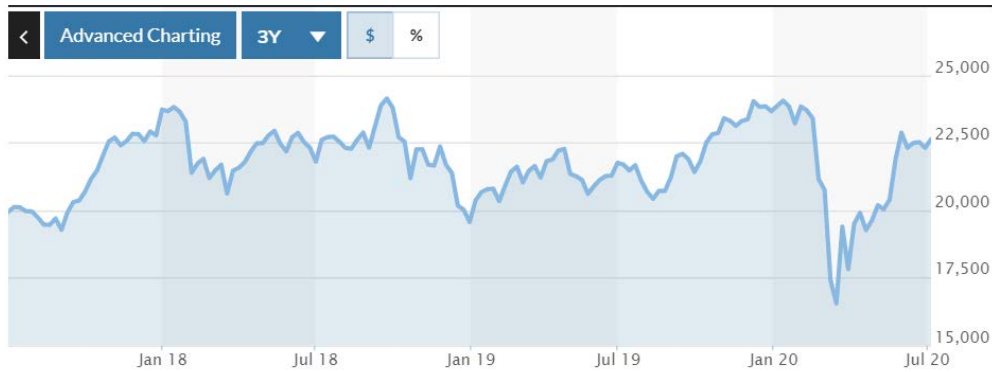
**Figure 4. The Biggest Ten One-Day Point Losses in Dow Jones History. Source: S&P**

Figure 5 plots the S&P 500 index hitting its record high of 3,386.15 on February 19<sup>th</sup>, then plunging to 2,237.40 on March 23<sup>rd</sup> with a 33.9% drop in less than five weeks. On March 12<sup>th</sup>, the S&P 500 index experienced the steepest one-day percentage decline since 1987 of 9.5%. Kellie Mejdrich (2020) pointed out that on Monday, March 16<sup>th</sup>, that the New York Stock Exchange (NYSE) instituted its circuit breaker immediately after the opening bell rang since the index plummeted 8%.

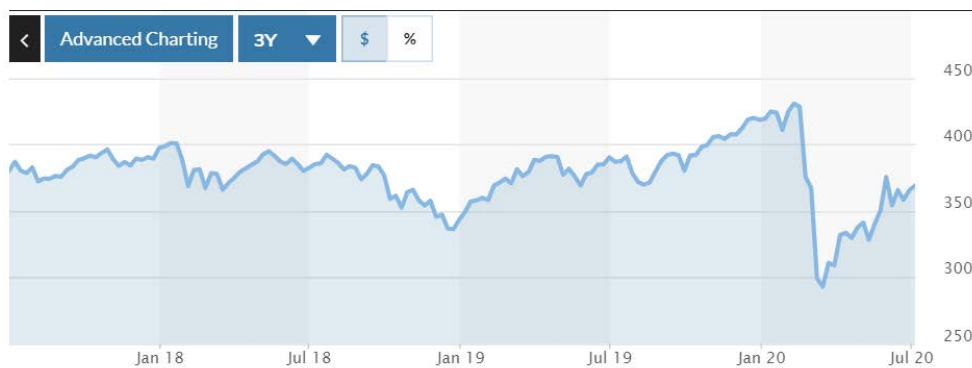


**Figure 5. 3-Year S&P 500 Index Curve. Source: MarketWatch**

Fears emanating from Wall Street impacted the global stock markets. The Japanese stock market Nikkei 225 Index (Figure 6) plunged 30.6% between February 12<sup>th</sup> and March 19<sup>th</sup>. The STOXX Europe 600 which includes various companies from 17 countries in the European Union, experienced a sharp fall from 433.90 between February 19<sup>th</sup> to 279.66 on March 18<sup>th</sup> with a continuous drop of 35.5% in just four weeks (Figure 7). On March 16<sup>th</sup>, Europe's fear index which measures the volatility rate of European stock markets climbed to a record high since the Financial Crisis of 2008.



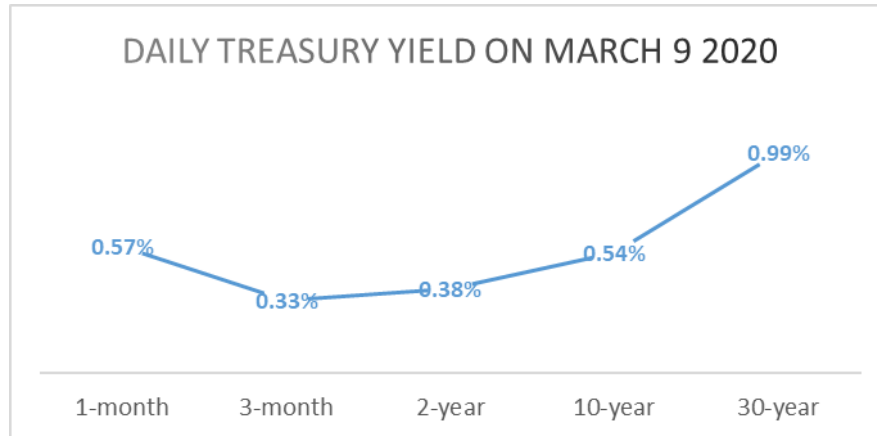
**Figure 6. 3-Year NIKKEI 225 Index curve. Source: MarketWatch**



**Figure 7. 3-Year STOXX Europe 600 Index curve. Source: MarketWatch**

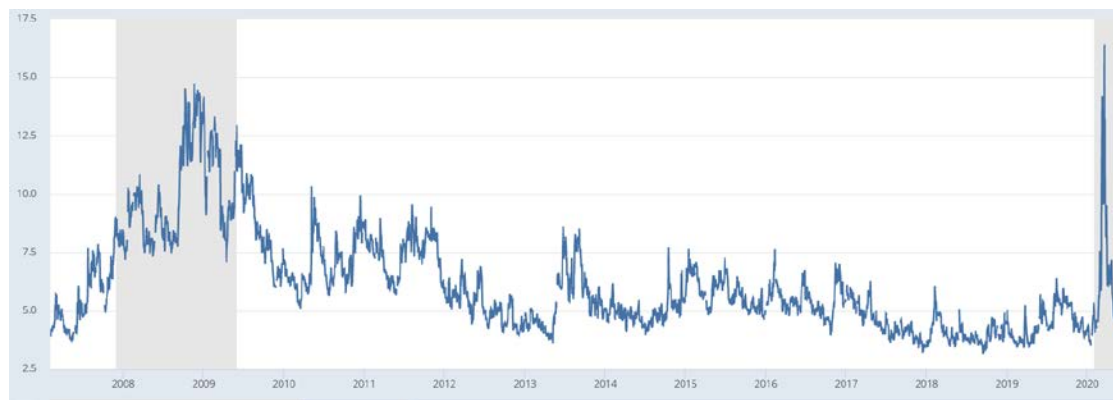
**Contrary to the stock market, investors tended to seek more stable financial assets resulting in the U.S. Treasury securities market encountering an upward trend driving its yield-to-maturity down to an historic low.** On March 25<sup>th</sup>, the one-month, two-month, and three-month yield to maturity all tumbled down to 0.

