Plotinus Asset Management

Artificial Intelligence: The Post-Pandemic US Equity Strategic Allocation

A New Approach for a New Era

August 2020

Plotinus Asset Management

Introducing Plotinus

Our Company

- Plotinus Asset Management is a Cayman Islands registered fund manager established to deploy the proprietary Artificial Intelligence trading technology of Plotinus Ltd.
- Plotinus Asset Management is registered with the US Commodity Futures Trading Commission as a Commodities Trading Advisor and as a Commodities Pool Operator. The firm is a member of the US National Futures Association.

Our Services

- Plotinus Asset Management serves qualified investors with financial approaches that exploit artificial intelligence. It provides investment advice and fund services to institutional investors and private clients.

Our Heritage

- Plotinus Ltd is a Northern Ireland-based Artificial Intelligence advanced technology firm founded in 2013 with the support and backing of Invest Northern Ireland, a UK Government Regional Development body, and the EU European Regional Development Fund.

Our Differential

- The world is changing. Artificial Intelligence is the next threshold moment in the development of technology. Across all sectors of industry this technology is transforming the way business is done.
- Plotinus provides investors with the opportunity to avail of this technology and bring an AI component into their investment portfolio.

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Contents

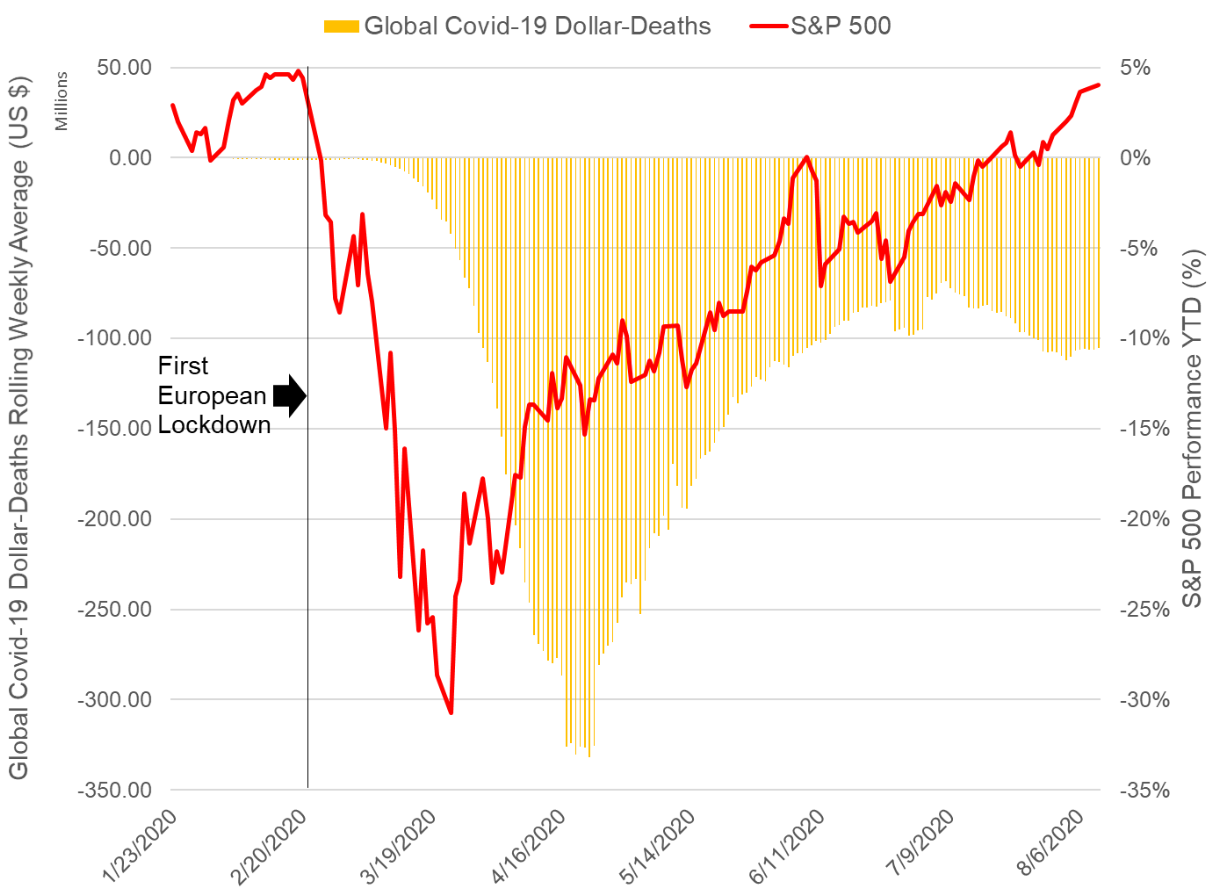
The Wisdom of the Market

Has the S&P 500 Got it Right?

