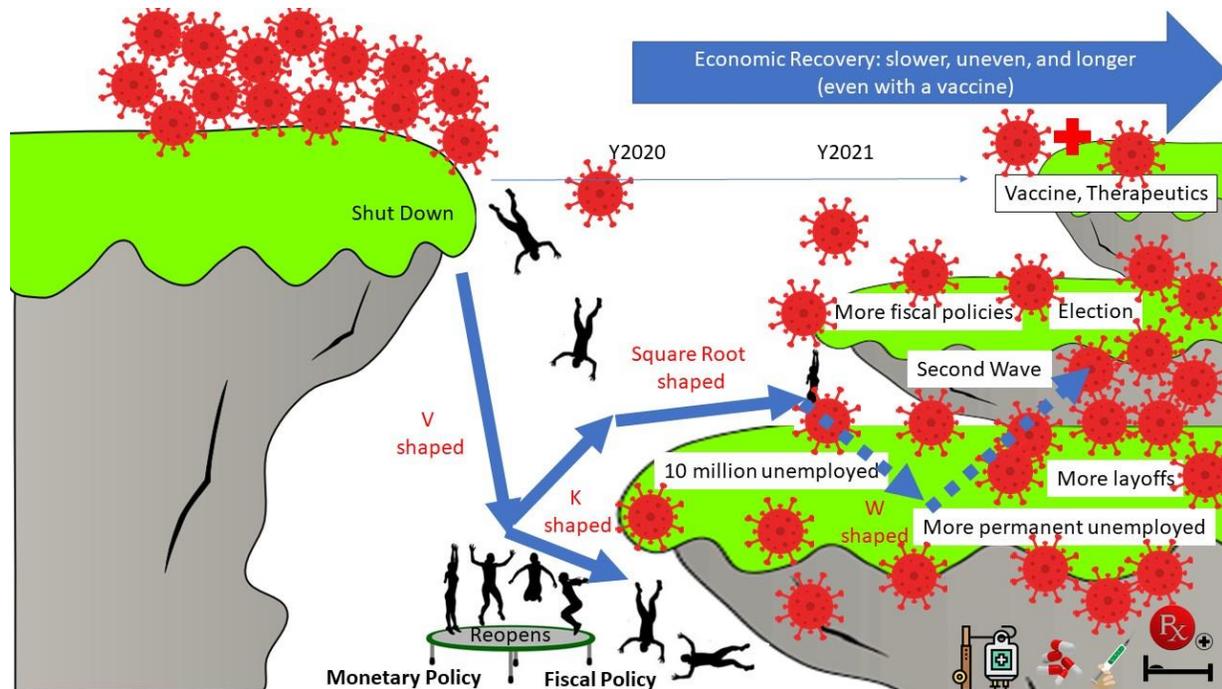


October 23, 2020

Alphabets of Recovery



- We had a V-shaped bounce after a sudden and steep fall, but the V-shaped bounce has not yet returned the U.S. or global economy back to pre-COVID-19 “normal” economic activities.
- We are also experiencing a K-shaped recovery where the financial market has rewarded the companies that thrived based on technology while companies that rely on human contact continue to struggle. This is evidenced by the increasing wealth and income divide for workers and families in the two different economies.
- We now are in the “square root” portion of the recovery where the initial V- shaped bounce has slowed and the trajectory of climbing back to normal has somewhat flattened.
- Depending on the scope and scale of the expected COVID-19 resurgence during this fall/winter flu season and the federal and state government responses, we could enter a W-shaped recovery where the economy retreats before furthering its normalization.

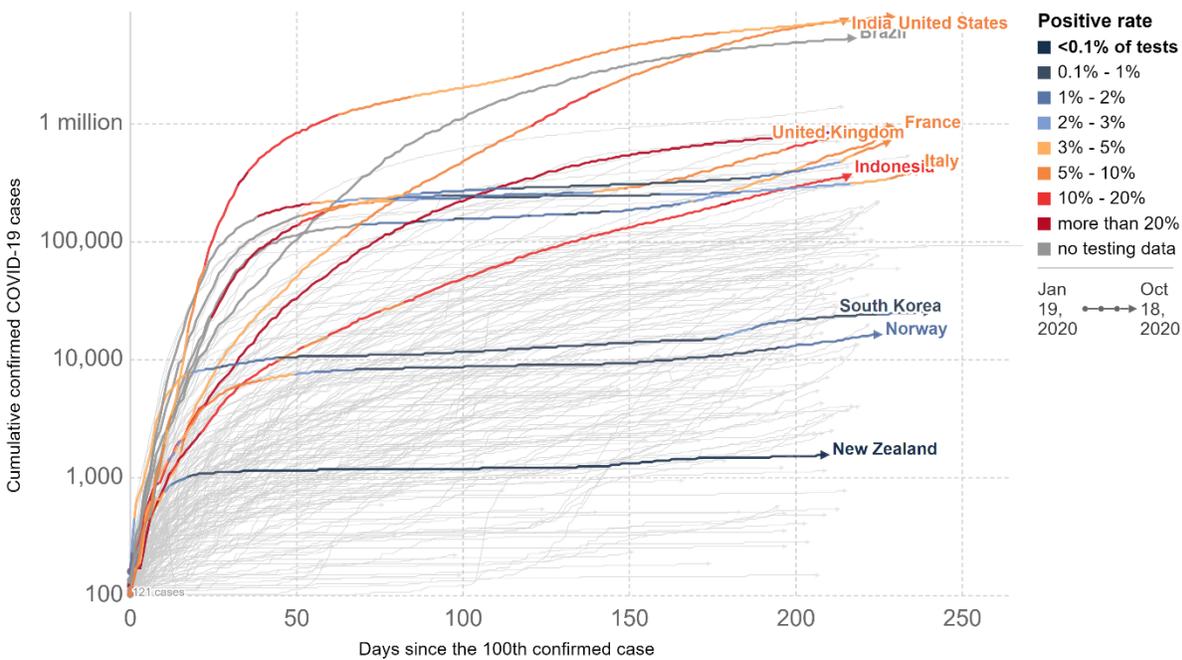
This Has Always Been a Health Crisis

According to [Statista](#), over 37 million people globally have been infected, and there have been over 1 million deaths so far, according to [Worldometer](#). The COVID-19 pandemic is very much alive in the U.S. with almost 220,000 deaths (representing over 1/5th of the world mortality rate) and over 8 million people infected. According to the [CDC](#), 386,726 cases were reported for the trailing 7 days through October 18th. Separately, [Our World in Data](#) reported that the U.S. has the highest daily infection rate in the world, just ahead of India and Brazil, both emerging economies. On October 1, President Trump announced that he and the First Lady had both tested positive for the virus resulting from a super-spreader event at the White House. It is clear that, until and unless COVID-19 is brought under control, our economy cannot truly recover.

Cumulative confirmed COVID-19 cases

The number of confirmed cases is lower than the number of actual cases; the main reason for that is limited testing.

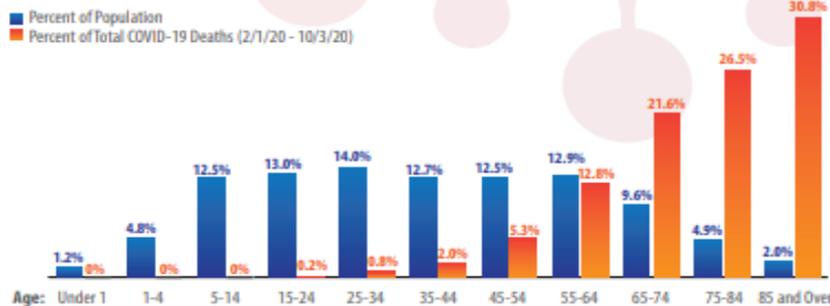
Our World in Data



Source: European CDC – Situation Update Worldwide – Last updated 18 October, 10:05 (London time), Official data collated by Our World in Data

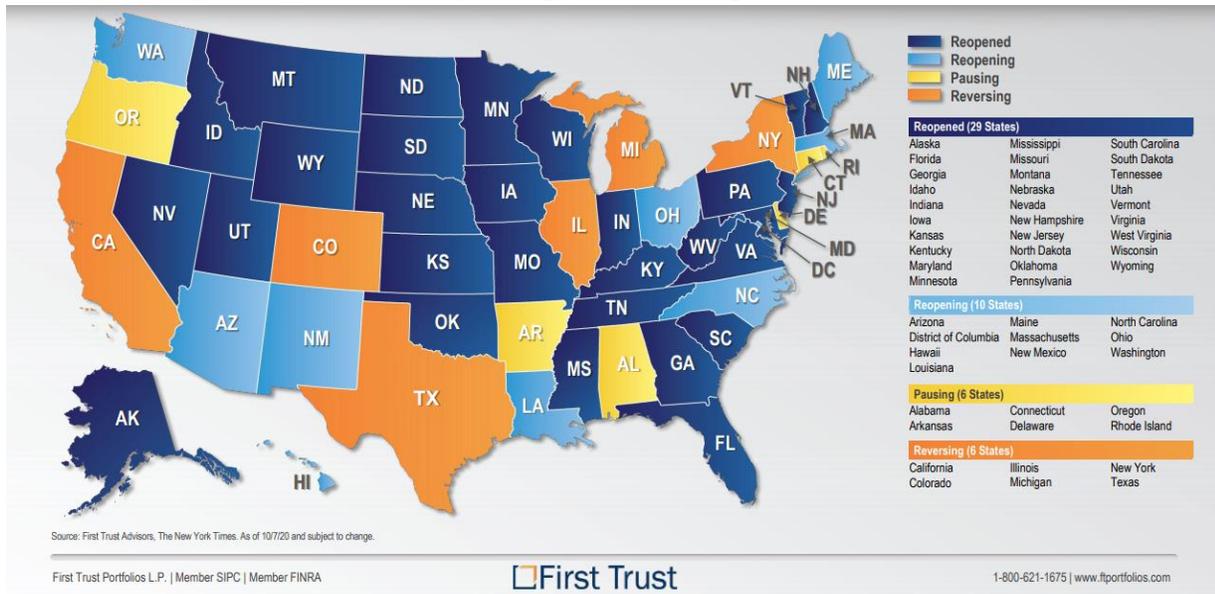
COVID-19 Deaths by Age vs. Share of Population in the U.S.

