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November 15, 2020

The Monthly Letter covers two topics this month. First, we provide our Global Economic Quarterly. The globe began a recovery during Q3 2020. However, with the burgeoning rivalry between China and the United States, the shape of the recovery will differ from prior 20 years as the two global heavyweights vie for global position. Second, we review the Equity Markets. With a global pandemic accelerating the adoption of technology, online businesses and technology companies turned into huge winners of forced government shutdowns. Businesses had no choice but to adapt and invest. This stands similar to the late 1990s when companies faced the spectre of Y2K and were forced to modernize their technology platforms regardless of where they stood. Technology company valuations soared in the late 1990s as a result, only to crash after 2000. A similar moment may stand ahead for technology given a similar setup. Once the pandemic passes, businesses can restore some of the practices that were curtailed and reallocate resources away from technology spending. High growth companies of today may find that not only does their growth slow dramatically, but, for some areas, their end markets may shrink. This would be not be dissimilar to the early 2000s, when technology spending shrank and took years to recover. And Third, as always, we close with brief comments of interest to our readers.

Global Economic Quarterly: Saying Goodbye To The Pandemic, Hello To A Global Recovery, & The Consequences of a New Cold War

> "*Let us not be deceived – we are today in the midst of a cold war. Our enemies are to be found abroad and at home. Let us never forget this: Our unrest is the heart of their success. The peace of the world is the hope and goal of our political system; it is the despair and defeat of those who stand against us. We can depend only on ourselves.*"

Speech to South Carolina House of Representatives
By Bernard Baruch, Presidential Advisor 1916 – 1947
April 16, 1947

While Coronavirus cases continue to soar again globally, as economies reopen, numerous governments appear poised to impose new clampdowns, in an attempt to stem the tide. For those in charge, they could learn from King Cnut the Great. King Cnut, King of Denmark from 1014 until his death in 1035, through a series of decisive military victories in 1015 and 1016 in England and the great Battle of Helgea in 1026, when he defeated the combined Norwegian and Swede army, became King of the North

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Sea Empire and ruled Denmark, England, and Norway (Scandinavia). To demonstrate his humility in becoming head of such a great empire, as recorded by Henry of Huntingdon in the 12th Century, King Cnut placed his throne by the sea and commanded the incoming tide to halt. Of course, no such thing occurred and both Cnut's throne and his royal robes got wet. And, once this occurred, King Cnut supposedly spoke the following words, after removing himself from standing in the water of course: "Let all men know how empty and worthless is the power of kings, for there is none worthy of the name, but He whom heaven, earth, and sea obey by eternal laws." For governments today, they might take a page out of King Cnut, recognizing the limits on their ability to halt the spread of an airborne virus similar to the flu, without inflicting great harm on their economies and the overall health of their populations. Regardless of short term actions of governments to attempt to control the spread of COVID-19, pandemics typically last only 2 years. And with large portions of the global population having experienced the disease and numerous vaccines coming, the Coronavirus should follow the same script over the next 6 – 9 months, with the pandemic officially over in the second half of 2021. Thus, the world will begin Saying Goodbye to the Pandemic in the first half of next year.

This brings to the fore the following two questions: With what speed will the global economy recover? And what forces will shape and dominate the coming recovery? These are two very distinct questions. China and much of Asia already stand in a recovery pattern, as global supply chains stood in need of replenishment and China was first in/ first out of the pandemic. Given this, the following chart of Chinese Nominal GDP Growth appears to set the pattern for the globe:

As the chart illustrates, China appears to be experiencing a V Shaped recovery. And if China's recently reported Q3 GDP of 4.9% were added to the chart, the V would extend back to the GDP Growth Level prior to the pandemic. (Whether other on the ground statistics support such a conclusion stands a different story.) The US appears set to follow a similar pattern. US Real GDP collapsed in Q2:

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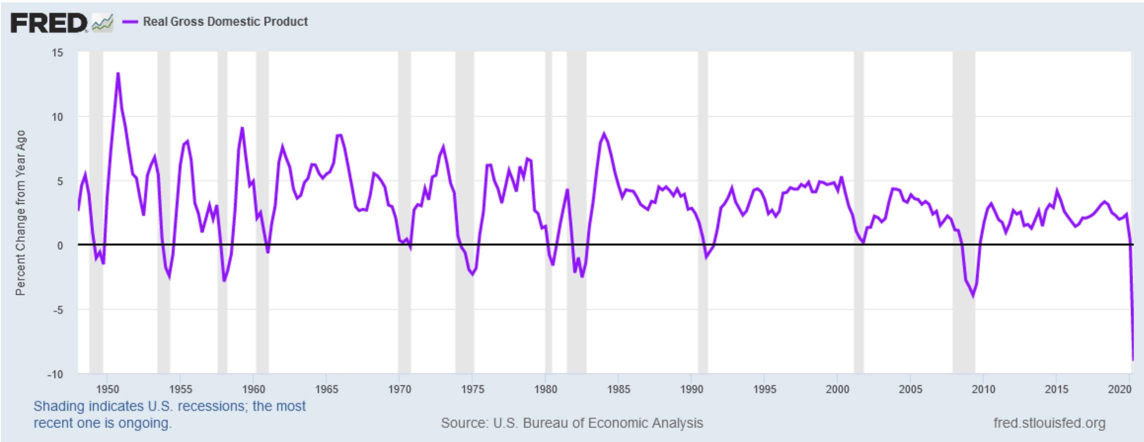

The Federal Reserve Bank of Atlanta's GDPNow projected the US economy would grow 35.3% Annualized in Q3 2020 or +8.8%+ Not Annualized, close to its actual growth of +33.1% and 7.4% respectively. (Please see the following link for the Atlanta Federal Reserve forecast: https://www.frbatlanta.org/cqer/research/gdpnow .) With the US economy dropping a little less than 9% in Q2, this brought the economy close to where it stood at the end of Q1and less than 3.5% below its Q4 2019 peak. With continued recovery, even at a greatly slowed pace in Q4, United States GDP should hit a new high no later than Q1 2021. Thus, the US appears set to follow China in producing a V Shaped Recovery. And should Congress support just a $1 trillion in additional stimulus, equal to over 5% of US GDP in 2019, then US GDP could easily grow 5% or more in 2021. Thus, with the two largest economies in the world sprinting ahead, care of government largesse in both cases, and with the rest of Asia's economic growth recovering rapidly, Global Economic Growth should accelerate strongly over the next six months, despite the travails in Europe and Latin America. Thus, the world will say Hello To A Global Recovery.

However, the second question posed above brings to the fore a completely different set of issues. These issues stem from the New Cold War between China and the United States. Since 2000, with its entry into the World Trade Organization, which gave it access to Western markets, China embarked on a coordinated economic program to build up its economy at the expense of nations around the world. In particular, it targeted Europe, Japan, and the United States and it did so successfully, seeing its global export share rise from 3% to 14% and its economy become the largest industrial economy in the world, with a 30% share of Global Industrial Production up from less than 10% in 2000. Starting in 2012, with the election of Xi Jinping to the head of the Communist Party in China, the country moved to project its newfound economic power around the globe. This included setting up the BRICS Development Bank (now known as the New Development Bank), funding the Belt & Road Initiative, and investing vast

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sums into the People's Liberation Army and the PLA Navy (PLAN). With these actions and a publicly articulated plan to supplant the US order in the globe with a China led system, China openly challenged the existing global system.

In doing so, it elicited a response, long overdue, from the United States. This response started in 2016 with the election of Donald Trump as President in the United States. From Day 1 of his Presidency in 2017, the United States recognized China as a global rival. While much of the world dismissed the new verbiage coming out of the US, it turned out to represent a turning point, whereby the US actually began to reexamine the economic and foreign policies put in place in the late 1990s that supported China's entry into the WTO and its growth as a global rival. These policies were built on the assumption that bringing China into the global trading system and the modernization of its economy represented the best approach to move it towards a Western form of democracy. This narrative turned out mistaken, as China used its strengthened economy and military as well as its massive investment into creating a strong global technology position to begin to project power around the world, to support authoritarian rulers across the globe, and to undermine democratic nations to expand its authoritarian influence. The country's investment into technology also led to the deployment of a vast surveillance state at home to suppress all dissent and to control the population. This certainly did not fit the narrative under which the Developed Nations allowed it to join the WTO and gain unfettered access to their markets.

With the election of Donald Trump, the US put in place the intellectual foundation to support a significant shift in economic and foreign policy on China and other important trading partners in order to meet the global challenge that China posed. This started in 2017 and continued since then. Some of the reports produced and actions taken from 2017 to 2020 are:

Year	***Government Department***	***Title***
2017	*National Intelligence Council*	*Global Trends: Paradox of Progress*
2017	*Office of U.S. President*	*National Security Strategy*
2017	*Office of Trade*	*U.S. Produced Value in U.S. Imports from NAFTA*
2017	*U.S. President*	*Strengthening the Cybersecurity of Federal Networks And Critical Infrastructure*
2017	*U.S. President*	*Executive Order Establishing Office of Trade and Manufacturing Policy*
2017	*U.S. Navy*	*Navy Force and Shipbuilding Plans: Background and Issues for Congress*
2017	*U.S. President*	*Executive Order Reviving the National Space Council*
2017	*U.S. President*	*Executive Order Assessing and Strengthening the*