A rare situation occurred on March 9<sup>th</sup> where the one-month U.S. Treasury yield surpassed the 10-year rate by 0.03% as seen in Figure 8. This signal indicated that investors demanded higher yields towards short-term rather than long-term Treasury bonds. Normally, investors expect lower return on Treasury bonds in favor of more liquidity in the foreseeable near future. A financial concept named the inverted yield curve describes this abnormal situation and it is often regarded as a sign of an eventual economic recession. Based on this concept, the inverted yield curve occurred before the economic recessions in the years 1981, 1991, 2001, and 2008.



**Figure 8. Source: U.S. Department of Treasury**

**The bond market volatility shot up to a new level which surpassed the record set in the Financial Crisis of 2008-2009 (Figure 9).** The Chicago Board of Exchange (CBOE) 10-year U.S. Treasury note volatility index reflects the forecast percentage changes in yields of 10-year Treasury note futures in one-month time increments. These types of futures are traded most frequently in the U.S. Treasury note futures. The volatility of the 10-year Treasury note futures represent the volatility of a series of combined fixed income assets such as spot Treasuries, interest rate swaps, mortgage-backed securities, and corporate bonds.



**Figure 9. 10-Year Treasury Note Volatility Futures. Source: Chicago Board Options Exchange**

**The global estimated gross domestic product (GDP) for 2020 shrank dramatically according to The International Monetary Fund (IMF).** Until now, the vaccine for Covid-19 is still under clinical trials and the world's largest economy, the United States, is still suffering from surging coronavirus cases across its various states. The time for a totally reopening plan remains uncertain. The annual GDP growth rate in 2020 went down by 3% compared to the previous year of 2019 which was the highest loss in GDP since 1980. As shown in Figure 10, most of the world's major countries are suffering from

GDP loss in 2020. The Euro area in 2020 faces the largest economic downturn by 7.5% and many of its economically robust countries were hit by the Covid-19 pandemic tremendously, such as Spain, Italy, France, and Germany. The countries in the Western hemisphere are in slightly better shape than the Euro zone in terms of GDP loss. Mexico faces a 6.6% GDP reduction while Canada and the United States have 6.2% and 5.9% losses, respectively, this year. India and China, the world's two biggest emerging economies with their fast GDP growth rate in the past decade slowed down their rate this year.

**Table 1. Real GDP Growth Rate Annual Percentage Change. Source: IMF**

<b>Real GDP growth (Annual percent change)</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
<b>United States</b>	2.9	2.3	-5.9	4.7
<b>Canada</b>	2.0	1.6	-6.2	4.2
<b>Mexico</b>	2.1	-0.1	-6.6	3.0
<b>Brazil</b>	1.3	1.1	-5.3	2.9
<b>Chile</b>	3.9	1.1	-4.5	5.3
<b>Argentina</b>	-2.5	-2.2	-5.7	4.4
<b>Japan</b>	0.3	0.7	-5.2	3.0
<b>Australia</b>	2.7	1.8	-6.7	6.1
<b>India</b>	6.1	4.2	1.9	7.4
<b>Korea, Republic of</b>	2.7	2.0	-1.2	3.4
<b>Indonesia</b>	5.2	5.0	0.5	8.2
<b>China, People's Republic of</b>	6.7	6.1	1.2	9.2
<b>Euro area</b>	1.9	1.2	-7.5	4.7
<b>United Kingdom</b>	1.3	1.4	-6.5	4.0
<b>Russian Federation</b>	2.5	1.3	-5.5	3.5
<b>Turkey</b>	2.8	0.9	-5.0	5.0
<b>Nigeria</b>	1.9	2.2	-3.4	2.4
<b>South Africa</b>	0.8	0.2	-5.8	4.0
<b>World</b>	3.6	2.9	-3.0	5.8

**The shrinking worldwide GDP has resulted in the economic pause of three-sector activities due to the Covid-19 pandemic.** The mitigation measures toward limiting the spread of coronavirus have severely impacted the primary (raw materials), secondary (manufacturing), and tertiary (services) industries.



John Baffes and Ipek Ceylan Oymak (2020) address the possibility that cotton stocks of supply will reach a five-year high at the end of 2020 because of the lower demand due to the global pandemic. Cotton prices are expected to drop by 12% in 2020 compared to 2019. Because the Covid-19 pandemic requires massive mobility restrictions, natural rubber's price tumbled starkly since two-thirds of its supplies are used for making tires; meanwhile, the consumption of fuel and fertilizer dropped significantly. The approximate supply to demand ratio in most grains and oilseeds, such as wheat, maize, and rice, spiked to historically high levels. Crude oil prices fell by 65% from January to April in 2020. The oil futures market witnessed an even more steep decline due to continuously low demand but in excess of the storage capacity. The price of WTI Cushing contract maturity date in May on April 20<sup>th</sup> plummeted to nearly -\$40/bbl.

China, one of the world's biggest exporter in manufacturing production and importer in intermediates, has experienced a 17% decline in exporting and 4% decrease in importing after the coronavirus outbreak in January and February compared to the same period last year. Such a decline surpasses the SARS outbreak of 2002 and the Financial Crisis of 2008-2009. The capital outflow of U.S.\$87 billion from the emerging countries and more than 80 countries calling for emergency financing this year interprets the desperate future of the manufacturing sector caused by the global pandemic. (Adnan Seric, Holger Görg, Saskia Möhle, & Michael Windisch, 2020)

According to the U.S. Census Bureau in April, American total value of the trade sales and manufacturers' shipments was down by 18.4% compared to April 2019. Inventories to sales ratio surged from February 2020 indicating the shrinking domestic demands after the outbreak. The number of imported goods to the United States in 2020 such as automotive vehicles, capital goods, industrial supplies and materials, as well as customer goods are facing a downward trend compared to 2019. The year-to-date change in Capital Goods is down U.S.\$28 billion. Automotive vehicles, parts, and engines dropped U.S.\$49 billion. Customer goods plummeted U.S.\$36 billion.