As of October 7, 2020



Sources: CDC.gov, National Center for Health Statistics

The following map, made available by First Trust, shows the states (including DC) that have reopened (29), are reopening (10), are pausing (6) or are reversing (6). This rolling reopening and pausing or reversing adds more uncertainty to the economic recovery. In the next month or two, we expect the numbers of pausing and reversing will increase.

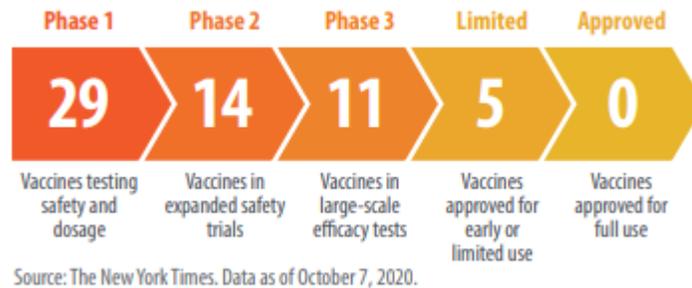


According to the CDC, the U.S. flu season starts in the fall and winter each year. While influenza viruses circulate year-round, most of the time flu activity peaks between December and February. The CDC believes it's likely that flu viruses and COVID-19 virus will both be spreading this year. It is possible to have flu and COVID-19 at the same time. Since some of the symptoms of flu and COVID-19 are similar, this makes it hard to tell the difference between them based on symptoms alone.

FLU SYMPTOMS	COVID-19 SYMPTOMS
Fever or feeling feverish/chills	Fever or chills
Cough	Cough
Fatigue	Fatigue
Muscle or body aches	Muscle or body aches
Headaches	Headache
Sore throat	Sore throat
Vomiting and diarrhea	Nausea/ vomiting/Diarrhea
Runny or Stuffy Nose	Shortness of breath or difficulty breathing
	New loss of taste or smell
	Congestion or runny nose

Diagnostic testing can help determine if it is flu or COVID-19. The worst case is that flu and COVID-19 both spread fast, causing severe disease, complicating diagnoses and presenting a double burden on the health care system. This would further slow the economic recovery and push it to a renewed slowdown.

As provided by First Trust, the following chart shows the vaccines at different stages of trials¹ with no vaccine approval yet.



On September 8, AstraZeneca temporarily halted its vaccine trials while investigating whether a recipient’s “potentially unexplained” illness is a side effect of the shot. On October 12, Johnson & Johnson halted clinical trials of its COVID-19 vaccine after a participant fell ill. The following day, Eli Lilly & Co. paused enrollment of participants in a trial of its antibody treatment due to a potential safety concern. Pausing trials is routine; as more people participate in trials, the greater the chances are that some participants could fall ill. There is no certainty a viable vaccine will be ready by 2021, but, if this becomes a reality, it would be the fastest vaccine development and approval process in history, which has created apprehension about its reliability and possible side effects and complications.

According to an NBC News/SurveyMonkey poll² conducted in mid-August, only 44% of respondents said yes to getting the vaccine when approved.

	Total	Republican/lean rep	Independent no lean	Democrat/lean dem
<i>Unweighted N</i>	29,978	11,652	4,298	13,118
Yes	44%	36%	37%	58%
No	22%	33%	25%	12%
Not sure	32%	31%	38%	30%
No answer	2%	1%	0%	0%

Question wording: If it becomes widely available, will you and your family get a government-approved vaccine for the coronavirus?
 Survey dates: 8/10/2020-8/16/2020

¹ [Harvard Medical School](#): anti-virus vaccine development traditionally requires the following **Pre-clinical testing**: Animals are infected with the virus. Scientists study their immune response to see what aspects of the immune response might be critical for protection. Normally, a vaccine is first tested in animals. However, in the setting of a pandemic such as this one, the animal testing stage can be skipped.

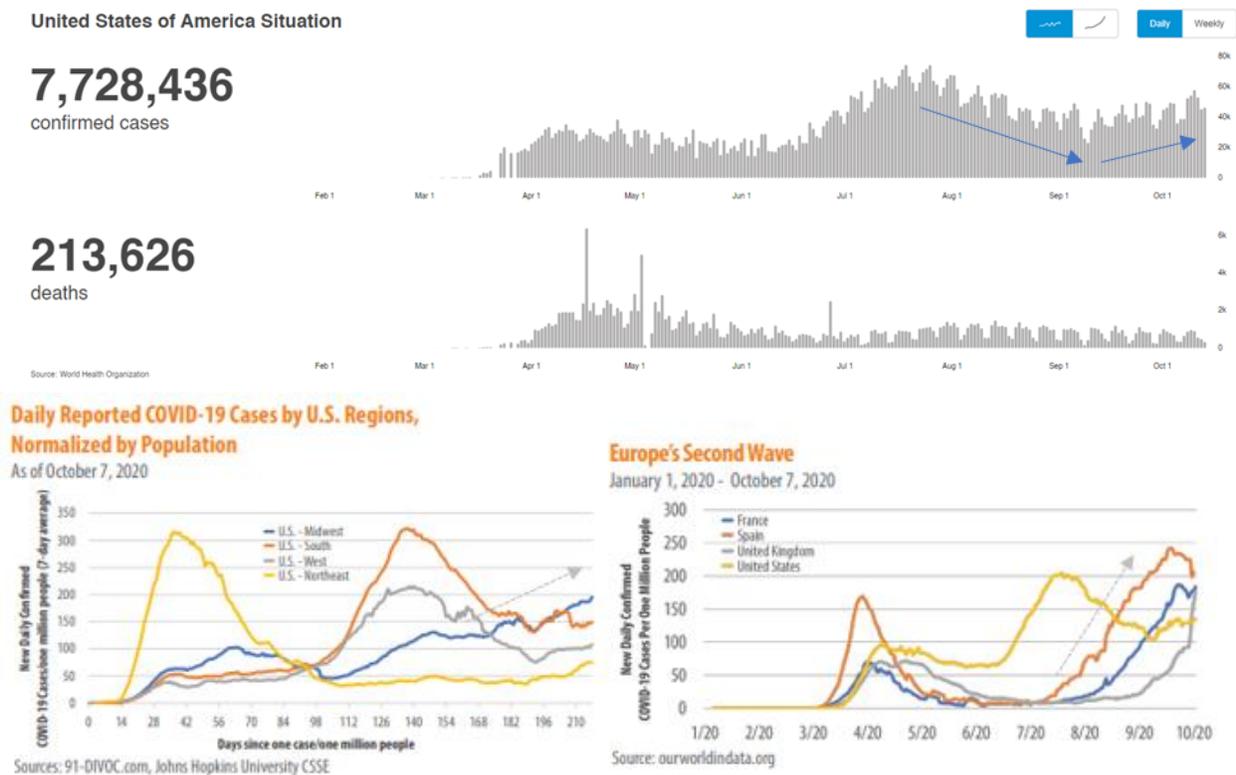
Phase 1 trials: A vaccine is tested in small groups of people to determine what dose safely and consistently stimulates the immune system. At this stage, scientists don't yet know if the immune response triggered by the vaccine will protect against the virus.

Phase 2 trials: The vaccine is given to hundreds or thousands of people. Scientists continue to focus on whether the vaccine is safe and produces a consistent immune response.

Phase 3 trials: These trials typically enroll tens of thousands of people. This is the first phase that involves a placebo group. It compares the number of people who get sick in the vaccine group to the number of people who get sick in the placebo group. This is the only phase that can show whether or not the immune response triggered by the vaccine actually protects against infection in the real world.

² <https://www.surveymonkey.com/curiosity/nbc-poll-covid-aug16/>

According to Harvard Medical School, herd immunity occurs when enough people become immune to a disease to make its spread unlikely. As a result, the entire community is protected, even those who are not themselves immune. Herd immunity is usually achieved through vaccination. Based on what we know about the contagiousness of the COVID-19 virus, experts estimate that somewhere between 60% and 70% of the population needs to be immune in order to achieve herd immunity. That's close to 200 million people in the United States, and nearly 5 billion people worldwide. If the NBC survey has any validity, even with a vaccine approved for use and assuming no supply challenges, less than half of the population will accept the vaccine. As such, herd immunity is not likely in 2021. This has significant implications for the U.S. to return to normal psychologically, behaviorally, and, economically. The following chart from the World Health Organization shows that U.S. cases are on the rise while the death rate appears to be in check. The cases are concentrated in the younger population as schools have reopened. The question is: would this eventually bleed into the more at-risk population with increasing hospitalization and death rates.