The behavior of the S&P 500 has been exceptionally violent in terms of its volatility, reflecting the unprecedented upheaval that the Covid-19 crisis has wreaked on world economies. It is clearly an open question as to whether there will be a second plunge in equity markets to align them with the damaged real economy.

There is great uncertainty because this crisis does not provide an easy comparison with previous crises, particularly in relation to its universality across the globe. Interestingly, on close examination of the data surrounding the coronavirus and by attempting to unburden it from all of its political, media and medical baggage, there is an identifiable relationship between the path that the S&P 500 has taken and an economic representation of the international progression of the coronavirus.

An Economic Representation of the Global Progression of Covid-19 vs the S&P 500 (2020 Until Week 32)



SOURCE: Chart: Plotinus Asset Management, Data: World Health Organization, World Bank, Morningstar

We can see that there is a similar pattern but a clear lag on the part of the Covid-19 data. The S&P 500 preempted the arrival of the disease due to its prevalence first in Asia and then most significantly in Europe. It is not a co-incidence that the start of the freefall momentum closely aligns with the declaration of European lockdowns beginning with Italy.

"Dollar Deaths" Attempting to View the Coronavirus Progression Economically

There are many ways of looking at the economic impact of the coronavirus, e.g. its effect on world markets, effect on real economic activity or unemployment, for example. These however are the effects not a direct look at the progression of the coronavirus. How can the sheer globality of this crisis be encapsulated from an economic perspective?

A primary feature of the global economy is its wealth disparities. To capture this, we have created a chart of Covid-19 "Dollar Deaths". A Dollar Death being defined as a national Covid-19 death x the nation's GDP per capita using data from the WHO and World Bank. This provides a way of viewing the passage of Covid-19 using its least contentious measure – recorded deaths, in terms of their economic significance.

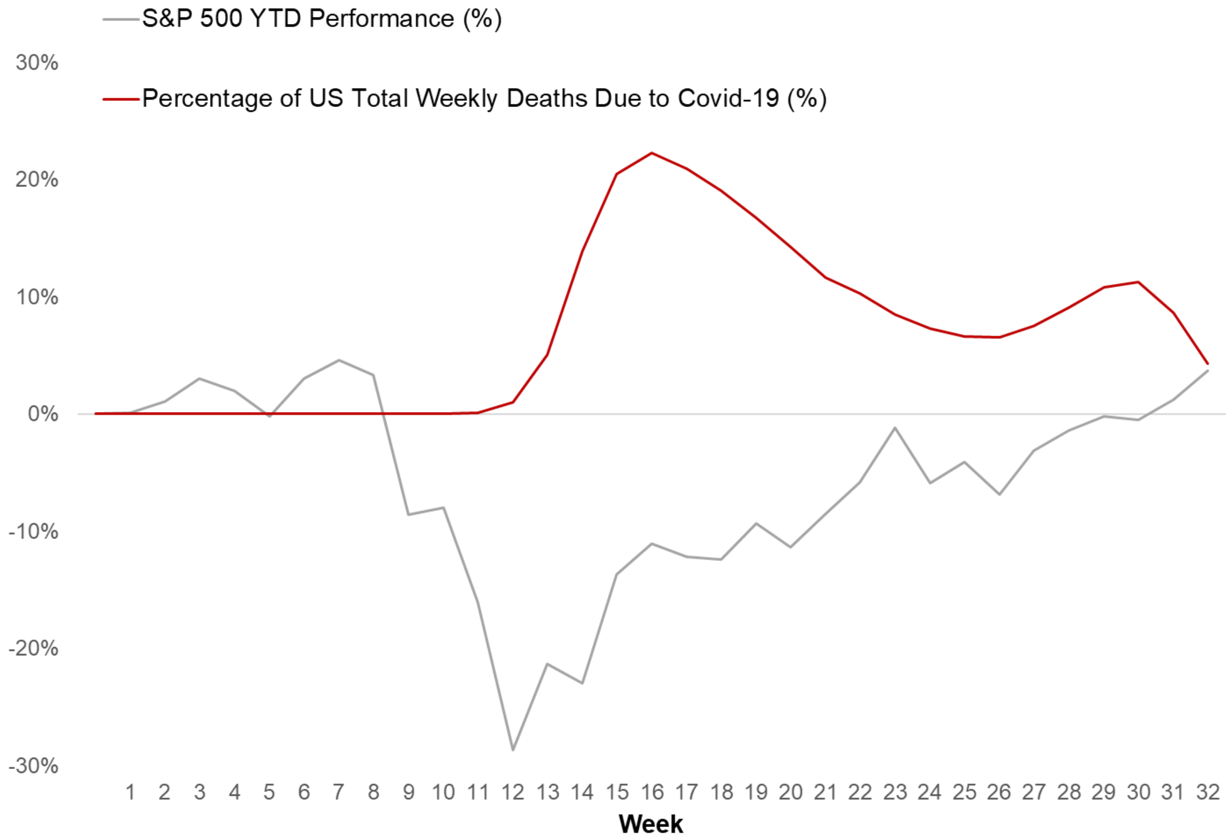
By choosing recorded deaths as the basis, we avoid the lack of clarity and wild inaccuracy that can arise from using other measures. Reported infections for example, due to the different national regimes for assessing numbers of infections, are affected by many things, including the types of testing used. Recorded deaths also are subject to the fluctuation of national interpretation of what constitutes a Covid-19 death. This is perhaps most exemplified by the United Kingdom having a 50% higher death rate than France, a similarly-sized neighboring country. In fact, questions over the classification of UK Covid-19 deaths forced the government to revise down their figure by 11.5% on August 12th from 46,707 to 41,329.