		Manufacturing and Defense Industrial Base
2017	*U.S. President*	*Executive Order To Ensure and Secure Reliable Supplies Of Critical Minerals*
2018	*U.S. President*	*Memorandum on Actions By The United States Related The Section 301 Investigation of China*
2018	*U.S. Congress*	*China Military Power Projection Challenge to the US*
2018	*U.S. China Economic and Security Review Commission*	*Annual Report to Congress*
2018	*Department of Homeland Security*	*Media Monitoring Services Report*
2018	*Secretary of Defense*	*Establishment of the Joint Artificial Intelligence Center*
2018	*U.S. President -National Defense Strategy Commission*	*Providing for the Common Defense*
2018	*U.S. President*	*Rebuilding Infrastructure in America*
2018	*U.S. President*	*National Biodefense Strategy*
2018	*U.S. President*	*2018 Trade Policy Agenda & 2017 Annual Report*
2018	*U.S. President Office of Trade & Manufacturing Policy*	*How China's Economic Aggression Threatens the Technologies and Intellectual Property of the United States And the World*
2018	*U.S. President National Science & Technology Council*	*Strategy for American Leadership in Advanced Technologies*
2018	*U.S. China Economic and Security Review Commission*	*Annual Report to Congress: Review and Recommendations*
2018	*U.S. Joint Chiefs of Staff*	*Joint Doctrine Note 1-18: Strategy*
2018	*U.S. President United States Trade Representative Office*	*2017 Special 301 Report*
2018	*U.S. President United States Trade Representative Office*	*2017 Report to Congress on China's WTO Compliance*
2018	*U.S. President United States Trade Representative Office*	*Notice of Determination: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*
2018	*U.S. President United States Trade Representative Office*	*2018 Out-of-Cycle Review of Notorious Markets*
2018	*U.S. Defense Intelligence Agency*	*Global Nuclear Landscape 2018*
2018	*U.S. Joint Chiefs of Staff*	*Joint Publication 3-14: Space Operations & Strategy*
2019	*U.S. President*	*Executive Order on Maintaining American Leadership in Artificial Intelligence*
2019	*U.S. President National Science*	*National Space Weather Strategy & Action Plan*

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	& Technology Council	
2019	*U.S. President*	*Executive Order Coordinating National Resilience to Electromagnetic Pulses*
2019	*U.S. Defense Intelligence Agency*	*China Military Power: Modernizing a Force To Fight And Win*
2019	*U.S. President*	*Executive Order Securing the Information and Communications Technology & Services Supply Chain*
2019	*U.S. Trade Representative*	*National Trade Estimate Report on Foreign Trade Barriers*
2019	*U.S. President National Science & Technology Council*	*Federal Cybersecurity Research and Development Strategic Plan*
2019	*U.S. Congress*	*Threats to the U.S. Research Enterprise: China's Talent Recruitment Plans*
2019	*U.S. President National Science & Technology Council*	*Nuclear Defense Research and Development Strategic Plan*
2019	*U.S. President*	*Research and Development Priorities for American Leadership in Wireless Communications*
2020	*U.S. Department of State*	*The Clean Network Initiative*
2020	*U.S. President*	*United States Strategic Approach to the People's Republic Of China*
2020	*U.S. President*	*Memorandum on Safeguarding U.S. National Interests In The Arctic & Antarctic Regions*
2020	*U.S. President*	*National Strategy for Critical & Emerging Technologies*
2020	*U.S. Department of Defense*	*Military and Security Developments Regarding the People's Republic of China: Annual Report to Congress*
2020	*U.S. Joint Chiefs of Staff*	*Defense Space Strategy Summary*

As the above list makes clear, China's open challenge to the United States led to a major policy reevaluation across all facets of government. With the intellectual foundation and policies now in place, the U.S. government systematically began to rollout this new approach across government, the economy, and foreign policy over the past few years. While this change began under President Trump, a Biden Administration will likely continue and accelerate this U.S. change in approach to China. This likely will produce a severe limit on the use of technology from China, the forced reshoring of critical manufacturing and healthcare industries to the U.S., significant restrictions on the export of U.S. technology and technology manufacturing to other countries around the world, the development of new alliances such as the Quad Four to counter China in the Pacific, the repositioning of U.S. military assets, the development of space technology and weapons, a general disentanglement of the two economies, and a potential bifurcation of the globe into Communist and Democratic spheres of influence as during the Cold War between Russia and the U.S. For those who grew up from the 1940s to 1980s, it will seem

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a return to the past. For the generation born from 1990 onward, it will seem a changed world. And for all the inhabitants of the globe, it will seem the world will bear The Consequences of a New Cold War for the foreseeable future once again.

Dragon Takeoff

China's command economy continues to respond to the dictates of the Central Committee. The Committee shut the economy down to address the Coronavirus in Q1 and then reopened the economy in Q2. And unlike almost every other country in the world, China appears to have eradicated the Coronavirus from its populace. Whether this is true or not is impossible to know. However, what clearly occurred with China's economy in Q2 and Q3 stemmed from China's role in the Global Supply Chain. With Global Inventories depleting in Q1 and Q2, a large inventory rebuild needed to follow. China benefitted from this disproportionately, given the reopening of its economy as other economies closed. In addition, China stepped on the traditional accelerator of increased Infrastructure Investment. Infrastructure Investment rose 8.3% year-over-year (yoy) in July, 9.3% yoy in August. and 8.7% yoy in September. Despite this massive increase in investment, China reported Q3 GDP rose just 4.9%. To achieve this growth, China utilized a GDP Deflator of just 0.6%. This stands in contrast to its CPI, which rose over 2% in Q3. If the CPI substituted for the GDP Deflator, Chinese GDP rose 3.5% or less. (Nominal GDP rose 5.5% compared to Q3 2019.) If one removes the Infrastructure spending, the Chinese economy likely would not have grown. This type of analysis is more consistent with data on the ground, whether airline or mobility, which demonstrate an economy still in recovery mode.

In addition to the above actions, China continues to focus on domestication of industry via import substitution, as a secular source of growth. Over the past 20 years, China focused on methodically replacing imported goods with "indigenous innovation". Usually, this meant domestic companies taking market share from foreign companies in chemicals, basic manufacturing, electrical transmission, and other lower tech industries. Then building excess capacity to export these goods while protecting its domestic market. However, this changed over the past 5 years when China forced domestication of Healthcare Technology products, TV production, EV Battery production, and other high tech goods. China's updated 5 Year Plan focuses on leading edge semiconductors, biotech, and other leading edge technology industries such as Quantum Computing, Artificial Intelligence, and Hypersonic Weapons. The end goal, of course, stands to close the technology gap with the US, Japan, and Europe and dominate the industries of the future. In addition, in order to ensure strategic independence of its manufacturing economy, beginning in the past few years, it focused on displacing all non-Chinese software from its industrial and technology plants. This includes industries which are dominated by foreign companies, such as Industrial Automation. Unfortunately, for the global leaders in this industry, Industrial Automation stands as the latest apparent industry to fall into the crosshairs of the Chinese government. China formed domestic Industrial Automation companies to begin to take over

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this industry recently. These companies currently focus on the lower complexity areas, due to their immature software. Despite their recent founding, they already exhibit significant industry penetration in just a short amount of time. These companies, in partnership with the government, continue to invest in software that will enable them to take on more and more complex tasks, ultimately displacing companies such as SAP and Siemens. When China focused on critical aspects of the transmission grid, local companies went from less than 10% market share to over 90% share in just 3 years. Given the goals of China's 5 Year Plan, such an outcome here would follow precedent. Unfortunately for China, given its actions to date and the paucity of foreign industry left to replace, this strategy can no longer support the investment and growth in its economy that it once did. Despite this, when combined with the massive Infrastructure Investment, Dragon Takeoff appears underway.

Elephant Stumbles & Recoveries

For India, the lockdown in Q2 turned into a short term disaster for the economy which the government quickly reversed. Deaths per 100,000 in the country ran much lower than in Europe, due to the young demographics of the country. Given this and the government's limited financial resources to fill the economic hole, reopening the economy as quickly as possible made the most sense. And that is the pathway the Narenda Modi government followed. Consumer Durables production returned to 87% of its pre-Pandemic level in August and Consumer Non-Durables stood at 98%. Industrial Production reached 92% of its pre-Pandemic level in September, up from a low of 43% in April.

The bigger issue for India stands the consumer boom financed by debt. As with most debt financed growth, eventually, the debt becomes an issue as either the consumer borrowers cannot service the debt based on their incomes or, if the boom ends up funding corporate led growth, the assets put in place don't produce sufficient cash flow to service the debt. In either case, this creates a problem for the banking sector. This centers on the Non-Bank Financial Sector (NBFS), which appears to have absorbed the majority of these low quality loans. What little data appears available shows that 31% of loans fell into the moratorium category for private banks and 39% for public sector banks, as of June. In addition, India's growth appeared to slow significantly, due to the credit cycle, even before the Pandemic, in a classic Elephant Stumble.

With the Pandemic, India announced a 10% of GDP stimulus package in May. This included loans similar to those by the US government under the PPP program. With the economy normalizing over the past few months, underlying credit should have improved. Furthermore, COVID cases appear to have peaked with some data, with daily new cases currently down 50% from their early September peak. Some epidemiological data indicate 20% - 50% of populations in major urban centers already contracted the disease, which would support a major drop in diagnosed cases. Should additional data support this, India's economy should continue to recover rapidly, in another one of those Elephant Recoveries.

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The Sun Also Rises

For Japan, economic growth prior to the Pandemic proved scarce, not just for a few years but for the past generation. Japanese GDP in 2019 totaled ¥553.8 trillion or US $5.1 trillion. In 1995, Japanese GDP totaled US $5.4 trillion. Thus, for the past 25 years, Japanese GDP moved in a sideways pattern. Even when examined over a shorter time horizon, lackluster performance dominates. Despite the impact of Abenomics, which received much attention from the press, little changed for Japan over the past decade. GDP rose from a little over US$5 trillion in 2009 to just US $5.1 trillion in 2019. And with the Pandemic, Japan only hopes to re-attain 2019 GDP by 2022. Thus, for an almost 30 year period, an entire generation of the nation, the country delivered no economic growth.