The left graph above shows a rise in infection rates in the U.S. with the Midwest being most prominent. The U.S. added 52,274 cases on October 13³, pushing the seven-day average to 51,027, the highest since August 16. A surge in testing is responsible for part, but not all of, that increase. The seven-day average of new cases is up 46.5% in the past month while tests are up 28.9%. The right graph above shows a definitive increase in cases since late July, and there is now deemed to be a second wave in UK, France and Spain with new lockdown rules implemented.

³ <https://www.bloomberg.com/news/articles/2020-10-14/covid-19-s-deadly-comeback-widens-spreading-across-46-states?sref=R414MBey>

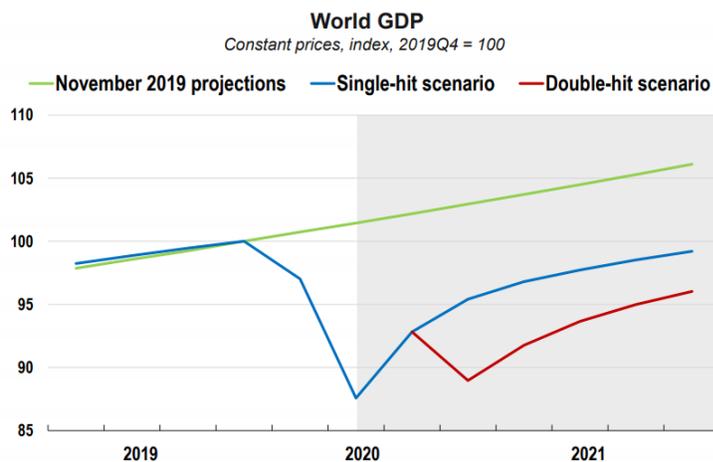
Adjusting Growth Expectations Everywhere

On September 16, the Organization for Economic Cooperation & Development (OECD) published its Interim Economic Outlook:

OECD	2019		Project 2020				Project 2021				
	Oct-20	Mar-20	Jun-20	Jun v. Mar	Oct-20	Oct v. Jun	Mar-20	Jun-20	Jun v. Mar	Oct-20	Oct v. Jun
U.S.	2.2%	1.9%	-7.3%	↓	-3.8%	↑	2.1%	4.1%	↑	4.0%	↓
World	2.6%	2.4%	-6.0%	↓	-4.5%	↑	3.3%	5.2%	↑	5.0%	↓
G-20	2.9%	2.7%	-5.7%	↓	-4.1%	↑	3.5%	5.5%	↑	5.7%	↑
Euro Area	1.3%	0.8%	-9.1%	↓	-9.5%	↓	1.2%	6.5%	↑	5.1%	↓
China	6.1%	4.9%	-2.6%	↓	1.8%	↑	6.4%	6.8%	↑	8.0%	↑

In June, at the depth of the responses to the first wave COVID-19 crisis, OECD expected a significant decrease in economic activities globally as compared to their early March predictions. However, policymakers responded swiftly and managed to buffer the initial

The recovery will be slow and uncertain



shock, and activity rebounded as confinement measures started to ease. The current projections have all moved higher except for the Euro Area. However, the (V-shaped) recovery momentum appears to be plateauing and confidence remains weak. The current projections for OECD economic growth in 2021 have been revised downward somewhat with the exception of China (which influenced the G20 growth rate). China is and has been the exception in returning its economy to a more

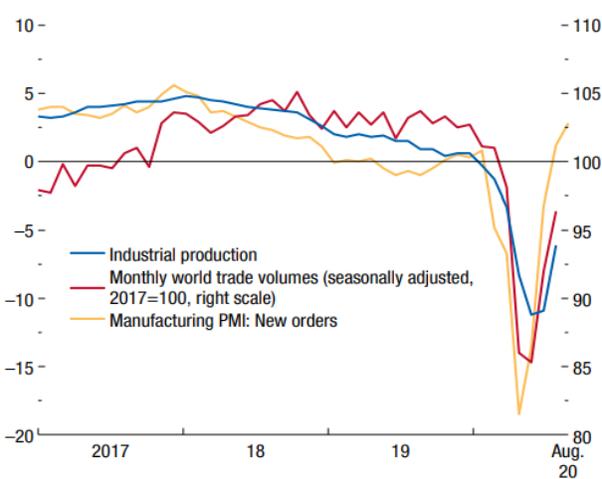
normal stance thus far, but there is no question that the second wave is real. In OECD's June Outlook, it laid out a possible second wave projection which could deliver a (W-shaped) double dip recovery as the chart above illustrates. Depending on the severity (human behavior), this could be the reality for the next 3 to 6 months.

As a part of the IMF's annual conference, its 2020 World Economic Outlook was released this week. This meeting's theme is "A Long and Difficult Ascent", from June's theme of "A Crisis Like No Other, An Uncertain Recovery" and the April's theme of "The Great Lockdown". The IMF is projecting a somewhat less severe though still deep recession in 2020, relative to its June projection. The revision is driven by better second quarter GDP numbers in large advanced economies; China's return to growth, which was stronger than expected; and signs of more recovery in the third quarter. This is consistent with the projections from OECD. Outturns would have been much weaker if it were not for sizable, swift, and unprecedented fiscal, monetary, and regulatory responses that maintained disposable income for households, protected cashflow for firms, and supported credit provision. Collectively, these actions have so far prevented a global catastrophe.

IMF	Y2019 Oct-20	Project 2020					Project 2021				
		Apr-20	Jun-20	Jun v. Apr	Oct-20	Oct v. Jun	Apr-20	Jun-20	Jun v. Apr	Oct-20	Oct v. Jun
U.S.	2.20%	-6.10%	-8.00%	↓	-4.30%	↑	4.70%	4.80%	↑	3.10%	↓
World	2.80%	-3.00%	-4.90%	↓	-4.40%	↑	5.80%	5.40%	↑	5.20%	↓
Euro Area	1.30%	-7.50%	-10.20%	↓	-8.30%	↑	4.70%	6.00%	↑	5.20%	↓
Advanced	1.70%	-6.10%	-8.00%	↓	-6.80%	↓	4.50%	4.80%	↑	3.90%	↓
China	6.10%	1.20%	1.00%	↓	1.90%	↑	9.20%	8.20%	↑	8.20%	
Emerging	3.70%	-1.00%	-3.00%	↓	-3.30%	↓	6.60%	5.90%	↓	6.00%	↑

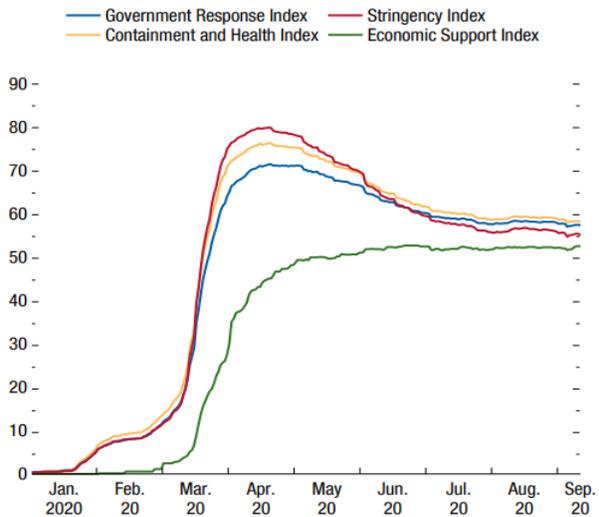
The IMF shows June projections were for a severe downturn resulting from a global lockdown. The unanticipated speed and scale of global fiscal and monetary support laid a substantial cushion from the destruction of aggregate supply and aggregate demand. There were glimpses of hope in June's projection for 2021 in the U.S. and the Advanced Economy on a whole. Since summer, industrial production and global trade have both shown signs of life, although they are not yet back to the pre-pandemic levels. New orders in the Manufacturing PMI have fully returned (aided by the speed of China's economic recovery).

Global trade and industrial production picked up as lockdowns were eased.



Sources: CPB Netherlands Bureau for Economic Policy Analysis; Haver Analytics; Markit Economics; and IMF staff calculations.
Note: PMI = purchasing managers' index.

Reopening has slowed as new infections have increased.

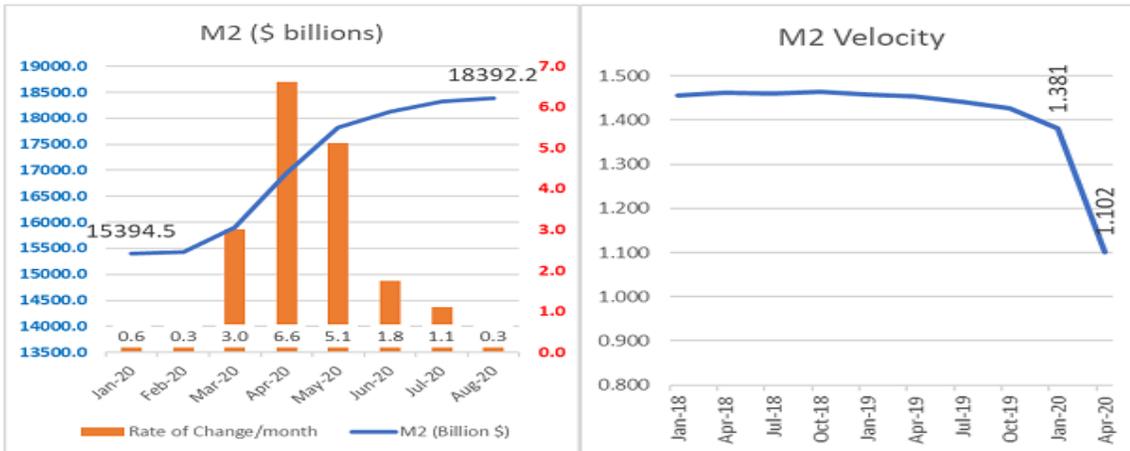


Source: Oxford COVID-19 Government Response Tracker.