In generating the Dollar Death figure and while noting the inaccuracy that national subjectivity of interpretation may cause, we take the national recorded death figures as per the WHO without further interpretation.

Markets are no strangers to mass panic, explosive volatility, over reaction, over exuberance, the boom/bust/boom/bust cycle comes with the turf. The general populace is not so well practiced in this and if there is single word that describes the impact of the coronavirus on the world it is fear. In this light, further inspection of US data only is recommended.

Despite the continued prevalence of media reporting of surging coronavirus infection rates, the weekly death statistics from the US Center for Disease Control and Prevention portray a different scenario and one that is more in keeping with the movement of the market.

In the Tea Leaves of the Index
Weekly Progression of Covid-19 in the United States vs the S&P 500
(2020 Until Week 32)

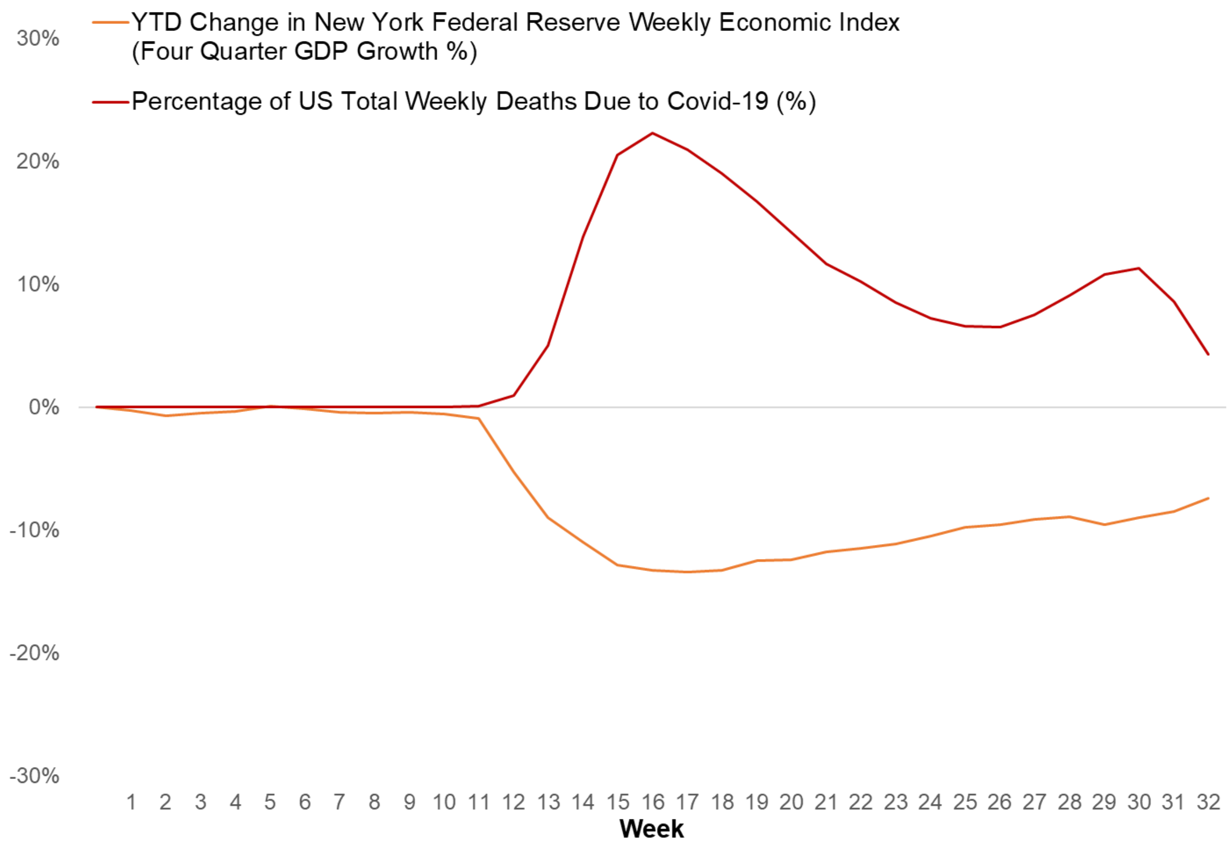


SOURCE: Chart: Plotinus Asset Management, Data: US CDC, Morningstar

Note the inverse similarity between the chart patterns with associated lag. The S&P 500 exhibiting its preemptive panic and recovery, well in advance of the arrival of Covid-19 in the US and its peak in associated deaths in April, by which time the S&P 500 had recovered more than half of its worst drawdown.