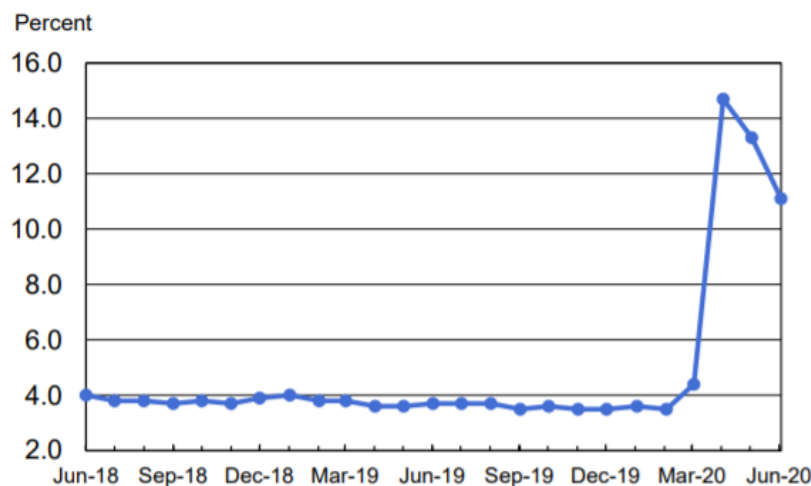
**The service industry, which relies heavily on personal interaction, experienced devastating damage due to the coronavirus' highly contagious nature and social distancing requirements amid the pandemic.** Restaurants and bars in the United States have been hit hard by this crisis since they were forced to shut down or only allow take outs at the beginning of the pandemic to stop spreading the virus. From February to April, the total job loss in these two sections shot up to 48.1%.

In the meantime, movie theaters, casinos, and gyms in many parts of the United States were closed in order to stop people from gathering and spreading the virus. AMC, according to Howard Smith (2020), a chain theater in the United States, is suffering severe financial problems since the outbreak occurred in the United States. In the first three months, AMC lost U.S.\$325 million, and in April it issued U.S.\$500 million in corporate bonds at an interest rate of 10.5%. As it still remains unclear when AMC will be open since the coronavirus keeps escalating in the United States, there is a possibility that AMC will be forced into bankruptcy.

Amusement, gambling, as well as the recreation industry have lost 59.9% of its jobs from February to April 2020. During the same time period, the scenic transportation industry surpassed that figure by having a 62.1% unemployment rate. (Bryan Pietsch, 2020)

Due to stay-at-home orders and some countries' travel bans towards other countries, the tourism industry was hobbled by the coronavirus pandemic. Accommodation sector's occupancy rate reduced sharply in March. The accommodation sector includes not only hotels and hostels, but also the apartment renting business such as Airbnb, Sonder, etc. Around the world, guest numbers of the accommodation sector dropped more than 50%. (Stefan Gössling, & Daniel Scott, 2020). According to European Centre for Disease Prevention and Control (ECDC), after the pandemic, global flights tumbled over half a percent compared to pre-coronavirus.

**The Covid-19 outbreak severely hurt the American labor market with millions of people losing their jobs.** As seen in Figure 11, a sharp rise in the unemployment rate occurred in March 2020 and peaked at 14.7% in April 2020, resulting in a postwar record high. Before the coronavirus outbreak in the United States, the unemployment rate in February 2020 was the lowest since World War II. Although the rate went down in June 2020 to 11%, Rakesh Kochar (2020) reported that the unemployment rate still surpassed the highest unemployment rate of 10.6% during the Great Recession after 2007.



**Figure 10. Unemployment Rate, Seasonally Adjusted from June 2018 to June 2020. Source: Bureau of Labor Statistics**

**Many countries around the world adjusted their monetary policies in response to the Covid-19 outbreak. This severe and unprecedented public health emergency suddenly dragged down inflation and prevented the American macroeconomy from functioning properly.** The Federal Open Market Committee (FOMC) of the Federal Reserve Bank immediately reduced the federal funds

rate from a range of 1½ to 0¼ percent in March 2020. Also, the Federal Reserve Bank declined the interest paid on reserve balances, as well as interest rate on overnight reverse repurchase agreements.

The Bank of Japan announced on March 16th its enhancement monetary policy regarding the novel coronavirus outbreak with three easing measures. First, it would further increase holdings in Japanese government bonds and the U.S. dollar supplied operations. Second, it would provide 0% interest rate corporate loans with a maturity length up to one year, as well as increasing the purchase of commercial paper and corporate bonds with ¥3.2 trillion and ¥4.2 trillion maximum, respectively. Third, the Bank of Japan would actively purchase exchanged traded funds (ETFs) and Japan real estate investment trusts (J-REITs).

The Bank of England reduced its bank interest rate to 0.1% and increased its purchases of government and corporate bonds by £200 billion on March 19<sup>th</sup>.

The European Central Bank (ECB) created a Pandemic Emergency Purchase Program (PEPP) in response to Covid-19 in March 2020. PEPP was aimed at buying securities issued in the private and public sectors. The total amount of PEPP package was €1350 billion in June. In the meantime, the interest rate of refinancing operation, marginal lending facility, and the deposit facility was cut to 0%, 0.25%, and -0.5%, respectively.

**With millions of jobs lost, a public health emergency, and a financial depression, the United States federal government issued massive bailouts and stimulus policies in response to the pandemic.** Amongst all the countries world-wide, the United States was hit the hardest by Covid-19 so far with over 5.97 million Americans being infected and over 183,000 deaths. Among the financial programs enacted by the U.S. Congress and signed into law, as reported by the IMF, U.S.\$483 billion was granted to the Paycheck Protection Program and the Health Enhancement Act; approximately U.S.\$2.3 trillion was delivered to Coronavirus Aid, Relief and Economy Security Act (CARES Act); U.S.\$8.3 billion was put into the Coronavirus Preparedness and Response Supplemental Appropriations Act, and U.S.\$192 billion was issued to the Families First Coronavirus Response Act.