However, the waning fiscal support and the resurgence of new cases are concerning. IMF's October projections show that Advanced Economies, led by the U.S., are all expected to have lower growth next year as compared to its June projections. The exception is China due to its draconian social policies and enforcement. The almost-back-to-normal economy in China is projected to do well in 2021 without a revision downward. The IMF has listed upside and downside factors going forward that would positively and negatively affect global economies, and they are summarized here:

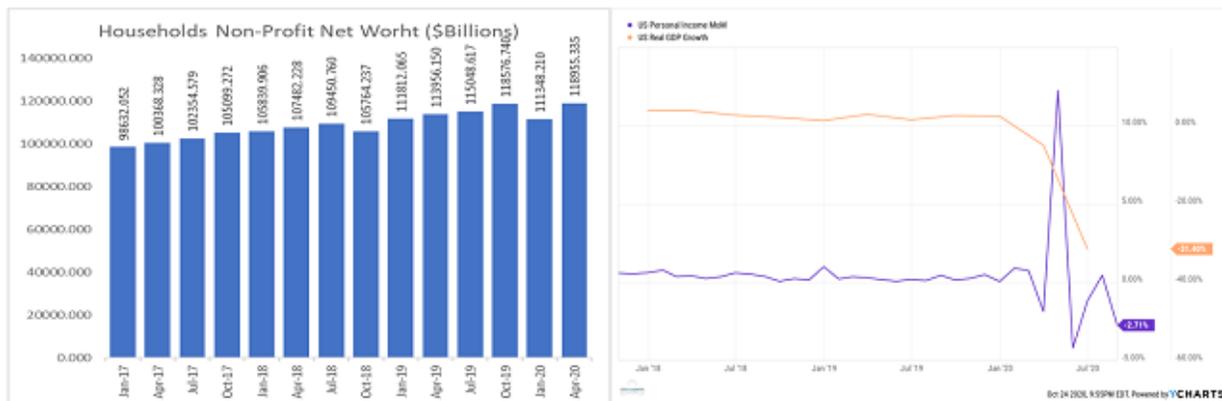
UPSIDE	DOWNSIDE
1. Reopened without rekindling infections	1. Virus resurges with outbreaks
2. Extensions of fiscal countermeasures	2. Premature withdrawal of policy support
3. Faster productivity growth	3. Financial conditions may again tighten
4. Advances in therapies	4. Liquidity shortfalls and insolvencies
5. Production of a safe, effective vaccine	5. Intensifying social unrest & geopolitical tensions
	6. Trade policy uncertainty frictions
	7. Weather-related natural disasters

Money Everywhere but Just Not Changing Hands Yet



The money supply, $M2^4$, has increased significantly since February, especially with a shot in the arm from transfer payments in April in response to the COVID pandemic. However, the velocity of money ($M2$) has dropped significantly since January 2020. The velocity of money is the rate at which money changes hand or is spent. This means stagnant money and less spending do not spur demand. Monetary policy alone would not get us out of the jam. More fiscal stimulus is needed to crank up the “velocity” and improve aggregate demand.

The left graph below shows that, in April, the household net worth has returned and exceeded the pre-crisis January level. The right graph plots the significant drop in real GDP while personal income rose sharply in April – thanks to transfer payments.



With the unusual uncertainty spurred on by the sudden forced collapse of the economy, people held on to cash and increased their reserves. Even though savings has come down from a dramatic \$6.4 trillion and a 33.6% savings rate in April, personal savings remains almost double the pre-COVID period at \$2.43 trillion and a 14.1% rate. As the effect of the last fiscal stimulus wanes, savings will continue to be depleted.

⁴ M2 is a measure of the U.S. money stock that includes currency/coins held by the non-bank public, checkable deposits, travelers' checks plus savings and money market deposit accounts, deposits under \$100,000, and shares in retail money market mutual funds.

High frequency data below shows that, even with much of the economy reopened, recovery is far from complete. The following data provided by First Trust shows that, after an initial surge in activities in late summer, Americans are not piling back into theaters, traveling by air, staying in hotels, and dining out. As the winter approaches and a second wave is likely, we expect this high frequency data to turn down rather than up. The economy is likely to slow in the fourth quarter rather than speed up.

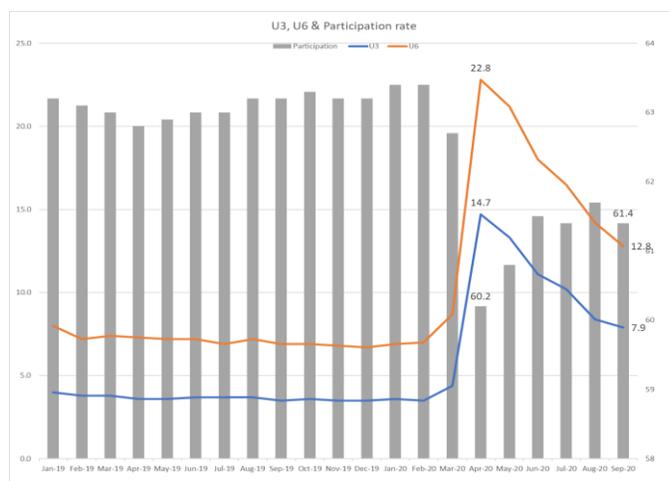
HIGH FREQUENCY DATA						
Indicator	Date (2020)	Level	Year Ago Level	% Change YOY	% Change MOM	% Change WOW
Initial Jobless Claims	Oct 2	840,000	212,000	+296.2%	-5.9%	-1.1%
Continuing Jobless Claims	Sept 25	10,976,000	1,698,000	+546.4%	-19.0%	-8.4%
ASA Staffing Index	Sept 27	81.0	96.9	-16.5%	+4.9%	+1.3%
Weekly Retail Sales ¹	Oct 3	+2.1%	+5.5%	NA	NA	NA
Box Office Receipts	Sept 25-Oct 4	\$11,264,571	\$131,219,030	-91.4%	-29.7%	-18.5%
Rail Car Traffic (cars)	Oct 2	518,761	514,833	+0.8%	+1.8%	+0.1%
Steel Production (net tons)	Oct 5	1,484	1,804	-17.7%	+3.9%	+0.3%
Hotel Occupancy	Sept 27-Oct 3	47.9%	77.5%	-29.6%	-1.5%	-0.8%
Hotel Average Daily Rate	Sept 27-Oct 3	\$95.63	\$129.76	-26.3%	-5.3%	-0.8%
Hotel Revenue per Available Room	Sept 27-Oct 3	\$45.80	\$88.25	-48.1%	-8.2%	-2.5%
OpenTable State of the Restaurant Industry ^{2,3}	Oct 7	NA	NA	-44.0%	-30.0%	-0.7%
TSA Checkpoint Data ² (7-day moving average)	Oct 7	766,827	2,298,406	-66.6%	+7.2%	+3.5%
Supply of Motor Gasoline in the US (Mbb/d)	Oct 2	8,896	9,460	-6.0%	+6.0%	+4.3%

Source: First Trust Advisors, Bloomberg, Department of Labor, Redbook Research, Box Office Mojo, Association of American Railroads, American Iron and Steel Institute, Hotel News Now, OpenTable, Transportation Security Administration, Energy Information Administration, American Staffing Association
¹ Data for level and year ago level are both YOY % changes.
² Data is provided daily instead of weekly.
³ Data shows year-over-year seated diners at restaurants on the OpenTable network across all channels: online reservations, phone reservations, and walk-ins. % change month over month is the current reading minus the month ago reading.

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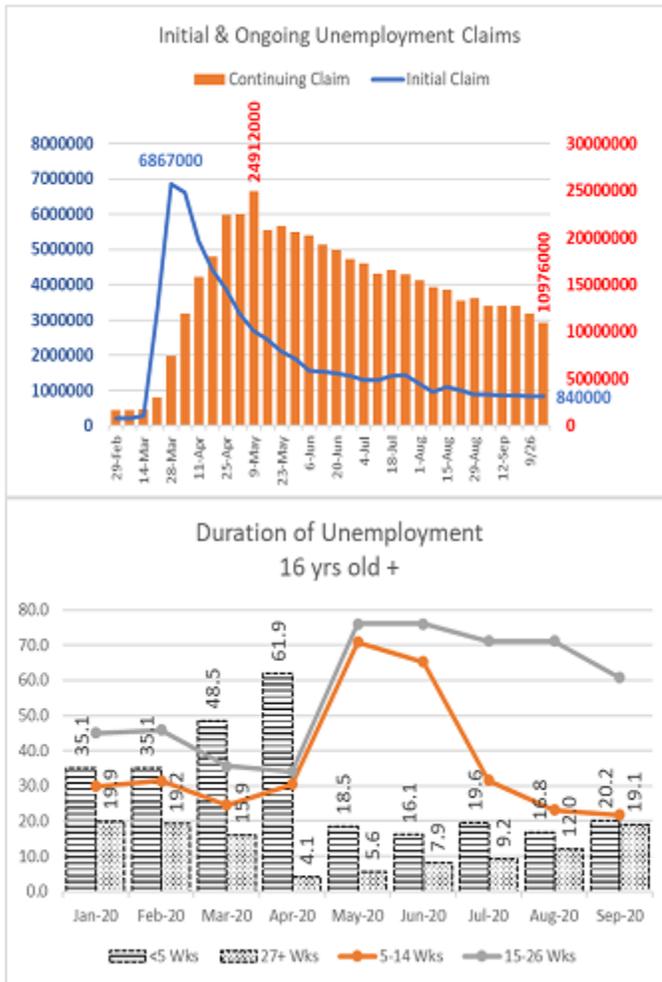
From Furlough to Unemployment

In March, the headline unemployment rate (U3) spiked to 14.7% and the broader unemployment rate (U6) rose to 22.8%, which includes workers who are part-time purely for economic reasons. As the rolling reopening of the economy transpired since April, the U3 rate has dropped to 7.9% while U6 is down to 12.8%.