Moving away from the US equity market, if we look at the impact on real economic activity, the same type of inverse pattern is observed with some distinct differences. Firstly, there is less preemption, the collapse in real economic activity mirrors more closely the progression of Covid-19 deaths. Secondly, as is to be expected, the real economic activity is a smoother curve than the S&P 500 as it lacks the volatile characteristics of the index. Thirdly, it bottoms at the same time as the peak of weekly Covid-19 deaths, and finally unsurprisingly the recovery in real economic activity is much slower. By week 32 it had only recovered 44% from its worst drawdown.

A Slower but Similar Path
Weekly Progression of Covid-19 in the United States vs the New York Federal Reserve Weekly Economic Index (2020 Until Week 32)



SOURCE: Chart: Plotinus Asset Management, Data: US CDC, Federal Reserve Bank of New York

The Weekly Economic Index

The New York Federal Reserve has responded to the need to provide more meaningful context in the abnormality of the Covid-19 crisis by publishing since March a previously internal reference figure, the Weekly Economic Index developed by Daniel Lewis, Karel Mertens and James Stock. The New York Fed is clear that the WEI is not an official forecast and explains, "The WEI is an index of ten indicators of real economic activity, scaled to align with the four-quarter GDP growth rate. It represents the common component of series covering consumer behavior, the labor market, and production." (Lewis, Daniel J., Mertens, Karel, and Stock, James H., Weekly Economic Index). While not being an official forecast it is an informative aid, which gives GDP growth a more tangible feel in the current circumstances.