However, under the surface, over the past 2 – 3 years, some fundamental changes in its economic structure may begin to become large enough to impact long term growth and underpin the concept that The Sun Also Rises. This centers on two factors. First, pressure to unlock the interlocking company structure of Japanese public corporations continues to rise as well as pressure to deploy the massive cash sitting on public company balance sheets. Of course, this pressure comes from outside foreign investors pushing Japanese company managements to act. This should begin to force underperforming companies to restructure to produce stronger results. It also should lead to either deployment of capital into assets that can produce a return, creating higher returns for the Japanese companies or a return of cash to investors, removing a large drag on Japanese company returns. All of this should impact economic growth in a positive manner, should the Japanese government encourage such change. Second, Japan began to open up its economy to foreign workers. While this may not sound like a large deal, given that America accepts a huge number of immigrants each year, for Japan, this represents a sea change powered by the country's underlying population realities. The fundamental demographics of Japan dictated this change. Japan's population peaked in 2010 and entered a long term decline phase starting in 2011. Due to demographics, scientists project Japan's population to fall from 127 million today to 107 million by 2040 and 97 million by 2050. The only way for Japan to slow and reverse this decline will occur through immigration. With Japan apparently finally addressing these two structural drags on its economy, Japan's economy finally possesses an opportunity to grow over the long term.

No Salsa Down Under

For Brazil, economic life just began to return to normal last year, then the pandemic hit. This makes it a rough decade for the economy. Brazil's economy peaked during the commodity boom in 2011 at US $2.6 trillion. Since then, a series of adjustments to a world with lower commodity demand growth, especially from China, ensued. After crashing to just $1.8 trillion in 2015, Brazil's GDP reached just $1.9 trillion in 2019, which effectively meant no growth. While 2020 started off well, with leverage to a turn in the global manufacturing cycle, once the pandemic hit, everything crashed. Projection on Brazil's GDP indicate shrinkage of more than 5% this year to a level close to that from 2009.

While the economy will shrink this year, inflation will not. The Brazilian Central Bank (BCB) printed large amounts of currency earlier this year to finance the government. This stands little different from other countries around the world. However, unlike the EU and US, where consumers saved significant sums, thus offsetting the monetary largesse and avoiding inflation, the Brazilian government and consumer spent the currency, injecting it into the economy. This drove year-over-year inflation to ~20% in October. And with the number of confirmed COVID cases in Brazil reaching 5.3 million and growing at 22,000+ per day, life likely will not get any easier over the near term. The only apparent good news stands in Foreign Direct Investment (FDI). FDI totaled over $50 billion over the past 12 months and remains positive, allowing Brazil to run a Current Account Surplus. For 2020, there has been No Salsa Down Under. And hopes of a better tomorrow will have to sustain the country until the pandemic goes away.

The Old Man In The Infirmary

In Europe, the Pandemic wreaked havoc across the region, leading to long shutdowns across multiple countries. And, unlike the US, where GDP will fall a little over 3% this year, not different from a normal recession, GDP in Western Europe seems headed for a drop of over 7%, a result somewhere between a recession and a depression. For the UK and Italy, life will exhibit an even worse outcome, with Italian GDP down almost 9% and UK GDP dropping over 10%, producing depression like outcomes. The best results sit in Scandinavia and Eastern Europe which either did not lock down their economies or put limited restrictions in place, enabling commerce to continue. For Europe, the year is ending on a sour note, with new lockdowns in place.

However, not all is dark. There exist glimmers of hope that should lead to a much better outcome next year. First, German Industrial Production continues to recover at a more rapid pace than in 2009, as the following chart demonstrates:

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With numerous countries in Europe providing inputs, a recovery here will continue to drag along numerous other countries. In addition, European Auto Sales continue to recover. According to the European Automobile Manufacturers Association, EU New Passenger Car Registration rose to 933.000+ in September, growing 3.1% Year-Over- Year (YOY). As the following monthly chart shows for 2020, car sales recovered completely to their pre-Pandemic levels:

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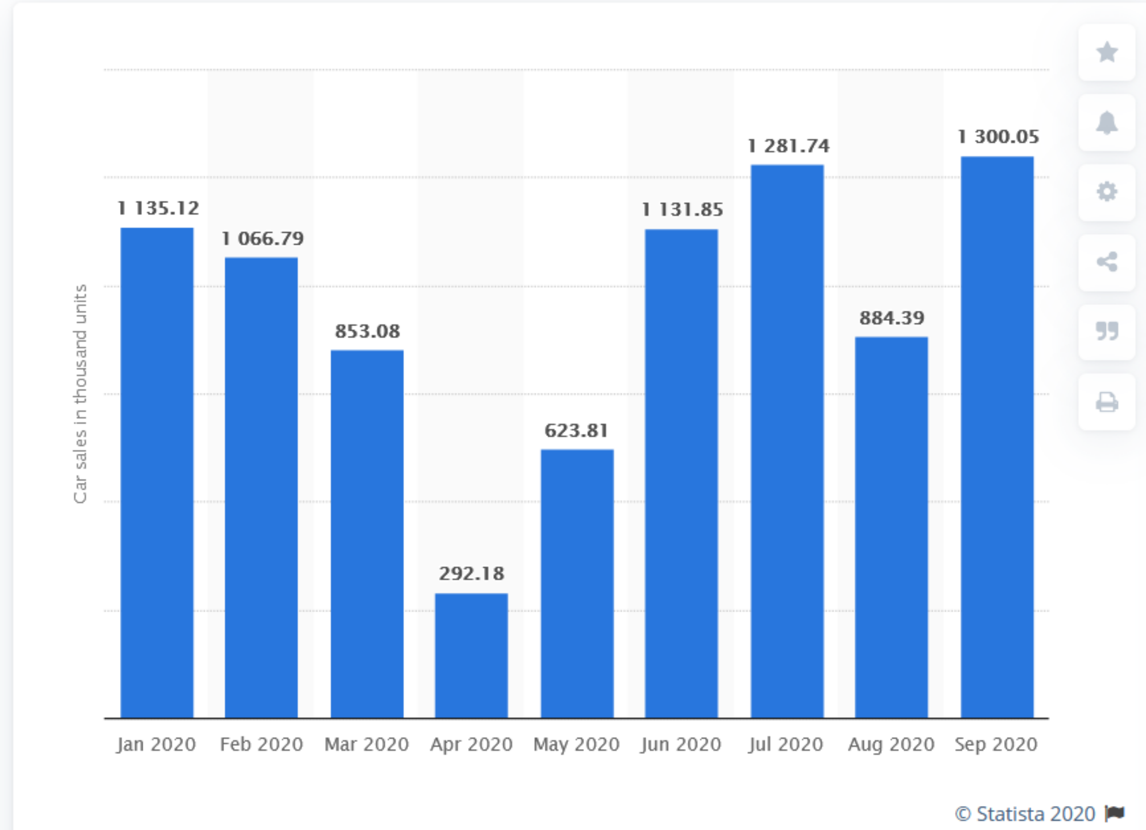

Chart courtesy of Statista, www.statista.com .

Numerous other indicators demonstrate a similar recovery. Thus, while the portents look dark near term, with The Old Man In The Infirmary and new lockdowns announced, the outlook appears bright, with full recovery ahead in 2021.

Beginning a New Climb

For the US, the Pandemic undermined a year headed for strong economic growth. Prior to the Pandemic induced lockdowns, US Industrial Production (IP) turned up, as the Global Inventory Cycle moved from contraction to expansion. However, the Pandemic short circuited the upturn, as lockdowns rolled through the US and Global Economy. With the economy reopening, IP turned upward strongly, closing the gap with its pre-Pandemic level:

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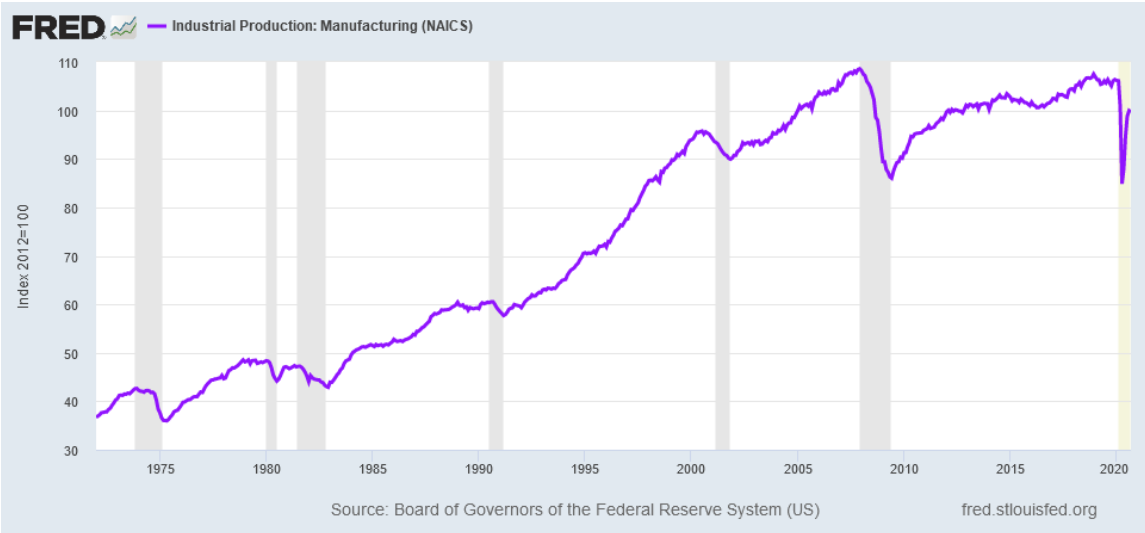
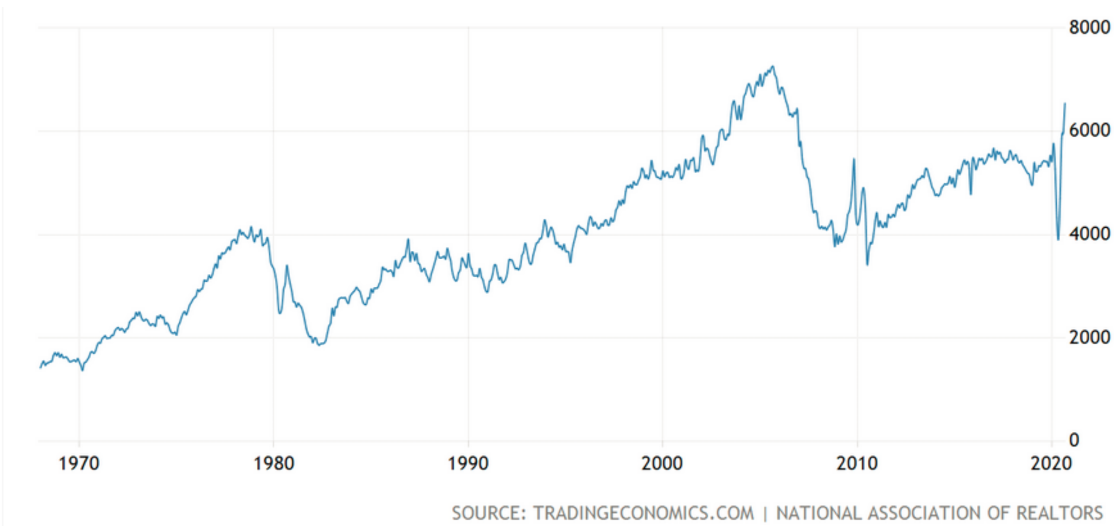