These are encouraging signs of a V-shaped economic recovery. The participation rate moved from the March low of 60.2% to 61.4% in September. However, there are signs that the rate of improvement may be slowing and the V-shaped recovery in employment may be plateauing to look like a square root sign ($\sqrt{\quad}$). At the

same time, the weekly initial unemployment claims are showing signs of flattening with

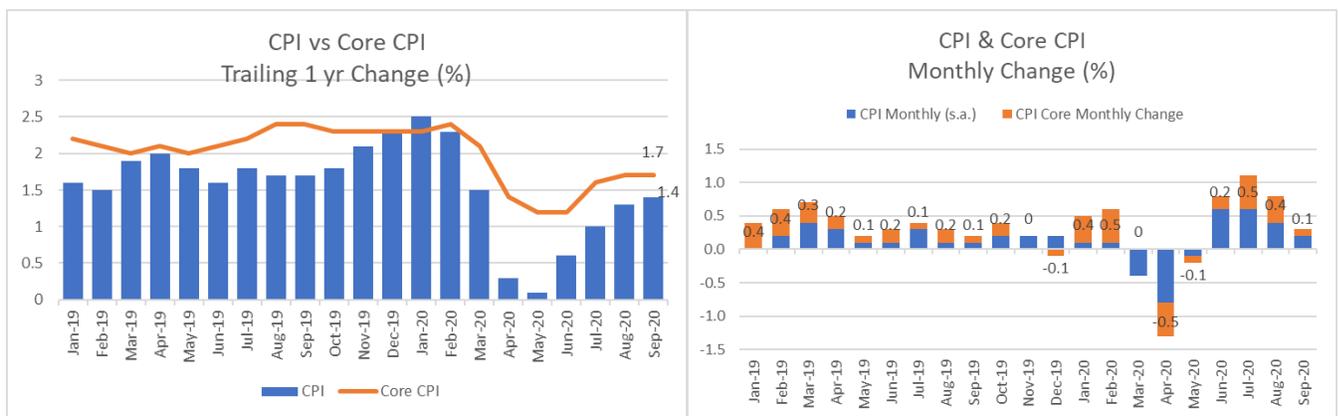


almost 11 million Americans collecting continuing claims. Of course, this is a significant improvement from the height in early March at almost 25 million Americans applying for unemployment, but this rate remains a drag on our economy.

It is further troubling to see the duration of unemployment is gaining. The below left chart shows the low of 4.1% in April to now 19.1% in September for workers with 27 weeks or more in unemployment. Moreover, the newly unemployed with 5 or less weeks collecting unemployment is also growing from the low of 16.1% in June to 20.2% in September. These statistics are suggesting that people are remaining unemployed for longer and that workers being laid off is again on the rise. These are weekly statistics and will eventually be reflected in the U3, U6 and participation rate statistics. If the U.S. falls into a second wave of COVID-19 infection, regardless if rolling lockdowns are reinstated, many

consumers will again remain housebound voluntarily which would roll back some of the employment gains we have achieved since April this year.

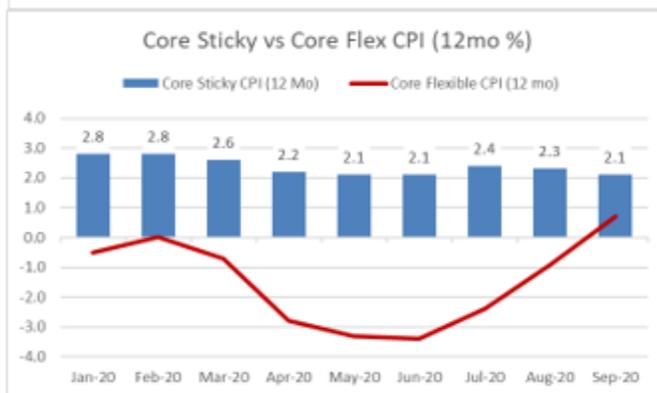
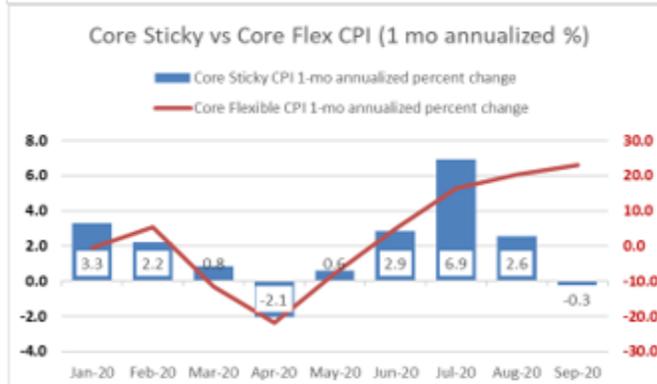
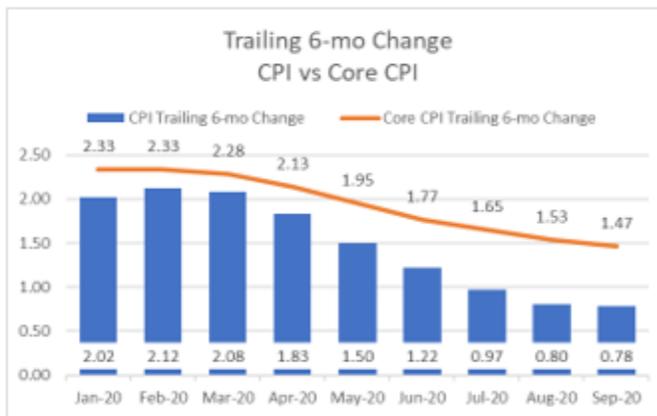
Where Do We Have Inflation?



The forced closure of the national economy on March 17 led to an unprecedented demand destruction as all non-essential services workers sheltered-in-place. At the end of April, some states began to reopen. Since May, both CPI and core CPI began to move higher after the

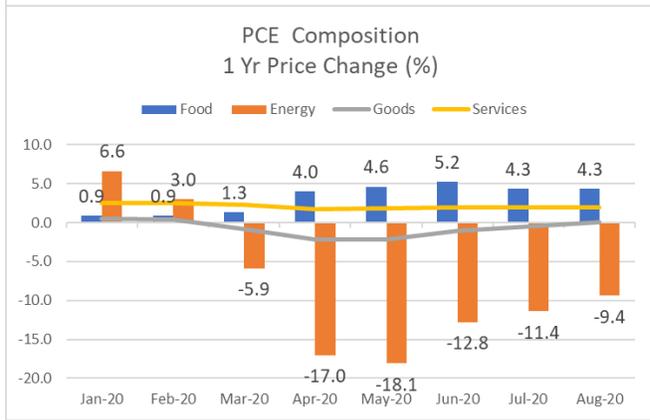
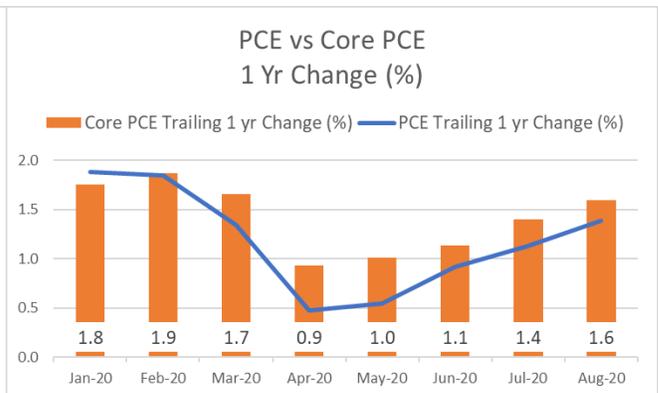
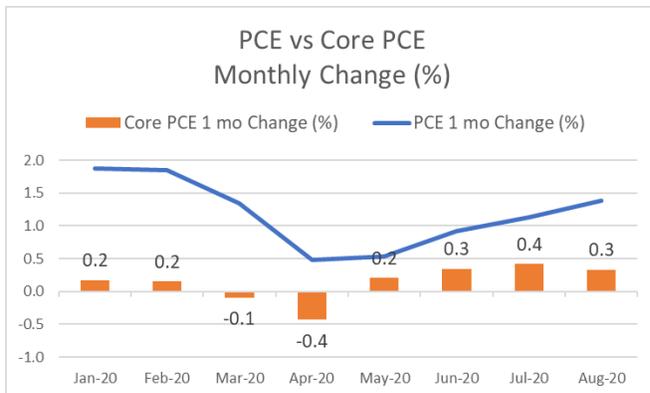
CPI entered negative territory for three months beginning in March. The bounces in CPI and Core CPI are beginning to slow as evidenced by the September rate of change. For September, used car and truck prices continued to rise sharply and accounted for most of the monthly increase in the seasonally adjusted CPI all items index. Food was unchanged, with an increase in the food away from home offsetting a decline in the food at home.