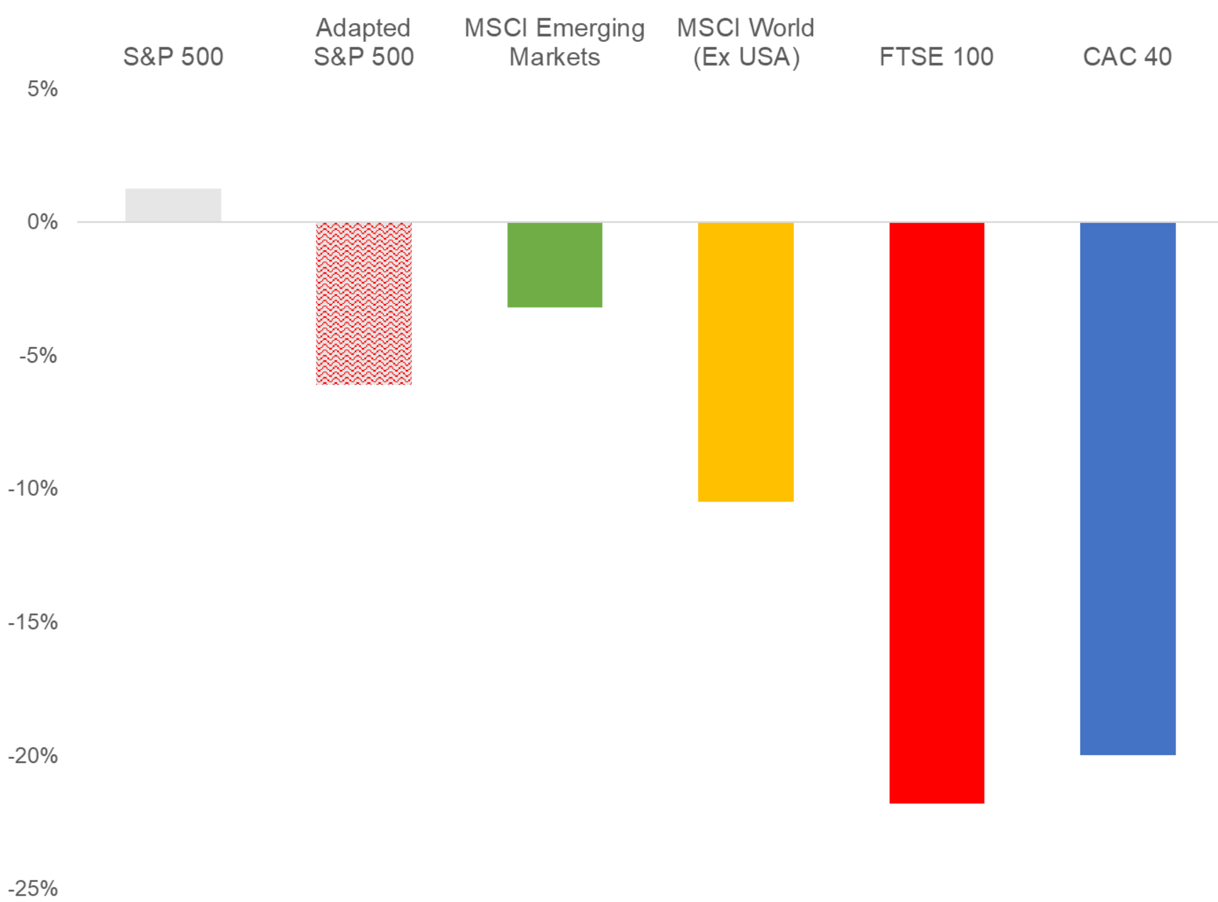
By mid-July some US equity indices had recovered all their YTD losses. The US was unique among comparable equity markets in Europe and Asia.

In noting this difference though, the obvious reason that so differentiates US equity indices from other world markets is the tendency of the larger US indices to be over reliant on the big players in the tech and communications sectors. This feature is something a wary investor would naturally want to question.

Less its FAANG + Microsoft stocks, the S&P 500 begins to resemble other international indices. The criticism here is that the tech/communications sectors are overvalued and are due to decline based on an array of measures. That maybe the case but if so, the remaining S&P 500, whilst it has similarities, is on balance stronger than most of its international counterparts. In the event that there is another fall pertaining to the continuance of the Covid-19 crisis, then in all likelihood this will be a global fall once again. Put simply, would you as an investor like a -20% drawdown from a starting point of +1.25% (S&P 500, US as of July 31) or -21.81% (FTSE 100, UK as of July 31)?

A Toothless Recovery YTD (July 2020)

Adapted S&P 500 (Less FAANG + Microsoft) vs S&P 500 & International Indices



SOURCE: Chart: Plotinus Asset Management, Data: Plotinus Asset Management, MSCI, Morningstar

The coronavirus crisis dramatically shifted economic activity from the “real” space to the “virtual” space. The degree of lasting impact has yet to be fully absorbed, but it is perhaps best encapsulated by the doubt that has been sown in the field of commercial real estate (a stalwart in many a “safe” portfolio). The enforced working-from-home conditions have given substance to the thought that a new working model could be evolved that decreased traditional office work’s reliance on physical real estate.

With this shift towards things virtual – having a strong tech, communications leaning has to be considered a necessary advantage even at the potential expense of some value correction.

Taking all this into consideration, we will explore if US equity offers a measured counterbalance to the traditional resorting to cash as the automatic default for fear-based behavior. As the world emerges from the initial sudden phase of the coronavirus impact and begins to encounter the lasting long-term impacts, it is particularly important for investors to find alternatives to emergency cash allocations.