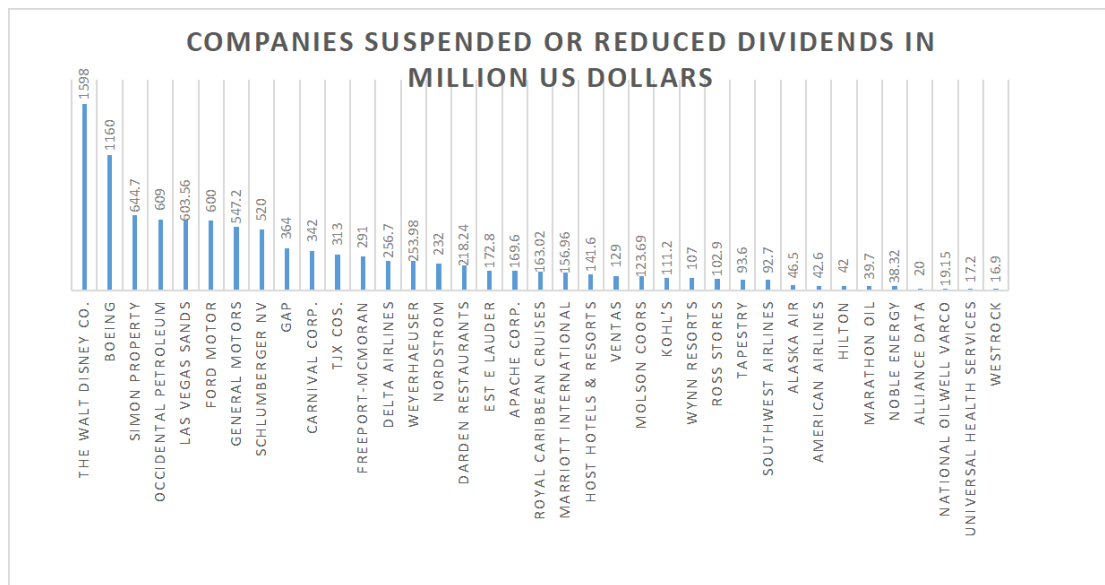
## *2.2 Reactions of Companies*

So far, until the second quarter of 2020, we have found 37 companies from the S&P 500 index that have suspended or reduced their dividend payouts. Figure 12 below shows the exact amount of dividend's suspension or reduction in millions of U.S. dollars.

The Walt Disney Company and Boeing rank as the top two in dividend suspension. Walt Disney started to pay its shareholders dividends twice a year in 2015. Normally, it distributed them in the beginning of July and December. However, starting in 2020, it canceled its dividend payout of approximately U.S.\$1.6 billion in July due to the massive loss caused by the coronavirus. Curtis Tate (2020) pointed out that Disney shut down most of its theme parks, resorts as well as cruise ship operations around the world, reporting losses of nearly U.S.\$5 billion in its net income. Although Disney tried to open its Disneylands around the world during the second quarter, some of them closed again because of the continuing surge in cases. For example, these included the Disneyland in Hong Kong and in Anaheim,

California. In Florida, Disneyland faced a huge amount of cancellations and lower attendance rate as the state of Florida announced its reported cases of more than 519,000, second to the state of California.

The Boeing Company, the world's largest aerospace company and America's biggest manufacturing exporter, has no intention of paying dividends to its shareholders. According to Boeing's dividend payout history, it pays dividends quarterly in February, May, August, and November. It distributed its first quarter dividends on February 13<sup>th</sup>, but stopped the second quarter dividend payment which was approximately U.S.\$1.16 billion. Boeing declared its second quarter net loss of U.S.\$2.376 billion. However, this was not the first time Boeing witnessed a huge loss in its earnings. Will Martin and David Slotnick (2020) wrote that because of two 737 Max plane crashes which killed 346 people in 2019, Boeing faced a reputational issue and reported its first full-year loss of U.S.\$636 million in 2019 in over 20 years. In the second quarter of 2019, Boeing lost more than U.S.\$2.9 billion in its net income, exceeding the second quarter of 2020. Nevertheless, the dividend payouts in 2019 were more than ever before. Boeing increased its dividend to U.S.\$2.055 per share compared to U.S.\$1.71 in 2018 and \$1.42 in 2017.

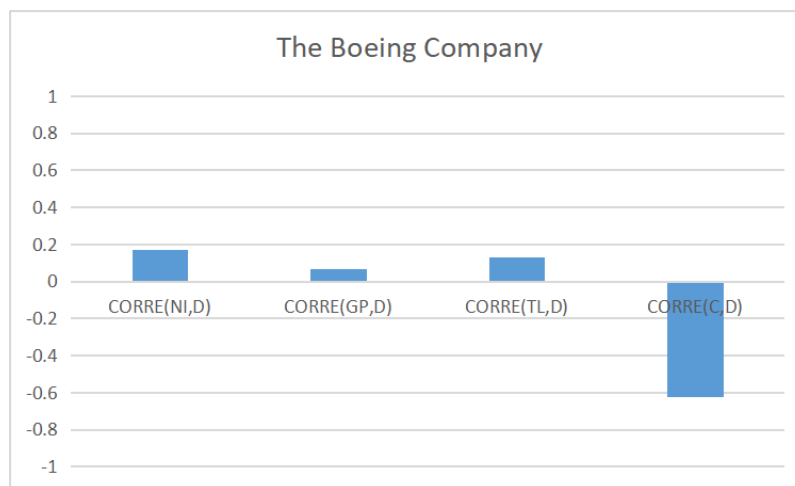


**Figure 11. Amount of Dividends Suspension or Reduction in 2020, Firms from S&P 500**

*Boeing's case arouses three key questions: First, is the Covid-19 pandemic an excuse of not paying dividends to Boeing's shareholders? Second, how many companies from the S&P 500 are using this pandemic as an excuse of sacrificing dividend payments for shareholders' sake? Third, what are the most relevant financial figures when a company's management is making dividend payout decisions?*

In order to answer these three questions, correlation coefficient tests were performed between the amount of dividend payout on a quarterly basis and four other financial data strings that would be relevant to dividend payout. These four financial figures were net income, gross profit, total liabilities, as well as cash on hand. Correlation coefficient ranges from 1 to  $-1$ . The correlation coefficient of 1 means that for every positive increase in one variable, there is a fixed proportion of positive growth in the other. While  $-1$  means that for every positive increase in one variable, there is a fixed proportion of negative decrease in the other. Zero means that for every increase, there is no positive or negative increase, which shows that the two are unrelated.