CPI is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services. The CPI market basket is developed from detailed expenditure information provided by families and individuals on what they actually bought. This means that, if you are a single college student or a retired couple, you have vastly different items in your good and services basket. What this means is that not everyone is experiencing the same inflation rate as the average basket.



Core CPI excludes volatile energy and food prices (would unfairly bias the measure of inflation) is a better measure of inflation. Core CPI tends to be more stable and offers a clearer picture of inflation for the consumer. As of September, the annualized CPI is 1.7% as compared to 1.4% for Core CPI. The upper left chart shows the average annualized trailing 6-month CPI at 0.78% and 1.47% for the Core CPI. Atlanta Fed took this concept one step further. It divides the Core CPI into Sticky and Flexible. Sticky represents those prices that tend to not change too often. The Core Sticky CPI is deemed to be a more reliable measure of true inflation, whereas the Core Flexible CPI represents the more volatile components of the Core CPI. The left middle chart shows the rebound of the Flex portion of the Core CPI on a 1-month annualized basis, whereas the Sticky portion has remained more subdued after an initial rebound. The bottom left chart shows the 12-month rate where Sticky has remained below the pre-COVID level while Flex Core CPI has rebounded from the summer lows. Overall, so far it appears there is no real inflation

pressure to speak of as so measured by the CPI basket.



Let's take one more look at inflation using the Federal Reserve's favored index: the Personal Consumption Expenditure (PCE). The upper left chart shows that both headline and core PCE took a dip in March and April and have since recovered on a monthly basis. The upper right chart shows the difference between PCE and Core PCE over a 1-year basis. If we break down PCE into

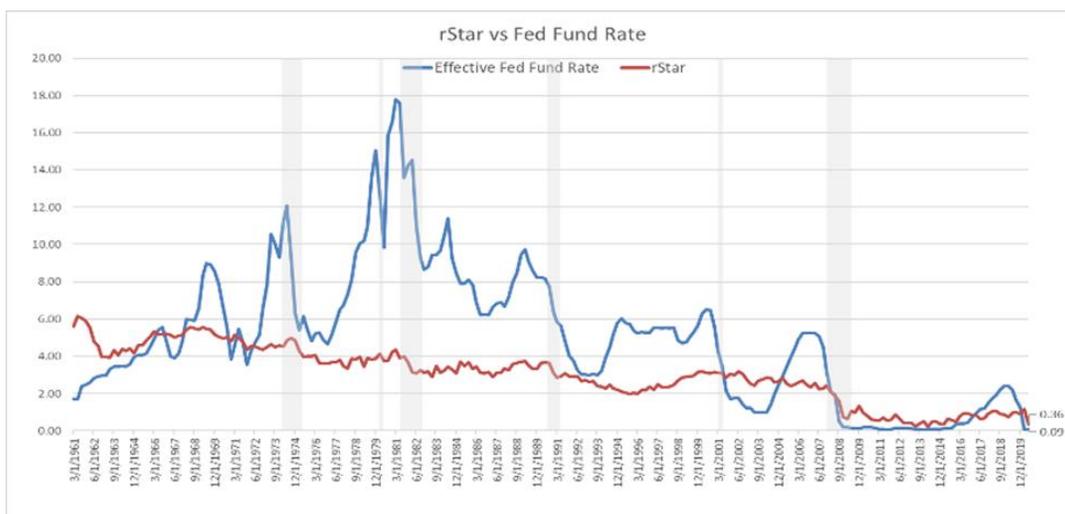
the different segments of Energy, Food, and Goods & Services, we see that the Services sector prices have stayed fairly steady while goods (especially durable goods) have witnessed price erosion. In the case of the Food segment, we see a sustained higher price since March while the Energy segment continues to see disinflation (likely due to excess supply and contracting demand). As we expect no vaccine and a higher infection rate in the next six months, these trends will likely continue far into 2021. Thus, for those who are not buying capital goods and are not heavy energy users but are service and food consumers, expect higher prices to continue in your basket.

The Fed's Updated Framework (forward guidance for low rates)

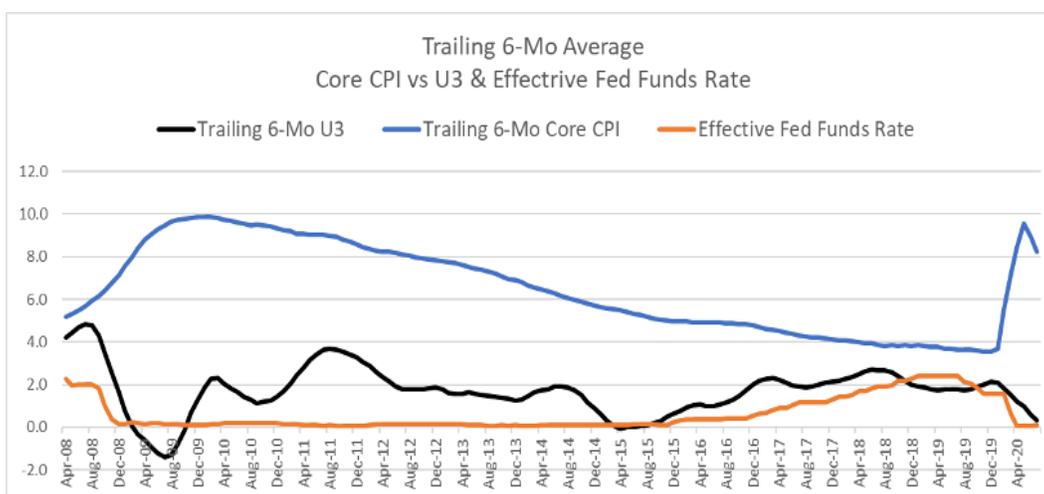
In January 2012, then Board Vice Chair Janet Yellen led an effort to codify the FOMC's approach to monetary policy by issuing its first Statement on Longer-Run Goals and Monetary Policy Strategy: "A central part of this statement was the articulation of a longer-run inflation goal of 2 percent. Because the structure of the labor market is strongly influenced by nonmonetary factors that can change over time, the Committee did not set a numerical objective for maximum employment. However, the statement affirmed the Committee's commitment to fulfilling both of its congressionally mandated goals [of price stability and full employment]". The 2012 "consensus statement" reflected lessons learned from fighting high inflation as well as from experience around the world with flexible inflation targeting. Fast forward 9 years, the fight now is to get inflation back.

In his August 27th prepared statement, Chair Powell stated four key economic developments that motivated the Committee’s review since 2019:

- The potential, or longer-run, growth rate of the economy has slowed with a decline in productivity which is a main driver of the future standard of living.
- The general level of interest rates has fallen both here and globally which is consistent with the fall in the equilibrium real interest rate – “r-star⁵”. This leaves less conventional policy space to cut rates to offset adverse shocks to aggregate demand.



- The unemployment rate, that hovered near 50-year lows for roughly 2 years, was well below most estimates of its sustainable level – u-star⁶.
- Inflation forecasts are typically predicated on estimates of “u-star.” However, the recent historically strong labor market failed to trigger a corresponding rise in inflation (i.e. a flattening of the Phillips Curve). The relationships between labor market and inflation are now less reliable or understood.



⁵ This rate is not affected by monetary policy but instead is driven by fundamental factors in the economy, including demographics and productivity growth - the same factors that drive potential economic growth.

⁶ The natural rate of unemployment or NAIRU (the non-accelerating inflation rate of unemployment) is the rate of unemployment at which inflation is stable.

The modified monetary policy stance includes the following:

1. Affirm the need for unconventional monetary policy tools (UMPT):

This is the FOMC's acknowledgment that the Fed Fund's rate is now and is expected to remain at the Effective Lower Bound (ELB) for some time. UMPTs are and will continue to be relied upon to achieve the dual mandates. Although neither of these points are new, now they are hardcoded acceptances.

2. Remove proactive monetary action:

Since the effects of any policy change (such as lowering rates) takes time, the FOMC has been taking actions prior to or in anticipation of (ex-ante) future outcome in meeting their dual mandates. At a sustained historically low unemployment rate, the FOMC would expect a rise in wages which would lead to a rise in aggregate demand and ultimately a rise in inflation (i.e. the relationship expressed in the Phillips Curve). As such, the FOMC would begin to raise interest rates proactively to maintain future price stability. Going forward, the ex- ante approach would be removed.

3. Recognize the unobservable nature of u-star:

The pre-COVID-19 unemployment rate that hovered near 50-year lows was well below most estimates of its sustainable level, even as the participation rate gradually increased. At the same time, the positive Phillips Curve relationship of rising inflation when the unemployment rate reaches or breaches u-star with persistence is absent. This relationship failed to materialize in a sustainable way. The FOMC recognizes that u-star is likely unobservable.

4. See the “whites of inflation’s eyes” – average flexible inflation targeting

This is the big pivot that many Fed watchers have been expecting. The central bank's foundation for meeting the price stability mandate in the post Volker and Greenspan world is to anchor the inflation expectation at 2%. As the graph on the prior page shows, since the Great Recession and the Global Financial Crisis, core CPI has been undershooting the 2% anchor, even with the Effective Fed Funds Rates mostly hoovered at the ELB. This change in policy (the FOMC's reaction function to incoming inflation data) from the flexible, inflation-targeting strategy to a flexible, average, inflation-targeting strategy is the next iteration to the old “symmetry” language used by Chair Powell:

- The FOMC is abandoning the ex-ante effort of projecting a rise in inflation based on the unobservable u-star, among other econometric factors, and will look to take ex-post interest rate actions. Going forward, the FOMC shall rely on inflation evidence (rather than expectation or projection) or ex-post data for some time before taking interest rate action.
- The FOMC's reaction functions to inflation have not been, however, reduced to a mechanical reaction based on a qualifiable set of rules. For example, it is not clear how “periods” of undershooting the 2% target is defined, how long is “for some time” to allow inflation to remain above 2%, or how much above 2% would be deemed

“moderately.” It is understandable that the FOMC wants to reserve policy flexibility and optionality.