Novel Geopolitical Uncertainty

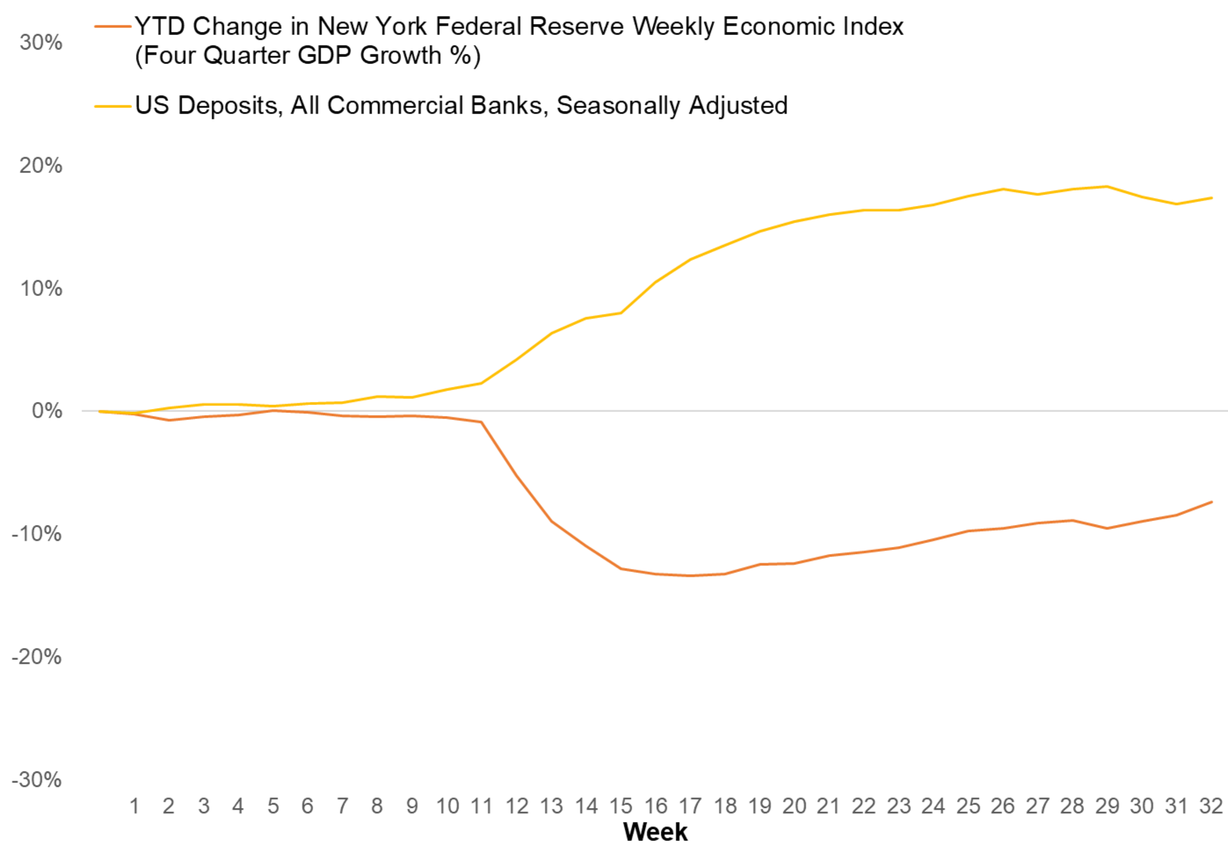
Is Cash Still King?

The King is Dead Long Live the …

The onset of the economic upheaval that accompanied the unprecedented global reaction to the Covid-19 crisis left many wounded investors bruised and seeking safety in cash. Is the traditional crisis response of a default to cash appropriate? We are in new and uncertain times, times that have shaken and questioned traditional normative assumptions. Does the adage that cash is king still hold?

The Rush to Cash vs Damage to Real Economic Activity

(2020 Until Week 32)



SOURCE: Chart: Plotinus Asset Management, Data: US Federal Reserve, Federal Reserve Bank of New York

Drowning in Cash

One of the consequences of the rush to cash has been a $2 trillion swelling in US deposits from January to May.

This flood of money represents the knee-jerk reaction of the dive for safety, combined with stimulus. Its unprecedented level reflects the nature of the Covid-19 crisis. Given the extent of uncertainty and the climate of fear – based on traditional metrics, banks are not likely to be lending any time soon, despite having the capacity to do so. With this inability to deploy cash, banks have no incentive associated with safe keeping which, in the US context, reaffirms cash as a negligible interest-bearing instrument for the foreseeable future.

Investing Under Democratic Authoritarianism

Less than a year ago any suggestion that almost every "democracy" on earth would and could enact a total national lockdown, provoking a unique economic crisis with unprecedented short-term declines in employment and GDP, would have been dismissed as Hollywood fantasy. Such things could only happen in states operating under a comprehensive authoritarian regime.