***The Covid-19 pandemic possibly has a negative effect to many companies' economic and financial condition like Boeing, but is it an excuse for skipping dividends?*** Figure 12 illustrates that there is no significant positive relation between Boeing's dividend payout and its net income or gross profit based on the financial data sets provided from 2015. In other words, the amount of dividends Boeing pays has a weak connection with how much it earns or loses. Nevertheless, Boeing's dividend payouts negatively attached to its cash on hand. This interprets Boeing dividend payout reduction to its dividends to increase its cash on hand. In the second quarter of 2020, Boeing suspended dividends by U.S.\$1.161 billion, and its cash on hand has doubled to U.S.\$32.43 billion compared to the first quarter. This increase in Boeing's cash also results from Boeing's debts. Total liabilities surged by U.S.\$21.819 billion during the second quarter of 2020. Will the total increase of Boeing's debts negatively impact its dividend payouts? Figure 12 shows a weak relationship between Boeing's total liabilities and dividend payouts. ***In other words, Boeing can afford to pay dividends, but it might use the Covid-19 pandemic as an excuse for suspending dividend payouts.***



**Figure 12. Correlation Coefficient Test Result of Boeing between Dividend-Payout (D) Per Quarter and Net Income (NI), Gross Profit (GP), Total Liabilities (TL), Cash on Hand (C) Per Quarter from 2015 to 2020**

*How many companies are not paying dividends like Boeing in the name of Covid-19 pandemic crisis? The test results among 37 companies which have declared dividend suspension show that 10 corporations, including Boeing, have no significant relation between dividend payouts and earnings. These other nine companies are Freeport-McMoRan Inc., Hilton Worldwide Holdings Inc., Marathon Oil, Marriott International, Inc., The Molson Coors Beverage Company, Noble Energy, Inc., Schlumberger, Weyerhaeuser Company, and Wynn Resorts. (see Table 2)*

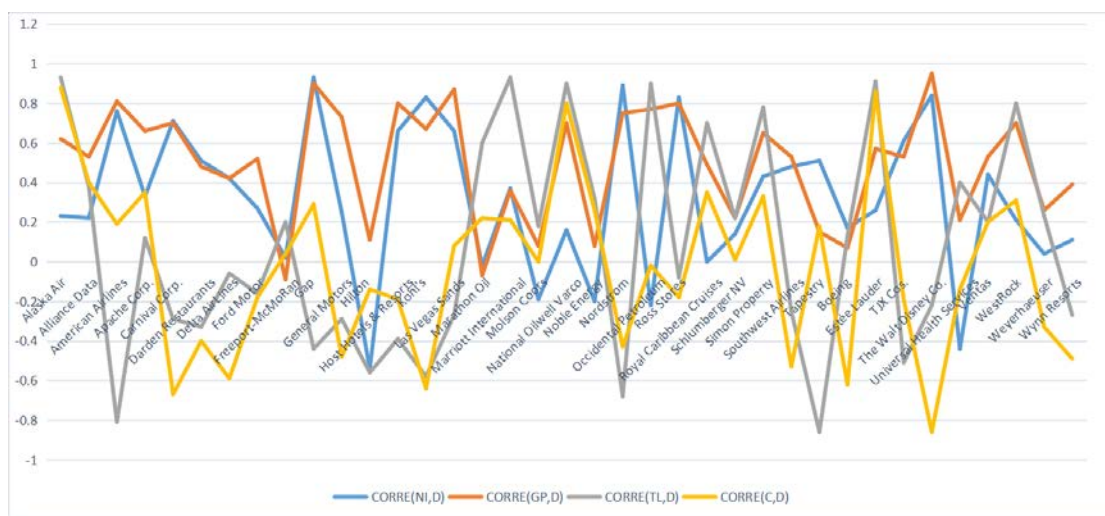
**Table 2. Correlation Coefficient Test Result between Dividend-Payout (D) Per Quarter and Net Income (NI), Gross Profit (GP), Total Liabilities (TL), Cash on Hand (C) Per Quarter from 2015 to 2020**

<i>Company name</i>	<i>CORRE (NI, D)</i>	<i>CORRE (GP, D)</i>	<i>CORRE (TL, D)</i>	<i>CORRE (C, D)</i>
<b>Freeport-McMoRan, Inc.</b>	0.02	-0.09	0.2	0.04
<b>Hilton Worldwide Holdings, Inc.</b>	-0.54	0.11	-0.56	-0.14
<b>Marathon Oil</b>	-0.02	-0.07	0.6	0.22
<b>Marriott International, Inc.</b>	0.37	0.36	0.93	0.21
<b>The Molson Coors Beverage Co.</b>	-0.19	0.08	0.18	0.00
<b>Noble Energy, Inc.</b>	-0.2	0.08	0.32	0.26
<b>Schlumberger</b>	0.14	0.22	0.22	0.01
<b>Weyerhaeuser Company</b>	0.04	0.26	0.23	-0.33
<b>Wynn Resorts</b>	0.11	0.39	-0.27	-0.49

*The most relevant financial data string to dividend payouts is gross profit, as it can be seen in Figure 13, followed by net income.* Despite 10 out of 37 companies making decisions of suspending or reducing dividends under the guise of the coronavirus pandemic, 27 companies stopped or reduced paying dividends due to earnings loss after the virus crisis.

*In the meantime, Figure 13 demonstrates that there is a stronger negative reliance between cash on hand and dividend payouts than a strong positive influence.* This means that those companies have more cash on hand, but paying less dividends, or paying less dividends which increases their cash on hand. Companies under this circumstance may use cash for their own priorities, for example, stock buybacks. Allan Sloan (2020) notes that the four biggest American airlines and the aerospace giant, Boeing, purchased their own stocks over the years in order to increase their earnings per share. Only in this manner could they keep their stock price stable, or even going up, despite experiencing huge earnings losses. These four airlines are Southwest, United Airlines, Delta Airlines, and American Airlines. Except for United Airlines, which is not included in the S&P 500 index, two other airlines have strong negative relation, while American Airlines has no significant reliance between dividend payouts and cash.

**Figure 13 also demonstrates more strong positive reliance between dividend payouts and total liabilities.** Most people might consider that if the companies are heavily in debt, then they would reduce the amount of dividend payments. However, this result tells the opposite story. Companies increase their dividend amount when their debts are going up. Alaska Air Group increased by 120% of its total liabilities from the years 2015 to 2020, while its total dividend payouts climbed by 76%. Marriott International Company raised its debt from U.S.\$9.34 billion in the first quarter of 2015 to U.S.\$25.569 billion in the first quarter of 2020, generating 174% growth in total liabilities. The amount of Marriott's dividends surged from U.S.\$56.8 million to U.S.\$156.96 million with a growth rate of 176%.