- Since the FOMC has been seriously challenged in meeting a sustainable 2% inflation over time under an ELB environment and with the deployment of UMPTs, this change in policy means that interest rates will remain lower for much longer.

In Vice Chair Richard Clarida’s prepared remarks on August 31 at the Peterson Institute, he further emphasized that *“in economic downturns, the effective lower bound (ELB) will constrain the ability of the FOMC to rely solely on the federal funds rate instrument to offset adverse shocks. This development, in turn, makes it more likely that recessions will impart elevated risks of more persistent downward pressure on inflation and upward pressure on unemployment that the Federal Reserve’s monetary policy should, in design and implementation, seek to offset throughout the business cycle and not just in downturns themselves.”*

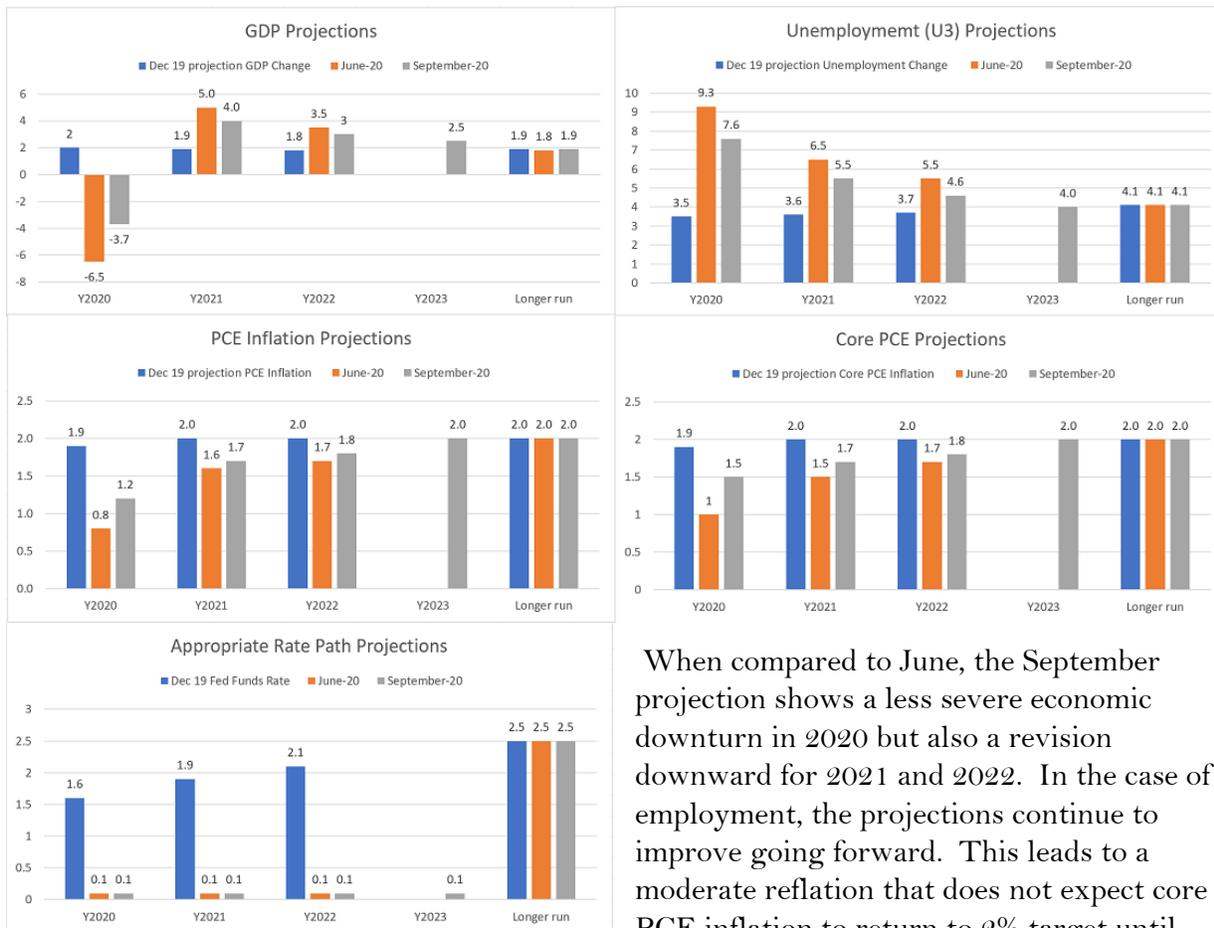
This affirms further that, for as long as there is a low r-star and u-star with a flat Phillips Curve, even during good economic times, we should expect an ultra-accommodative monetary policy. Thus, the famous line by Chair Powell during his June 10, 2020, press conference: *“We’re not thinking about raising rates, we’re not even thinking about thinking about raising rates”* is the new normal. This reality of “as far as the eyes can see” low rates has at least three important ramifications.

1. Continuing to reward borrowers (financial repression) will eventually create great instability in the economy due to over-leveraging in all sectors – ballooning of government, corporate and household balance sheets.
2. By keeping the “risk free rates” low, all other assets, especially financial assets, will continue their upward trajectory in prices which further exaggerates income and wealth divide and promotes political instability. This would make monetary financing and universal income the rule rather than the exception.
3. The thirst for yield and return in a low interest rate environment persistently brings underestimation of risk and discounting to risk taking. (The Fed provides the backstop.) When future systemic shocks happen, such as an unexpected jump in inflation, the corresponding rise in risk free rates would force repricing of assets downward speedily and significantly.

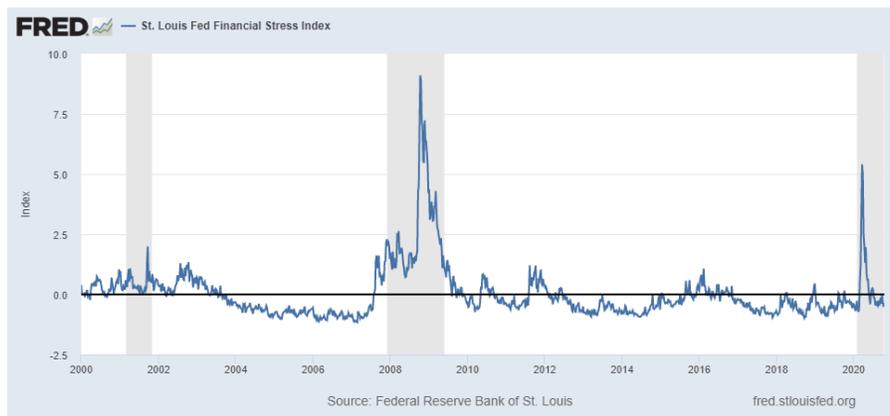
Simply put, the central bank is signaling (forward guidance) to the world that interest rates will remain at the ELB (or zero interest rate policy) for a very long time and the central bank will use UMPT if needed to control the yield curve. The dual congressional mandates for the Fed of maximum unemployment and price stability remain front and center, but in the foreseeable future, price stability is taking the front seat as it is u^* that is now uncertain or unobservable. As Governor Lael Brainard stated in her September 1st speech at the Brookings Institution, the new Fed posture intends to achieve inflation that averages 2% over time in order to ensure longer-term inflation expectations are well anchored at 2%. Flexible average inflation targeting (FAIT) is a consequential change in strategy. FAIT means that appropriate monetary policy would likely aim to achieve inflation moderately above 2% for a time to compensate for a period that has been persistently below 2%.

FOMC Member Economic Projection

From September 15-16, the FOMC released the following Economic Projections



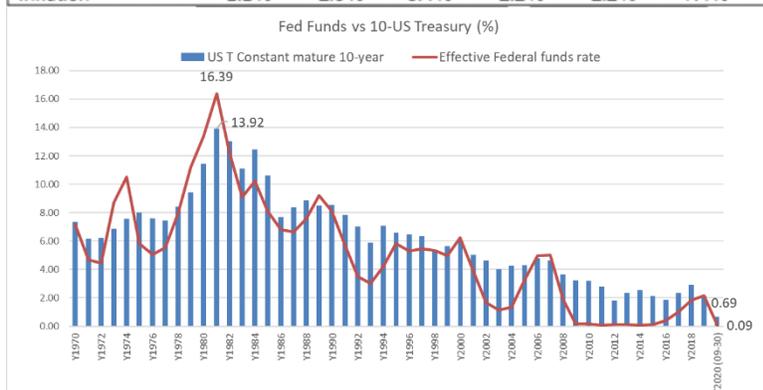
When compared to June, the September projection shows a less severe economic downturn in 2020 but also a revision downward for 2021 and 2022. In the case of employment, the projections continue to improve going forward. This leads to a moderate reflation that does not expect core PCE inflation to return to 2% target until 2023. As a response, projection for the appropriate “Rate Path” is to remain at the ELB through at least 2023. To be consistent with the Fed’s Updated Framework discussed earlier, even after inflation reaches 2%, the FOMC will tolerate a sustained period of moderate inflation overshoot above the 2% target (ex-post) before normalizing interest rates. This will continue to support asset prices (financial repression) and mute financial stress with ample liquidity through unleashing UMPT – tamping down financial stress index.