We now live in a world that must factor in the specter of sudden and/or recurrent regional/national/global lockdown and investors must now consider the potential economic impact of this, within their investment decision-making process.

This is the traumatic new context that has emerged, and its consequences are likely to influence and define a generation of investors.

It is from this perspective that we postulate that investors need alternatives for the traditional role of cash, that at a basic level it may be more prudent for some investors to examine the role of US equity as a proxy for cash. More specifically we will explore the use of artificial intelligence by those seeking more creative, developed approaches to US equity investing, rather than simply defaulting to passive index investment.

A New Era of Geopolitical Uncertainty

The pre-coronavirus world had a list of countries that experienced significant protest movements and/or social unrest, with 2019 being described as the year of protest. Although it is too simplistic to use an overarching type under which to define this social discontent, as each has had its own inherently specific national and regional flavors, there were however consistent underlying themes of economic and social disenfranchisement.

It would be foolish to think that these issues have gone away. The Covid-19 crisis has simply put them in cold storage. The consequences of the post lockdown fallout have yet to be fully absorbed and understood. Those consequences, such as record levels of unemployment and bankruptcies, diminished purchasing power, for example, have the potential to exacerbate inequalities and fuel future unrest.

Accidental Deglobalization

Emerging markets are often more likely to bear the brunt of investor fears when crises hit global levels. It is common practice to see investors (both domestic and international) rapidly extricate themselves from their emerging-market investments and sit the crisis out in safe havens until some form of stability is returned and opportunities present themselves once more.

It is worth briefly mentioning two countries, previously held up as emerging-market success stories, Chile and Lebanon. Both were experiencing social unrest prior to the arrival of Covid-19. Both are already exhibiting a reignition of this tension. Chile, whilst still under lockdown has had sporadic rioting in some areas where the lockdown was limiting access to food[1]. The terrible tragedy experienced by Lebanon with the recent port explosion is an intensified reflection of the suffering of its people. Since October last year acute difficulties have been gripping the entire country. Its first-ever default on an IMF repayment[2] has resulted in an 80% decline in the value of the Lebanese pound and a shocking, rapid unravelling of the economy with much of the country's population experiencing intense levels of hardship, including hunger. This distress has manifest itself in widespread daily protest and rioting with pitched battles in the streets with security forces.

Each country has its own unique, complex political situation – particularly so in the case of Lebanon, that define and contribute to the economic and social travails, so it is not useful to seek analyze them comparatively. It is perhaps more potent to examine the general ignoring of their troubles by the rest of the world.

The Covid-19 crisis has prompted an inward looking economic nationalism to emerge at shocking speed and for all of the talk of a global response to the pandemic, each nation is staring at overwhelming domestic economic upheaval – the worst in living memory. Such a scenario leaves little room to take in the problems of other more distant nations.

Opposition to globalization has been one of the consistent themes in the pre-virus social disturbances. A reduction in globalization may end up being a fruit of the Covid-19 crisis, but its occurrence in a damaged global economy may not have the consequence that many protestors hoped for. It is unlikely that such a decline in globalization will create a more just and caring society. In fact, it is more probable that it will exacerbate inequality and generally leave the most vulnerable in society poorer.

The overnight evaporation of air travel, for instance, is symbolic. It is an example of the manifestation of the unthinkable – fear of travel. The tourism and hospitality sector are now staring at a brutal redefinition. It is important to remember that residents of Europe saw their continent switch from being fully traversable to being separated by an almost impenetrable Iron Curtain, to its people forgetting that curtain ever existed, in less than three generations. Paradoxically, if we learn anything from history, it should be how prone to amnesia human society is, and how rapidly it adapts to and adopts changed circumstances as though they had existed forever.

European Disunion

Perhaps the most disconcerting of all the geopolitical effects has been in the European Union. The recent crisis laid bare an unexpected level of lack of cohesiveness within the EU.

This was particularly notable considering how well the 27-nation bloc dealt with the turmoil of the Brexit negotiations, meeting it with a perfectly choreographed united response. Covid-19 shook that unity to a core and suddenly it fell into competing inward national security agendas, this reached the point of Italy vaguely threatening its departure on April 10th due to its perceived maltreatment at the hands of the other nations[3] and the European Commission president Ursula von der Leyen issuing a heartfelt apology for the EU's lack of solidarity[4].