Underpinning this recovery stands a blowout Housing market in 2020. Existing Home Sales hit an annualized rate of 6.540 million in September compared to just 5.4 million in September 2019, the highest rate since the Housing Bubble in 2006.



These bubble like volumes drove Housing Inventory down leading to a record low in Months Supply of Existing Homes:

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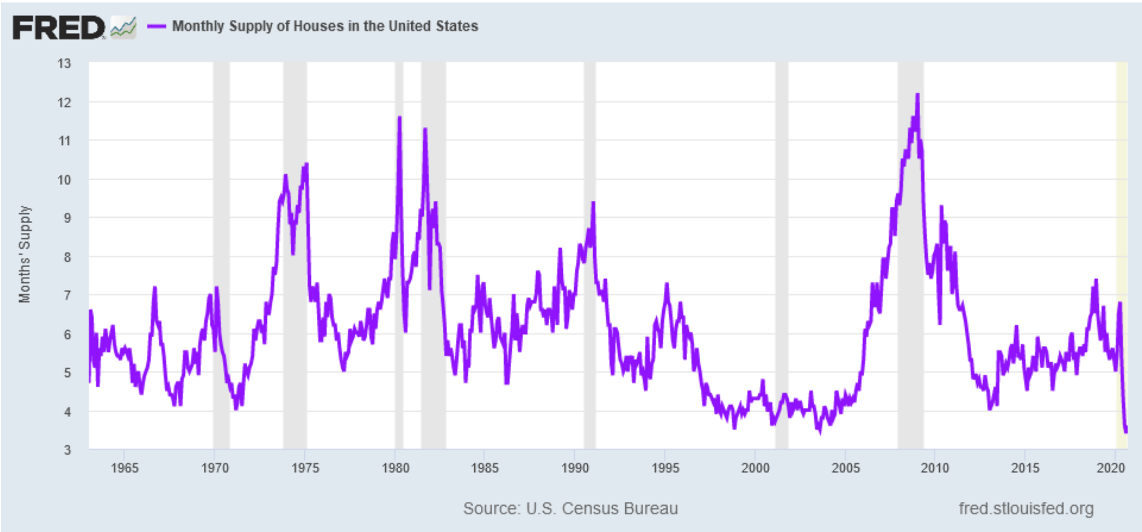
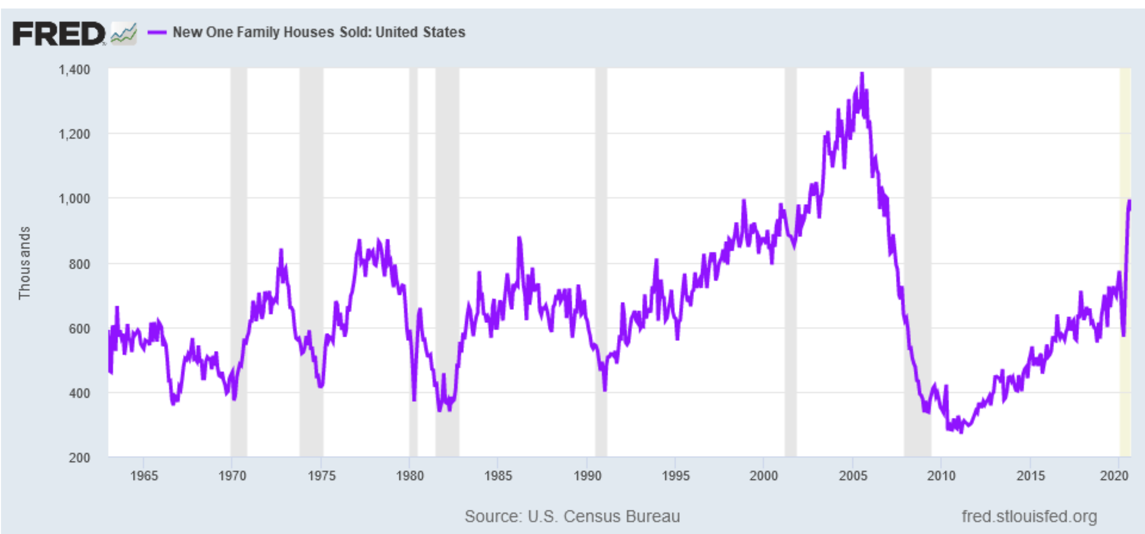


In turn, with an effective shortage of Existing Homes, due to the flight from major metro areas, New Home Sales took off:



Similar to Existing Home Sales, New Home Sales hit a rate last seen in 2006 and above the peaks of 1998, 1986, and 1978. In turn, this drove Single Family Permits back towards their peaks of prior decades, only exceeded during the Housing Bubble:

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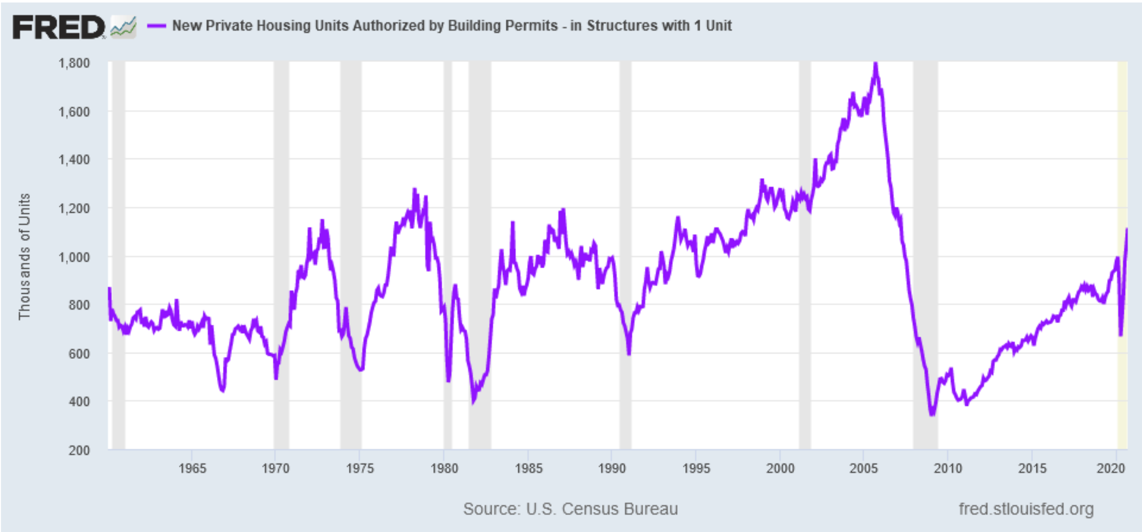
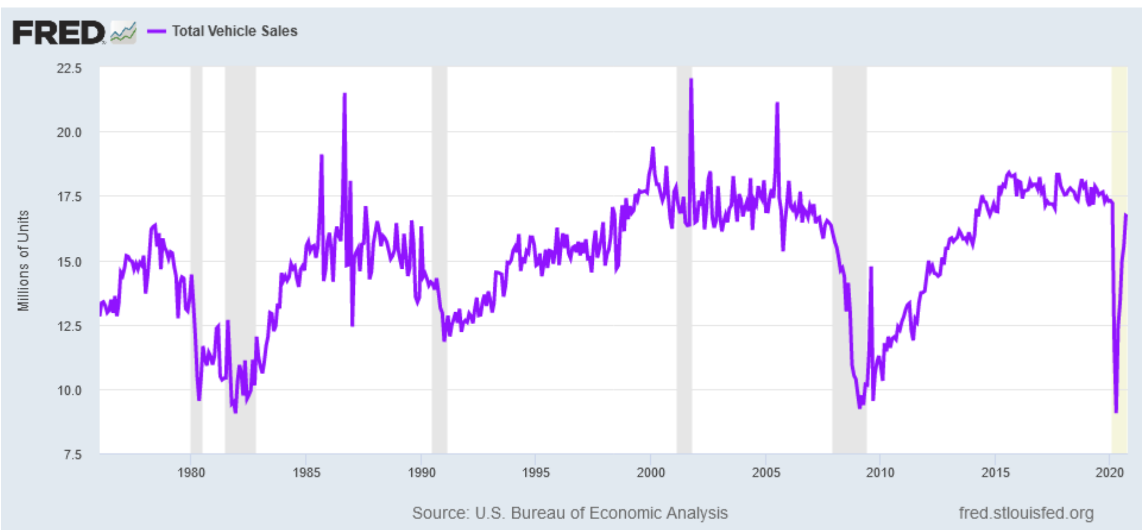


And, if one turns to Autos, the picture looks extremely similar to Housing, with sales recovering to their pre-Pandemic levels already:



If one did not know better, this looks just like the contractions and recoveries from the 1950s. In those recessions, the US exhibited a sharp downward spike followed by an equally sharp recovery. In today's case, the depth is greater, but the spike upward towards recovery stands equally sharp:

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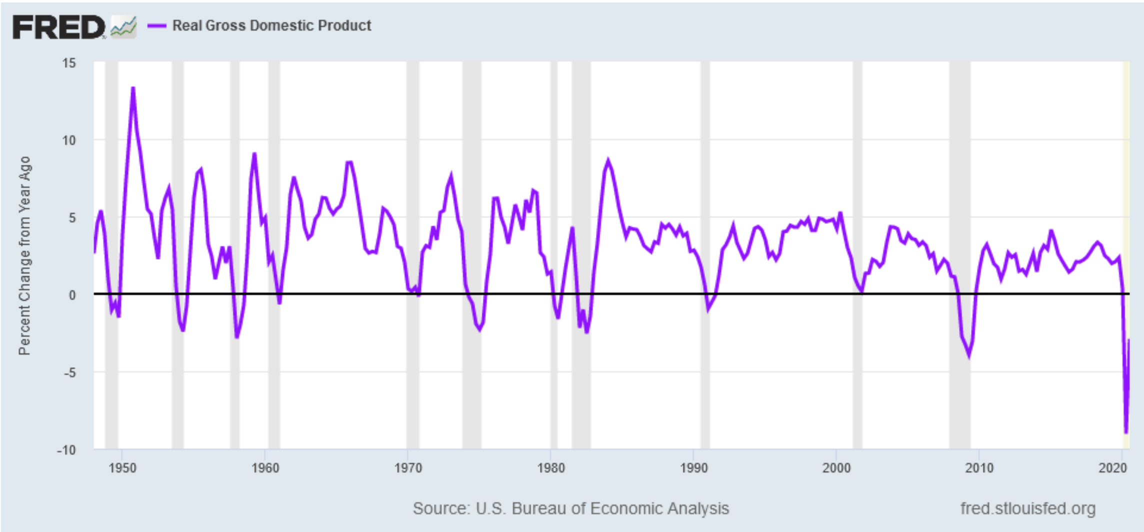

For the US, the recovery looks more and more like a normal recovery. Housing and Autos continue to lead with manufacturing just behind, as factory output races to catch up with demand and inventories need to be rebuilt. Following close on their will come travel, leisure, and capital spending, as profits recover, employment grows, and consumers resume their daily lives. With the US Beginning A New Climb, new heights stand ahead as economic growth drives onward and upward. (Data from The Federal Reserve, Trading Economics, Eurostat, National Association of Realtors, national economic databases, and public sources coupled with Green Drake Advisors analysis.)

The Equity Markets: The Tech Bubble, The Pandemic Bubble, & The Return of Value Investing

"I can calculate the motions of the heavenly bodies, but not the madness of people."

Sir Isaac Newton
Comment on Losing Money in South Sea Bubble
Spring, 1720

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For those who participated in the Equity Markets in 2020, owning a portfolio of the Top 5 largest securities would have produced outsized returns for the year, through October 31. These stocks disproportionately benefitted from the Pandemic, as they became the principal beneficiaries of the lockdowns and work from home requirements. While the S&P 500 rose only 9.2% through the end of October, these stocks exploded upward, Apple +48%, Microsoft +28%, Amazon +64%, Facebook +28%, and Google +21%, collectively rising 38%. As these companies grew and fast forwarded several years of growth into 2020, their spending to support their growth flowed through to numerous other companies across the technology arena. This drove the technology heavy NASDAQ up more than 21%. At the same time as these stocks benefitted, investors became enamored of all things growth. These companies, such as P&G or Clorox, could continue to grow despite the Pandemic, with the lockdowns accelerating their volume growth and pricing power as consumers shifted spending from eating out to eating in and into sanitary products. Thus, investment flowed into this area and out of areas tied to the general economy. Growth stocks, as exemplified by the Russell 1000 Growth, rose more than 19%, while Value stocks, as exemplified by the Russell 1000 Value, fell almost 15%. This 34%+ difference in performance represents the largest performance differential since the 1999 – 2000 Technology Bubble.

This extreme dichotomy in performance coupled with current valuations now puts the Growth Stocks at risk of an extended period of underperformance, similar to the outcome after The 1999 – 2000 Tech Bubble. The following Table illustrates this differential:

	Forward P/E Spread Momentum vs. Value	***Percentile***
Current	*+18.2*	*100%*
March 2000	*+18.1*	*100%*
Normal	*+ 5.0*	*50%*

Data from JP Morgan.

The peak of The Tech Bubble in 2000 stands as the last time this P/E Spread stood this wide. And if one were to look at the broader market a similar picture emerges:

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	Forward P/E Spread Value vs. Market	***Percentile***
Current	*-8.6*	*1%*
March 2000	*-7.4*	*2%*
Normal	*-3.5*	*50%*

Data from JP Morgan

In fact, the P/E Spread between Value stocks and the Equity Market averages now exceeds the spread at the 2000 peak of The Tech Bubble, with the 1973 peak of the Nifty 50 the only historical episode with similar differences in valuation. This spread actually began to close in December 2019 and January 2020 before The Pandemic Hit, as the Global Inventory Cycle turned to a positive phase, which typically accelerates economically sensitive companies' revenue, earnings, and cash flow. The Pandemic shut down the economy which, of course, short-circuited this natural transition in the economic cycle, bringing forward the Recession from what likely would have been a late 2022 start to early 2021. This drove the differentials in valuation between Growth/Momentum stocks and Value stocks, which already stood at statistically significant levels, to an extreme, only seen at the peaks in 2000, 1973, and 1929 over the past 100 years. With the recent data released by Pfizer on their vaccine, a vaccine that demonstrates 90%+ effective immunity against COVID-19, mean reversion may have already begun, as investors begin to anticipate a reopening of the economy next year.

Unfortunately, such peaks in valuation differentials typically coincide with extremes in valuation for the overall Equity Markets. Multiple indicators demonstrate the extreme in overall valuation that exists today. Robert Shiller's CAPE Ratio, one of the oldest and most well known, continues to blink Red for long term investors:

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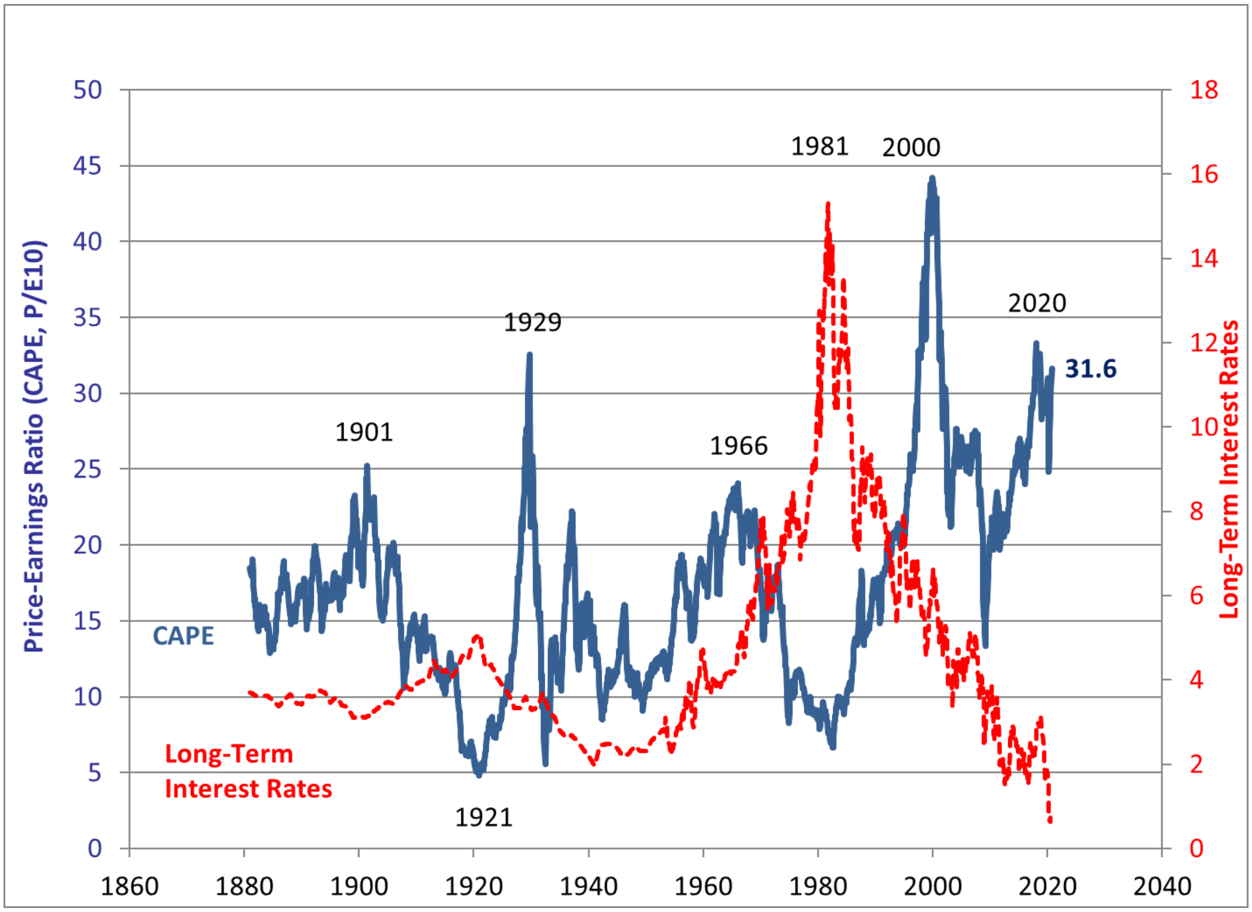

Chart courtesy of Robert Shiller, Yale University, http://www.econ.yale.edu/~shiller/data.htm .