Recovery of Financial Markets

The following chart shows the returns of the 4 core assets and inflation per decade since the 1920s. Since the Great Depression, the decade of the 2000s stands out as the “lost Decade” for U.S. equities (large cap S&P 500 Index) with inflation trending down since the oil-embargo-driven hyperinflation days in the late 1970s and early 1980s.

US Asset Returns by Decade ^{1*}	1920s	1930s	1940s	1950s	1960s	1970s	1980s	1990s	2000s	2010s	1926-2019
S&P 500	19.2%	-0.1%	9.2%	19.4%	19.4%	5.9%	17.6%	18.2%	-9.9%	15.8%	11.2%
Corporate Bonds	5.2%	6.9%	2.7%	1.0%	1.0%	6.2%	13.0%	8.4%	7.6%	9.5%	6.2%
Government Bonds	5.0%	4.9%	3.2%	-0.1%	-0.1%	5.5%	12.6%	8.8%	7.7%	8.0%	5.7%
Treasury Bills	3.7%	0.6%	0.4%	1.9%	1.9%	6.3%	8.9%	5.0%	2.8%	0.7%	3.4%
Inflation	-1.1%	-2.0%	5.4%	2.2%	2.2%	7.4%	5.1%	2.9%	2.5%	2.0%	2.7%



As inflation declined over the past four decades, so have interest rates. Due to the inverse relationship between interest rates and bond prices, it has also been a great four decades for bond returns. In 1982, the effective Fed funds rate reached over 16%, and today it is at 0.09%. The 10-year U.S. Treasury bond was yielding

13.92% in 1982, and today, it is at 0.69%. With the unlikelihood of bonds going into a nominal negative interest rate environment, we have arrived at the lowest rung of the interest rate ladder. This means that bond's total return going forward will remain low and eventually turn negative when interest rate rises at the end of the FAIT policy. The

Index Total Return (US\$)	YTD TR (%) 2020 Q3
IA SBBI US 30 Day Tbill	0.42
BBgBarc Global Aggregate (Core) Bond	5.72
BBgBarc US Agg (Core) Bond	6.79
BBgBarc Municipal Interm 5- 10 Yr TR	3.77
BBgBarc US Corporate High Yield	0.62
MSCI ACWI (World) Ex USA NR	(5.44)
S&P 500 TR USD	5.57
MSCI EAFE (Developed Mkts) NR	(7.09)
MSCI Emerging Mkts NR	(1.16)
FTSE EPRA NAREIT (Real Estate) USA	(20.01)
LBMA Gold Price AM	23.66
Bloomberg Commodity	(12.08)

traditional role of core (investment grade) fixed income to deliver income and act as a diversifier from equities is challenged.

For the year through the third quarter, bonds have done well as interest rates drop to the zero bound. Although the S&P 500 has recovered from its 34% loss in late March, the rest of the world markets have not yet recovered. The COVID-19-driven rolling economic

lockdown around the globe started as a supply shock (from China) and was followed by a demand shock. As such, it is not unexpected that commodities have significantly underperformed led by oversupply in oil and oil products and a drastic reduction in demand.

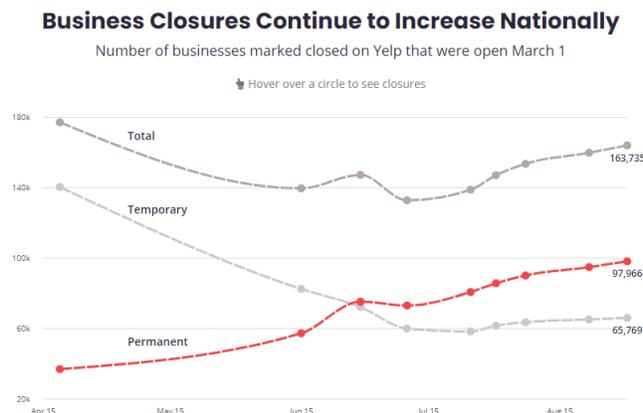
With inventories beginning to be drawn down, we expect commodity prices will somewhat recover going forward.

	VALUE	BLEND	GROWTH
LARGE	S&P 500 Pure Value -29.13%	S&P 500 4.09%	S&P500 Pure Growth 11.81%
MID	Russell MidCap Value -14.21%	Russell MidCap -3.61%	Russell MidCap Growth 13.34%
SMALL	Russell 2000 Value -21.54%	R2000 -8.69%	R2000 Growth 3.88%

The S&P 500 performance does not tell the underlying story of the stock market. The left chart shows that large cap stocks (S&P 500) have performed better than small cap stock. This makes sense as large or super large companies, as a group, has better resources and financial access than the small and mid-cap companies to weather the COVID-19 economic fallout. However, within each large, mid

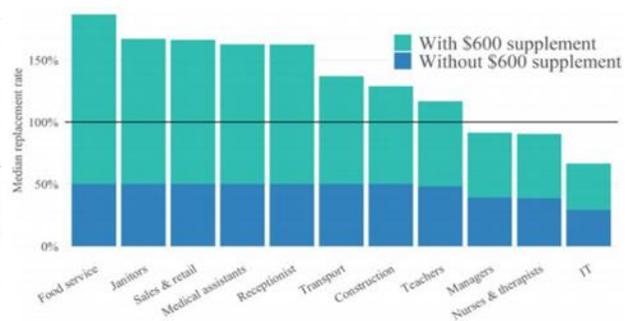
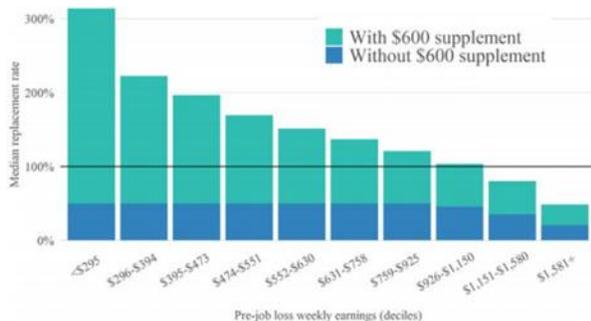
and small cap stock category, growth style has significantly outperformed the value style. In this case, growth style is predominantly represented by technology and companies driving the New Economy, whereas the value style represents out of favor Old Economy companies. This divergence is not likely to end until herd immunity is achieved through a successful and widely implemented vaccine.

Where Do We Go from Here?



The effect of the first fiscal stimulus is waning and yet we still have millions unemployed and increasing numbers of businesses closed/closing with little sign of coming back. In mid-September, Yelp released its Economic Impact Report indicating that business closures across the U.S. are increasing. As of August 31, 163,735 businesses have indicated on Yelp that they have closed, a 23% increase since mid-July. According to

Yelp data, permanent closures have reached 97,966, representing 60% of closed businesses that won't be reopening. Even though the unemployment rate is dropping, there remains a significant amount of workers out of work or working part-time due to economic reasons.



The \$600 supplement was a bonanza for those unemployed as a cushion, and now another fiscal bridge is needed as the transfer payments are done. The longer workers remain unemployed, the skill gap widens and the longer still for them to find jobs. COVID-19 has accelerated companies and workers to confront their sustainability. Those (zombie) companies already on the edge and not adjusted to the new economic and technological realities prior to COVID-19 are out of business. We expect more layoffs and bankruptcies to come.

Being an election year, much has been written about who will be president in 2021, and most expect significant market volatility before the year ends. According to State Street Global, in the long term, the stock market has delivered comparable returns under either a Republican or a Democratic Administration.

Average Annual Performance			S&P 500 Post-Election Avg. Performance (1948 – 2017, Cumulative %)					
Political Scenarios	1933 – 2019		Post-Election Returns (Nov - Dec)	Post-Election First-Year Return (Jan - Dec)	Post-Election Two-Year Return	Post-Election Three-Year Return	No. of Times	
	% Change	Number of Years						
Unified Government	10.03%	42	Democratic President	1.91	19.75	32.36	56.25	8
Democratic President	9.34%	34	Democratic Congress	1.39	15.38	22.83	48.32	6
Republican President	12.95%	8	Republican Congress	5.42	33.34	71.43	107.49	1
Unified Congress	7.42%	32	Split Congress	1.49	32.37	50.48	52.55	1
Democratic President	12.96%	10	Republican President	3.60	3.86	14.19	37.75	10
Republican President	4.91%	22	Democratic Congress	2.80	-0.53	3.17	25.87	4
Split Congress	10.38%	12	Republican Congress	7.80	8.6	29.59	59.86	3
Democratic President	13.60%	4	Split Congress	0.46	4.97	13.50	31.49	3
Republican President	8.77%	8						
All Years	9.11%	86						

Source: Strategas, as of August 31, 2020. Past performance is not a guarantee of future results. Data excludes 2001 due to Sen. Jeffords changing parties midyear

Too often investors get caught up with short-term events and noise and are unable to see through near-term uncertainties and focus on the future. The question we pose ourselves is do we believe the market will be better 6-months from today. If the answer is yes, then stay the course and overlook any short-term volatility that may come our way.

We believe that under either another Trump or a new Biden Administration, Congress will approve a new sizable stimulus package. Under Biden, the package is likely to be bigger. Companies, large or small, want certainty so that decisions can be made to move forward from hiring to investment. We are hopeful that, regardless of who will occupy the White House, COVID-19 will be more under control with a viable vaccine available next year, but we are not out of woods yet. We may still have a W-shaped recovery depending on how we all handle COVID-19 before the vaccine.

Sincerely yours,

EXPERIENTIAL WEALTH

Philip Chao, Principal & CIO

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