**Figure 13. Correlation Coefficient Test Results between Total Dividends Payout per Quarter and Net Income, Gross Profit, Total Liabilities, Cash on Hand Per Quarter from 2015 to 2020**

### 3. Result

#### 3.1 Effect of Dividend Policy Revision on Various Investors

Because different companies have changed their dividend payout policy, this will affect various investors in often devastating ways. The diverse types of investors listed below each count on dividends as a source of income, not just a return on their investment.

**Pensions:** Various pensions invest in dividend paying stocks as a way to pay their pensioners a source of income that could possibly last for years. It is true that pensions will invest in long-term bonds, mortgages, and notes as a way to provide pensioners with income that could last for twenty or more years. But like any other investment portfolio, pensions must diversify their assets not only to spread out and minimize their risk, but also to possibly maximize the income they would receive in order to pass it on to their pensioners. Pension fund managers must be careful that by investing only in bonds, mortgages, or notes, then a change in interest rates could affect the value of these assets. By investing

in common stock paying healthy dividends, pension funds could diversify their risks but also create buffers in case of bond or note default or mortgage foreclosures.

The problem that pensions are now facing is that due to the Covid-19 pandemic, many companies are seeing their revenues and net earnings drop dangerously in a very short period of time. Subsequently, this is causing many companies to reduce their dividends in order to preserve cash at present levels or build up their cash reserves. Aside from the Covid-19 pandemic economic and financial consequences, pensions are facing a difficult time paying their pensioners in the payout stage due to dwindling amounts coming into their portfolios. For many pension funds, the Covid-19 pandemic could not have come at a worse time due to their present financial problems regarding reduced influx of contributions and capital.

**Insurance companies:** Two key financial products that insurance company clients heavily depend on are life insurance and annuities. Each of these insurance products offer not only risk management but also are sources of income. With a life insurance policy, the policy owner can either hold on to the policy until the insured passes away and the beneficiary receives the proceeds or cash in the policy and invest in an income producing asset. With an annuity, whether fixed or variable, the client can receive an income that could possibly last a lifetime. But either way, an insurance company will need to invest in either bonds or dividend paying common or preferred stocks that will provide this income that eventually goes to the client.

Insurance companies need to invest in dividend paying common stocks for their annuities so that the income can eventually pass on to the client or also known as the annuitant. This income can supplement their Social Security and possible pension payments. But the problem that insurance companies face currently is that if dividend payments are curtailed, suspended, or reduced, then they will need to lessen the annuity income they pay to their clients. For many clients, this could mean a huge financial loss and a possible severe crisis in which they will have no way to make up this loss. With the Covid-19 pandemic affecting the revenues and net profits of many companies that have dividend paying common stocks, which are purchased by insurance companies for their portfolios, their clients will suffer from a loss of income in the long and short term.

**Mutual funds:** There are numerous mutual funds in the United States that have as their primary investment objective for the shareholders the payment of income in the form of common stock dividends. This is important for investors who need these dividends in order to supplement their retirement income from Social Security, pensions, and other sources of income they may have. Mutual funds, while they may not be appropriate for every investor, can work for those who want diversification and professional management in handling a common stock portfolio whose primary investment objective is income.

The problem is that with the Covid-19 pandemic and its effect on the macroeconomy of the United States, many publicly-held corporations whose common stock pays dividends will face difficulties in paying those dividends to investors. These investors include mutual funds. The problem will only get



worse if the American macroeconomy falls deeper into a recession or possibly a depression. Not only will corporations go into bankruptcy but will also face liquidation and, of course, stoppage of dividend payments. The problem only gets worse as many of these types of mutual funds will be forced to shut down their operations causing their investors to lose money in their investments in the long run.

**Real estate investment trusts (REITs):** The key idea behind a REIT is that an investor will indirectly purchase a stake in real estate held by the portfolio that will pay a substantial amount of its net earnings. This is important since there are investors who prefer the safety, security, and stability of owning real estate. This could take the form of investing in hotels, office buildings, retail stores, shopping malls, warehouses, resorts, apartment buildings, healthcare facilities, or nursing homes. All these investments are designed to pay a substantial amount of income, in the form of dividends, to the investors of REITs. The benefit for the companies that hold the classification of REITs is that they operate, own, or are involved in the financing of real estate in which they pay 90 percent of their taxable income to their investors or shareholders. The benefit the REIT derives from this arrangement is that it will not pay any taxes on this income, but the shareholders will.

There is really nothing wrong with this type of arrangement since the investor is obtaining a substantial stream of income in the form of dividends for owning shares in the REIT. The real problem occurs when the properties held by the REITs do not produce the income stream they were expecting. Whether this income comes in the form of rents, lease payments, fees, or payment for staying at a hotel or resort, if there is a drastic curtailment, then the REIT investor will eventually feel this decrease. Because of the Covid-19 pandemic, many retail stores and malls have been shut down causing a serious drop in sales revenues. The main reason being that shoppers have stopped buying either because they are scared about the airborne spread of Covid-19 or they may have lost their jobs due to massive layoffs. These stores are then forced to shut down and face the very real possibility of liquidation or bankruptcy. Retail stores that are somehow surviving this economic downturn have drastically cut back their rental payments and, in turn, the REITs that own the real estate where the stores are located have reduced or suspended their dividend payments to their investors. In the short run, investors are bearing the brunt of the loss of the dividend income stream they were expecting. In the long run, investors could see the value of their investment decrease far below the amount they invested.

**Private investors:** Individuals purchasing common stock for the primary reason of receiving dividends do so in order to supplement their income. These private investors most likely are senior citizens who are looking to supplement their income from Social Security, pensions, and personal savings. With certain corporations such as The Hershey Company, these private investors regard stock dividends as their primary investment objective. They are not really look for long-term growth in the value of the common stock. Given their personal and financial situation, this is a normal and acceptable investment objective.

The problem is when an unexpected event, a black swan such as the Covid-19 pandemic, occurs, then this will seriously hurt their investment and financial plans. Given that a substantial number of

companies and REITs have reduced or suspended their dividends, many investors have had to rethink, reconsider, or rearrange their investment portfolios in order to regain their lost income stream. This is a problem since trying to find safe, reliable, and high paying investments as they were used to having could be nearly impossible to find at this time. Private investors many times are forced to invest in common stock since their dividend yield, even on an after-tax basis, is higher than what they will be receiving in a bank certificate of deposit, corporate bond, or a tax-free municipal bond. Private investors depending on common stock dividends are currently facing a dire situation and need to have patience as they ride out the financial storm caused by the Covid-19 pandemic.