As the graph indicates, valuation stands at similar levels to 1929. While this ratio is poor in predicting short term movements in the Equity Markets, it provides an excellent inverse correlation with 10 Year Returns. In other words, low readings portend high 10 Year Returns, while high readings, such as currently, produce low 10 Year Returns. A similar picture emerges from Tobin's Q, which measures the public market value of equities against the replacement value of their assets:

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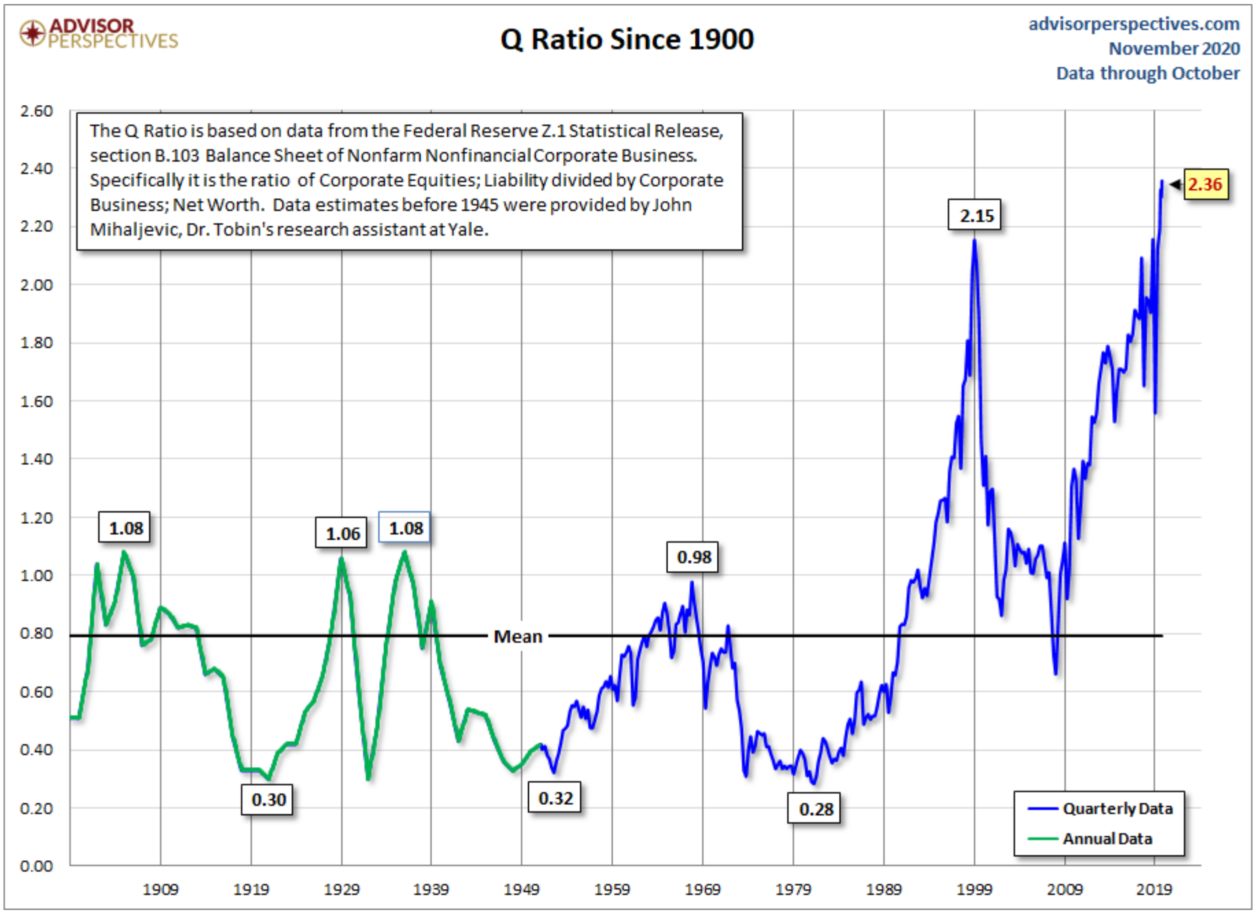

Chart courtesy of Advisor Perspectives, www.advisorperspectives.com .

And while US corporations deliberately decapitalized their balance sheets over the past decade, thus distorting this ratio somewhat, this drop in assets only accounts for a fraction of the rise in this ratio. That this ratio rings true gains confirmation from "The Buffett Indicator", which measures the market capitalization of the Equity Markets compared to GDP:

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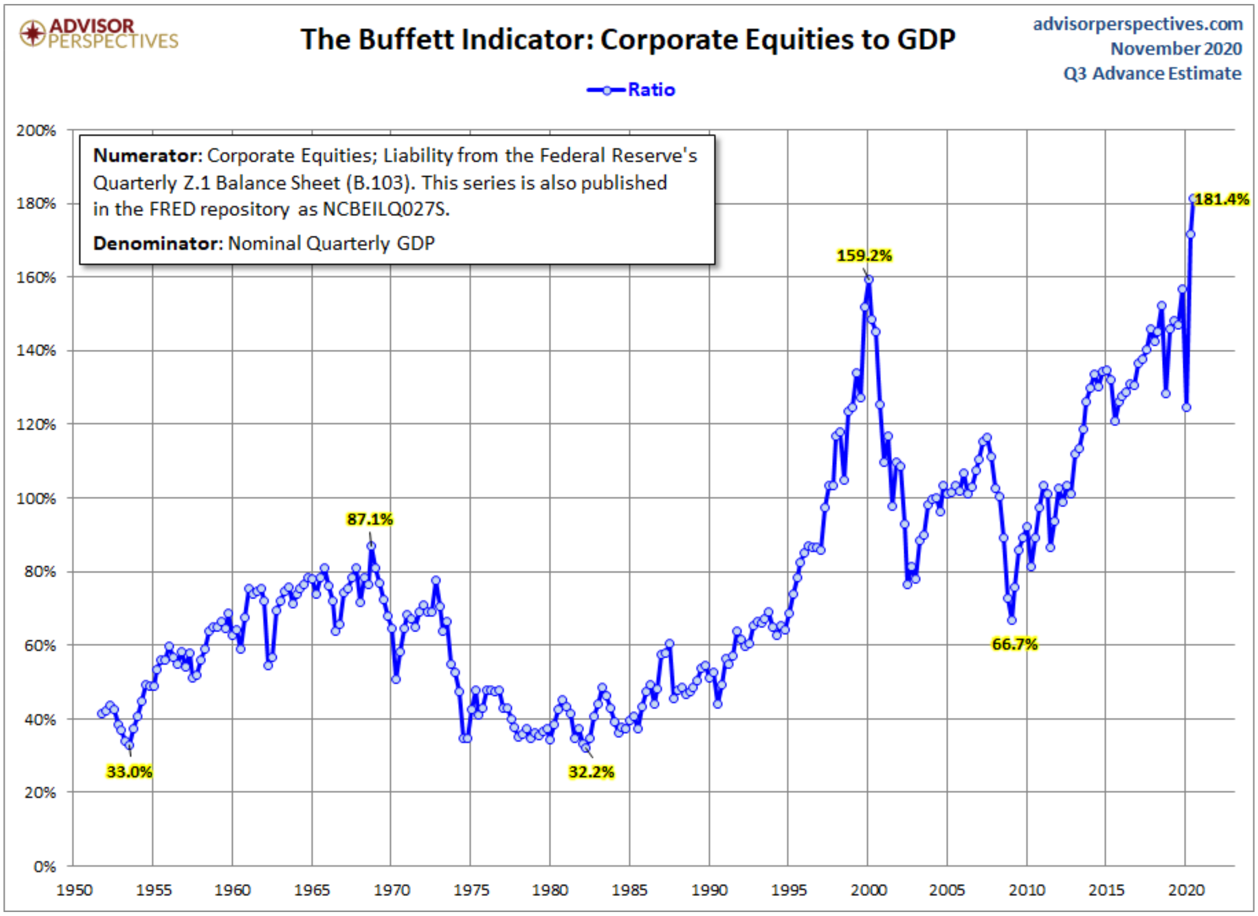

Chart courtesy of Advisor Perspectives, www.advisorperspectives.com .

This indicator now exceeds its 2000 Tech Bubble Peak by almost 14% (13.94% to be precise). This equates to 3.0+ standard deviations from the mean. And, if detrended for an assumed rise over time, as international sales have become a larger and larger portion of the Equity Markets' revenues over the past 50 years, the current valuation still equates to over 2.5+ standard deviations from the detrended mean, a record only exceeded in 2000. All in all not a good prescription for long term capital appreciation. And if you flip these charts, they possess an uncanny correlation with 10 Year Forward Returns, which makes sense both intuitively and from an analytic perspective, as the following chart demonstrates:

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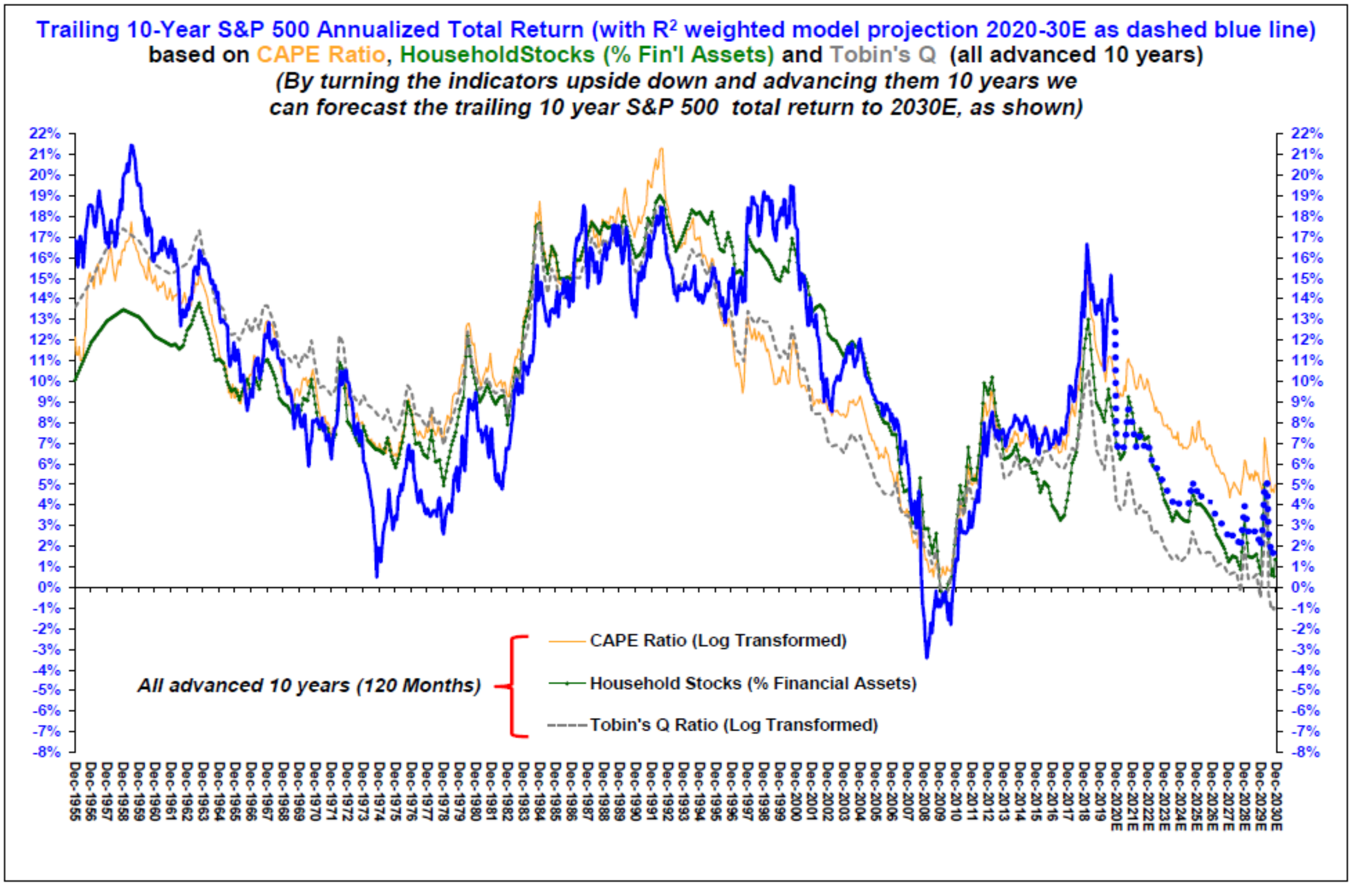

Source: S&P 500 total return Bloomberg data, Stifel estimates, S&P historical Shiller (Stifel Operating adjustment), U.S. Flow of Funds (tables b.103 and b.101).

Chart courtesy of Stifel Nicolaus, LLC, www.stifel.com .

And while the market can deviate over a short period of time, the long term results are clear. Thus, like the 10 Years following The Tech Bubble, the coming decade following The Pandemic Bubble will likely prove disappointing to equity investors.

For investors, with a vaccine in hand, near term salvation may come in the form of "Regression to the Mean". In other words, investing with the belief that markets return to statistical means as long term economic cycles ultimately dominate investment returns. Two long term cycles standout, in this perspective. One relates to the coming economic recovery, as economic growth broadens out to include the overall economy. The other relates to the resolution of the government debt cycle and commodities. As indicated above, the Growth/Momentum stocks stand at a statistical extreme relative to Value stocks. They disproportionately benefitted from the shutdowns imposed by governments. At the same time,

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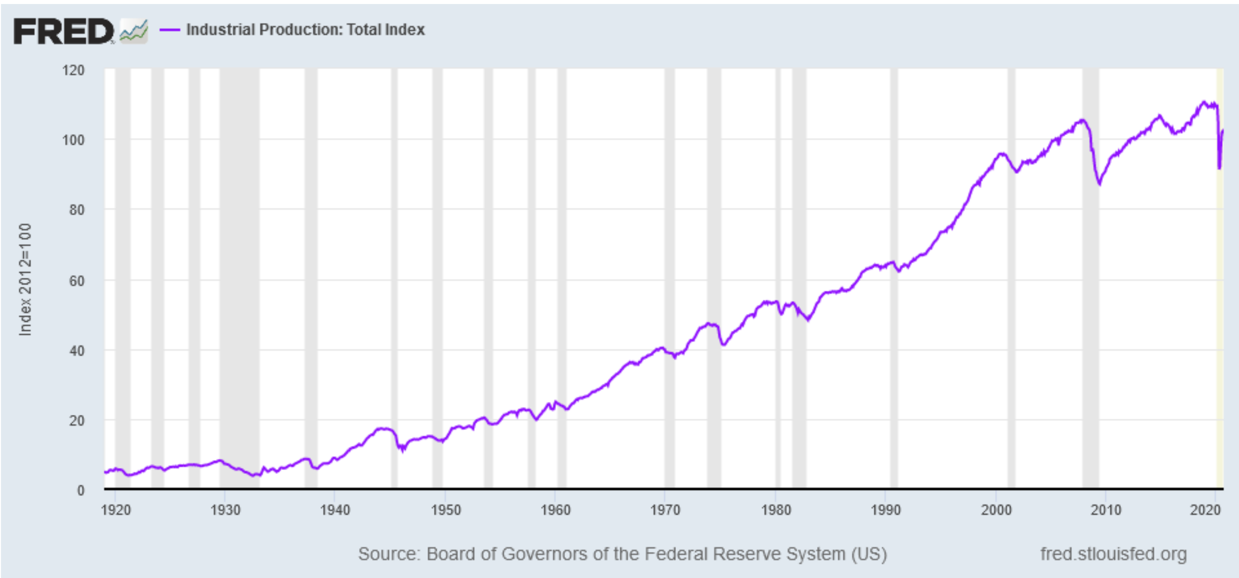
numerous companies tied to the real economy suffered from these government imposed edicts. As governments move to reopen their economies as the vaccines rollout, those companies tied to the real economy should benefit. The following chart of Industrial Production shows a sharp rebound underway:



And when viewed on a Year-Over-Year basis, it becomes clear that sharp upswings typically follow sharp downswings historically:

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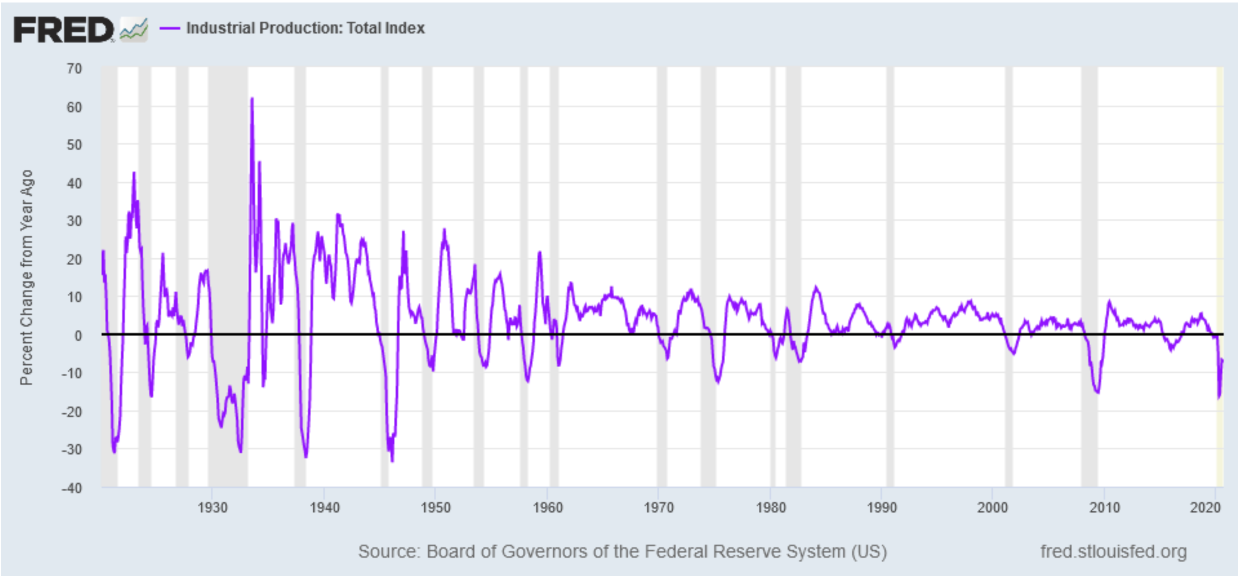

Given this history, a broad recovery in the economy should produce accelerating fundamentals for those companies impacted by the economic shutdowns, which principally mean Value stocks.