#### 4. Discussion

##### *4.1 Possible Future Actions by Dividend Paying Corporations*

**The battle between humankind and coronavirus will last for some time even after a vaccine is discovered:** Dr. Anthony Fauci says the Covid-19 will never be eradicated. The world is in a rush of finding vaccines. The Medical Futurist notices that coronavirus vaccines are still under human trial stage and it takes time to find the safety and reliability of the vaccines. Moreover, even if the vaccine comes into production, it takes a certain amount of time to get most people vaccinated. Not only because the vaccine takes time to produce, but also there will be massive numbers of people who will refuse to have the vaccine. Shannon O'Keefe (2020) notes that 81% of democrats are willing to have the vaccine while 59% of independents, and 47% of republicans are under the assumption that there are free and FDA-approved vaccines available. Furthermore, according to his pool survey, the percentage of white Americans and non-white Americans who are willing to get the vaccines are 67% and 59%, respectively.

Thomas Metevia (2020) addresses in his news report that the Center for Disease Control (CDC) discovered that people usually get four common viruses during the winter months. He also cites that Dr. Greg Poland points out the novel coronavirus may follow this pattern, and The Mayo Clinic's Vaccine Research Group warns that the combination of flu, which has been a devastating threat in America for a long period, and Covid-19 generates confusion due to similar symptoms. So, the coming fall and winter seasons will continue to get worse if sound preventive measures are not efficiently taken.

However, in the United States, we are seeing some pessimistic signs. For example, there are surging cases from schools which are reopening in-person nationwide under the requests of families and policymakers. In Florida, from July 17<sup>th</sup> to 24<sup>th</sup>, there have been a 34% increase in coronavirus cases among children age 17 and under as schools must open under statewide orders. Also, 23% more children have been requiring hospitalization in this 8-day timespan. The children's death toll in Florida went from 4 to 5 due to Covid-19 (Flores et al., 2020). Surging cases are happening after the return of college students, also. The University of Notre Dame in Indiana has reported a few dozen cases of positive Covid-19 shortly after allowing students back to campus, so it has made its decision to return to online classes for undergraduates for the next two weeks (Quintana, 2020). Quintana (2020) notes

that money is a factor that drives universities to risk themselves to bring students back. Despite the fact that colleges are taking serious measures on-campus to prevent students and staff from getting the disease, it is hard for them to monitor the off-campus activities, thus risking the communities around the college students.

So, whether there will be a second lock down or a third, the answer is still not clear, yet we have witnessed some countries experiencing a second lockdown due to the re-surfing infection cases. For example, South Korea and Israel.

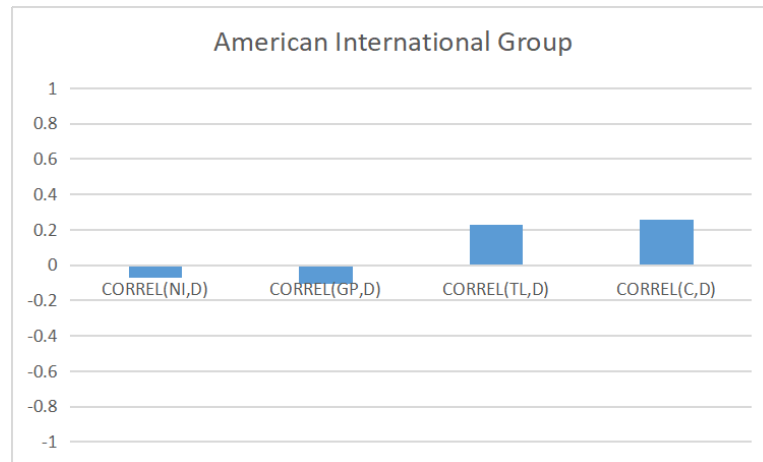
**Our third quarter economic prediction remains grim.** Not only because of the fall and winter situation described above, but also some patterns we conclude from the second quarter. We witnessed in the second quarter the American real GDP shrank at a record pace of 32.9% according to the Bureau of Economic Analysis. Meanwhile, The New York Times reports that more than 30 million people are receiving unemployment benefits currently. Federal jobless benefits of \$600 expired at the end of July. A payroll tax cut as a pandemic relief has not been approved. The third quarter of domestic consumption will still remain devastating as people are receiving less benefits and some are experiencing layoffs and salary reduction. These individuals tend to be more likely to care about spending using cash, as well as being cautious of being involved in outdoor activities since the coronavirus is still there. Businesses re-opened in the second quarter, with many restaurants seeing their business begin to surge, but as soon as states like Florida, California, Arizona, and Texas were hit hard by Covid-19, these businesses began to fall sharply again after June. Governor Andrew Cuomo also warns New York restaurants to be prepared for a second closing in the fall. Moreover, most of the cities' offices are still in vacancy, such as New York City, since it takes time to bring staff back, which will ultimately contribute to the economy.

**Some people may think the stock market has been experiencing a phenomenal rise from March to August, which may indicate a better economy ahead, but a jump in the stock market cannot represent a better economy ahead:** First, large amount of newly printed money after the Covid-19 pandemic is finding its way into the macroeconomy. Turner Wright (2020) quotes from Pantera Capital CEO Dan Morehead that America has printed more money in June than during the past 200 years from 1776 to 1979 combined. The Chair of Federal Reserve Bank, Jerome Powell, said The Federal Reserve was using every possible way to ease the Covid-19 pandemic financial crisis by printing money, cutting interest rates to almost zero, and buying \$120 billion of assets steadily every month. A red flag rises here, since the question arises of where does all the money go in the middle of the Covid-19 pandemic since people are limiting activities, and the willingness of consuming and purchasing are still low. One definite answer is investment in the stock market. Interest rates almost hit zero and the stock market has been trying hard to generate higher returns rather than getting market interest rate return, hence the stock market seems an ideal place to store all the newly issued money which is a driving force of recent market rising returns. Another reason driving the stock market up is that firms are buying back their shares. We have not seen huge number of companies reduced their market share for the second quarter.

Second, we have seen the devastating GDP figure for the second quarter which makes America's economy look like a disaster, there should be at least one positive economic indicator which can bring American's confidence back again, so the current Administration has significant incentives to drive the stock market up, and make up for the loss of people's confident in the real economy.

**Given the present situation with the Covid-19 pandemic and its economic and financial effect on corporations whose common stock pays dividends, regardless of the amount, there are possible ramifications and actions that they could take.** These actions can vary, but the problem is how they will affect investors and shareholders. Among these actions include companies who have already suspended or reduced their dividends may continue to do so for the third and fourth quarter of 2020. As we discussed in this paper, the most related financial data to dividend payouts is gross profit in which we have seen those 37 companies that have already suspended or reduced their dividends have been experiencing huge gross profit loss in the second quarter, and may continue to fall in the coming seasons. So, if for companies who have high reliance on gross profit, they have a higher possibility of continuing to suspend or reduce dividends than the ones which have less dependence.

**Some companies which have not yet suspended or reduced dividends but are struggling with earnings and carrying a huge amount of debt, they would possibly maintain the same dividend payouts, yet tests need to be taken for other specific companies.** For example, there is American International Group (AIG). Figure 14 shows the reliance between its dividends and gross profit or even net income are low. It also has low dependence with total liabilities and cash. This indicates there would be high possibilities that it would remain the same in terms of dividend payouts. Tracking its history, we could see a similar case, in 2016 and 2017, where it met huge losses of U.S.\$849 million and U.S.\$6.084 billion, respectively. Total liabilities rose from U.S.\$1.868 billion to U.S.\$2.362 billion. At that time, it decreased its shares outstanding of 160 million, but increased its dividend per share from U.S.\$0.32 to U.S.\$0.35. Its net income loss decreased to U.S.\$6 million in 2018 due to the tax cut policy that generated U.S.\$7.53 billion money for AIG which was enacted at the end of 2017. Moreover, giant financial companies like AIG which have survived the brutal financial crisis in 2008 in which it lost U.S.\$99.689 billion seems that the Covid-19 pandemic would not be a huge issue for them.



**Figure 14. Correlation Coefficient Test Result of AIG between Dividend-Payout (D) Per Quarter and Net Income (NI), Gross Profit (GP), Total Liabilities (TL), Cash on Hand (C) Per Quarter from 2015 to 2020**

Looking at AIG, we can assume there will be more stock buybacks in the future. More corporations may decide to stop paying dividends and have more stock buybacks. Having stock buybacks would actually help the market price of the common stock rise as opposed to paying dividends. Also, a corporation would not need to worry about having a stated dividend policy and not be concerned about the regularity of paying dividends. The corporation can have more freedom in how much it will buy back in common stock or use indicators such as a floor price that would trigger a stock repurchase. For certain shareholders, the possibility of seeing their investment yield higher returns in the long run may be a key motivating factor in increasing their stake in the company and giving up dividends.

**For those corporations which have less reliance of dividend payouts with earnings may stop dividend payments to shareholders using economic and financial uncertainty as a major reason.**

While this may be considered a valid reason in some cases, as the research in this article shows it may not always be a good reason. There could be corporations that are in the growth stage of their development, and either cannot pay cash dividends or pay a very minimal amount. A situation such as the Covid-19 pandemic could severely hurt a growth company since sales revenues could take a drastic downturn. And with their cash position possibly being very tight, dividends may not be feasible for a long time.

But in the case of a corporation with a healthy amount of cash, halting dividend payments may not be regarded as a valid excuse in order to preserve their cash. Shareholders may become quite angry about the reduction or ceasing of dividends since the corporation may continue to pay bonuses to the executive management team or upper level managers and also lay off the company employees. Trying to convince the shareholders that ceasing or reducing dividends is necessary may not be a smart strategy by these corporations and actually garner ill will from investors.

**Follow the lead of what Boeing is doing in 2020:** It may be possible that other companies could follow Boeing's example and cease paying dividends even if they have the cash to do so. This could set a dangerous precedent for shareholders, now and in the future. These shareholders would include pensions, mutual funds, insurance companies, and private investors. Companies such as Boeing would need to financially justify their actions and possibly open themselves to legal action by shareholders.

**Some may reduce dividends considerably:** There could be corporations that reduce their dividends considerably. Again, claiming the economic and financial implications of the Covid-19 pandemic, the management team and the board of directors of a corporation may decide to drastically reduce its dividend payments. But if the decision is made to reduce dividends to 1 or 2 cents per share, this could possibly be considered as an insult to the shareholders. Also, the corporation is paying dividends for the sake of paying something out. The corporation could state in its investor relations literature that it has continually paid dividends, uninterrupted for so many years.

**If we compare Boeing with AIG's actions to dividends, a question arises here: "Is this really fair for the shareholders?"** Such a low number of dividends could be considered as an insult or, after paying taxes, hardly worth the time in cashing the dividend check. Certain shareholders may start a rebellion and demand the company forego all dividends until the economy gets better. Some others may say that an exceedingly low dividend is better than nothing at all. Yet, the real question is whether such a severe reduction in dividends is justified.

**The American presidential election date is coming soon and the stock market is going to be more volatile when it gets closer to the election date, and tax policy is a key factor that will affect dividend payouts in the future.** Simon Moore (2020) addresses in his article that tax policy is the main factor that impact the stock market. Low taxes generate more earnings and gives companies higher valuation estimation. So, if an administration with higher tax policy will be in charge for the next four or eight years, dividends would be further reduced at current level for a certain amount of time. The current Administration's tax cuts reduced corporate income tax from 35% to 20% at the end of 2017, and it is interesting to see most of the listed companies from the S&P 500 Index which pay dividends have increased their dividend per share since the beginning of 2018.

**Low regular dividends during the course of a year and a bonus dividend at end of year:** A possible tactic that corporations may use is to pay a small number of dividends within the normal course of a year. Here the corporation may be able to save a substantial amount of cash and then determine the bonus dividend at year's end. This could be a method for the issuing corporation to pay extra dividends based upon the company's financial performance. If the company's financial performance is better than anticipated, then it could pay a higher year-end bonus dividend. A sub-par year would mean either lower or possibly no dividends at year's end. This allows the issuing corporation more flexibility in paying dividends. For the shareholders, this will mean no surprises at the end of year if they pay strict attention to the company's financial performance during the course of

the year. The pressure will be on the company's management to outperform the previous year's financial performance in order to increase the amount of year-end bonus dividends.

**Alternative methods of raising financial capital:** Rather than issuing common stock in order to raise financial capital, companies could issue more bonds, notes, or find alternative methods of borrowing money since interest on such debt instruments is very often tax deductible. It is very possible that companies may cease issuing dividend paying common stock and even preferred stock as a means of raising financial capital and turn to borrowing. Besides not paying any more dividends, the company would not need to concern itself with possible takeover bids, hostile or friendly, or votes by shareholders on diverse issues affecting the company. As long as interest rates continue to be as low as they are now, this may be considered the best method of raising financial capital, not pay dividends, and find a cheaper after-tax way of acquiring funds.

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