The other cycles to watch include the long term government debt cycle and the long term commodity cycle. As most people know, Federal Debt to GDP soared in the US over the past year and the past decade:

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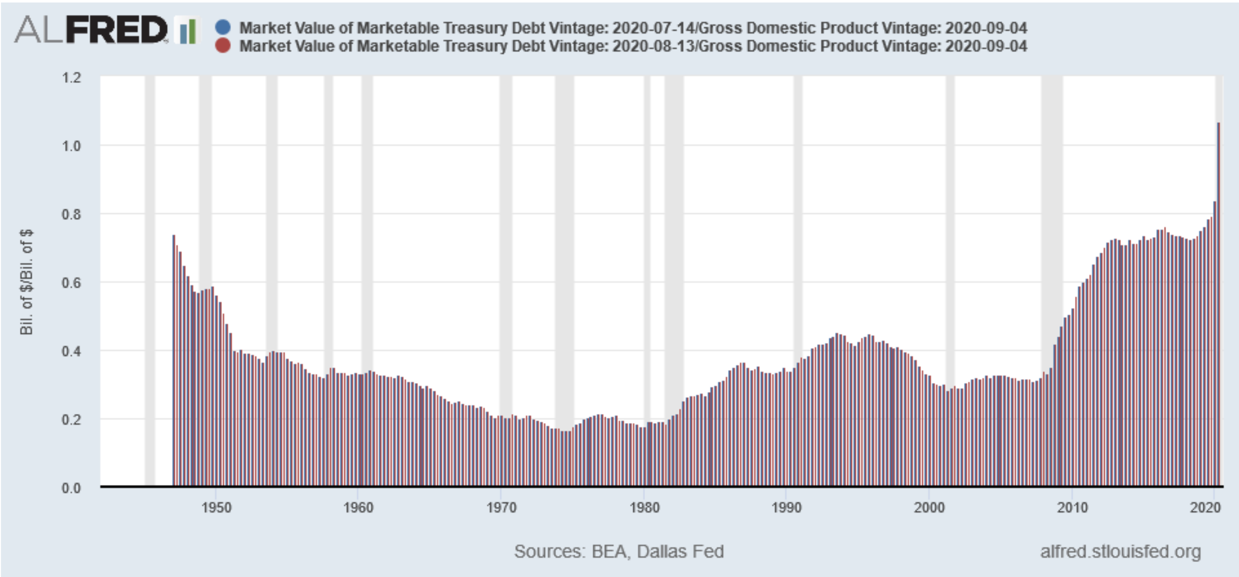

At this level, it now equals the peaks seen in World War II, having added 10%+ to this ratio to fight The Pandemic's economic impact:

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As the second chart only goes to 2019, adding the change over the last year would bring the level to its 1942 peak.

When Government Debt reaches such peaks, governments usually inflate their way out of debt problems. For the United States, there occurred significant bouts of inflation from 1776 – 1785, 1810 – 1814, 1861 – 1865, 1911 – 1920, 1939 – 1952, 1956 – 1959, 1966 – 1982, and 1987 – 1991, according to the Federal Reserve. (Please see https://www.minneapolisfed.org/about-us/monetary-policy/inflation-calculator/consumer-price-index-1800- for data from the Federal Reserve of Minneapolis.) Many would argue that the period from 2003 – 2008 also saw significant inflation as commodity prices tripled, healthcare prices compounded at high single digits, consumer goods prices rose rapidly, and housing prices more than doubled. As these examples demonstrate, the US possesses a long history of utilizing inflation to repay debt in depreciated dollars to avoid the economic consequences of borrowing too much.

Typically, such periods of inflation coincide with periods when commodities outperform equities in real terms. In addition, equities can provide negative real returns at those times. For example, from 1966 – 1980, prices soared but equities went sideways. A similar experience occurred more recently from 2000 – 2008. Furthermore, when Equity outperformance of commodities reaches extremes, a reversion to the mean can occur. This originates in the fundamental economic relationships that exist between various asset classes, that creates a self-correcting mechanism. With commodity cycles long, most individuals stand unaware of their cycle and fundamental impact on investing. The following chart provides a long term perspective on this:

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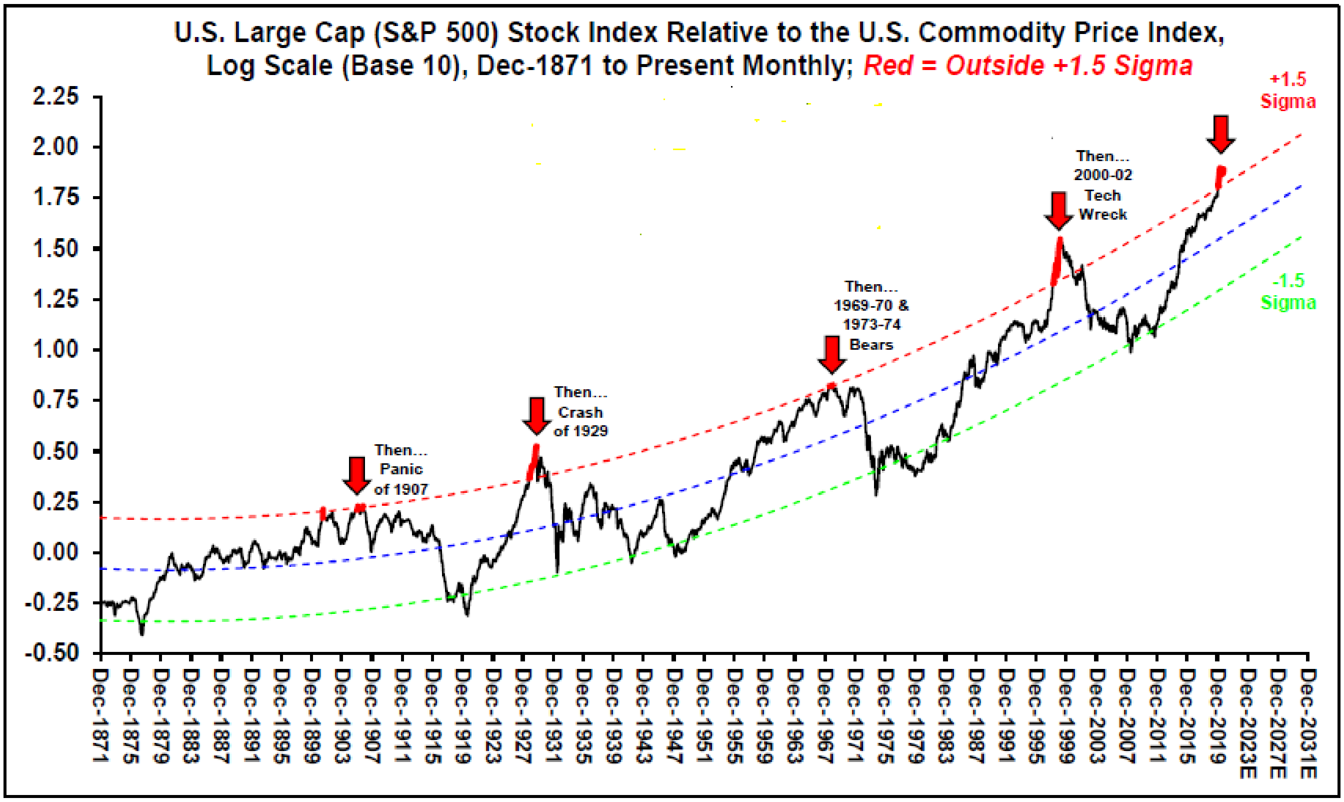

Source: S&P 500 and CPI data Shiller, Warren & Pearson Commodity Index (1871-1925), equal-weighted (1/3rd ea.) PPI Energy, PPI Farm Products and PPI Metals (Ferrous & Non-Ferrous, excl.-precious metals) (1926-1956), Refinitiv Equal Weight (CCI) Index (1956-1994), and Refinitiv Core Commodity CRB Index (1994 to present).

Chart courtesy of Stifel Nicolaus, www.stifel.com .

As the chart demonstrates, while stocks outperform commodities over the long term, there exist significant interruptions in which commodities outperform stocks. And with stocks having enjoyed a decade long period of outperformance, similar to what occurred in the 1920's, reversion to the mean seems a reasonable outcome over the next decade.

For investors, the landscape looks eerily similar to 2000, with technology leading the charge and valuations at or above The Tech Bubble levels. However, unlike 2000, the economy stands in an early cycle position as opposed to late cycle, with traditional economy dependent Equities trading at recession like valuations. As the real economy begins to recover in 2021 and it becomes possible for citizens to resume their normal lives, these companies should benefit as spending directed to The Pandemic Bubble companies becomes redirected into other spending categories for both consumers and corporations. With these real economy companies disproportionately represented in Value Equities, investors should

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witness a reversion to the mean between Growth/Momentum stocks and Value stocks performance. And with stocks outperforming commodities massively this decade, a reversion to the mean in this relationship stands a distinct possibility as well. And with these commodity companies sitting in Value Indices, this should reinforce the fundamental attractiveness of Value Equities and Value Indices. Based on the playbook that worked during the periods from 1970 – 1980 and from 2000 – 2013, it appears The Equity Markets sit on the precipice with The Return of Value Investing ahead. (Data from The Federal Reserve, Eurostat, Statista, Stifel Nicolaus, JP Morgan, TradingEconomics.com, Robert Shiller of Yale University, AdvisorPerspectives.com, Bureau of Economic Statistics, OECD, U.S. President, U.S. Congress, and numerous other US government agencies coupled with Green Drake Advisors analysis.)

Arrayed for the Sun, Trucking Ahead, and Say Hello To ARIEL

Finally, we close with brief comments on Arrayed for the Sun, Trucking Ahead, and Say Hello To Ariel. First, manufacturers continue to optimize solar power farms and increase solar's ability to replace more traditional electricity sources over time. Software and actuators to follow the sun's movement during the day and across the seasons increases the output of solar farms by over 25%, significantly lowering the effective cost of solar power. With solar power continuing to find new ways to produce more at less cost, we see the world Arrayed for the Sun. Second, the Truck Manufacturing Cycle continues to exhibit its traditional early cycle role in an economic recovery. According to ACT Research, October Truck Orders rose 78% year-over-year and 28% compared to September. With this type of growth, we see the industry Trucking Ahead. And Third, the European Space Agency signed off on their €1 billion observatory. This observatory, the Atmospheric Remote-Sensing Infrared Exoplanet Large-Survey or ARIEL, will focus on finding planet's with atmospheres similar to Earth's atmosphere. Europe plans to launch ARIEL in 2029. Given this, starting in 2029, we will be saying to Earth like planets, Say Hello To ARIEL.

In Closing

Should you have any questions on how the above issues or the items discussed in our accompanying cover letter impact your family's financial position or your business's future as well as the potential actions you could take in response, please do not hesitate to contact us. We welcome the opportunity to discuss this with you.

Yours Truly,

Paul L. Sloate Chief Executive Officer & Senior Advisor	Steve Rodia President & Senior Advisor