> **Whilst it could not quite be portrayed as a bombastic "from now on its going to be France first! France first! …" moment, his reference to the EU sounded like an afterthought.**

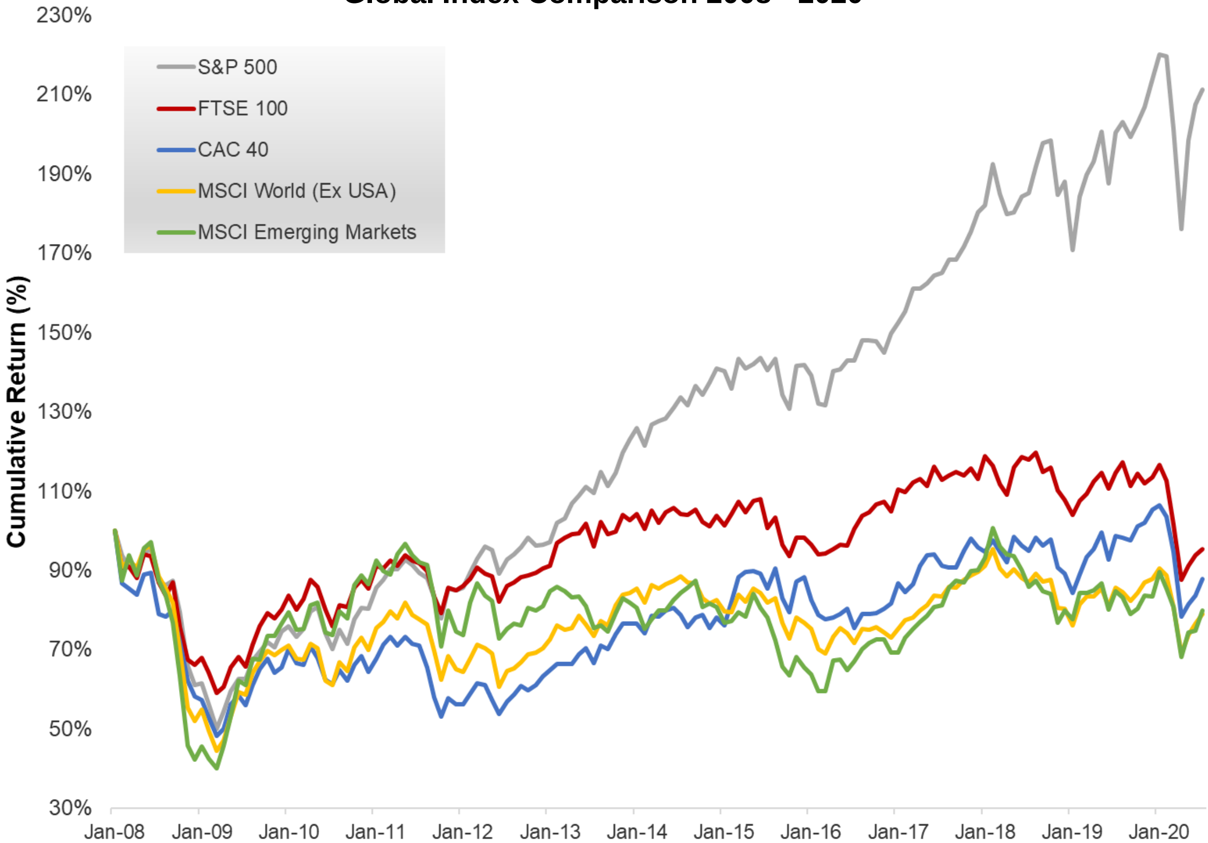
The Netherlands parliament symbolically passed a motion to oppose paying for other EU members debt – an uncharacteristic public broadside against a French and German proposal to launch Coronavirus Euro bonds after objections to it were raised by the Netherlands, Austria and others.[5]

The depth of these divisions was exposed dramatically in the row at the EU summit in early July, which was the second longest ever (over-running by almost 3 days) and possibly the most acrimonious. The deal ended up being done and whilst all involved attempted to put a smiling face on it, the whole affair stung of bitterness and clashing approaches from the response to the coronavirus, to economics, to the rule of law.

The crisis effectively saw an unruly de facto suspension of the Schengen free travel area (with a variety of minor national exceptions). The easing of national lockdowns has been no better, resulting in a patchwork restoration of the Schengen area with tit-for-tat travel restrictions and quarantine rules. Furthermore President Macron in a recent speech to the French Nation advocated that in light of the pandemic France needed to become economically independent and not beholden to global supply chains.[6] Whilst it could not quite be portrayed as a bombastic "from now on its going to be France first! France first! …" moment, his reference to the EU sounded like an afterthought.

All Global Crisis are Not Made Equal

Global Index Comparison 2008 - 2020



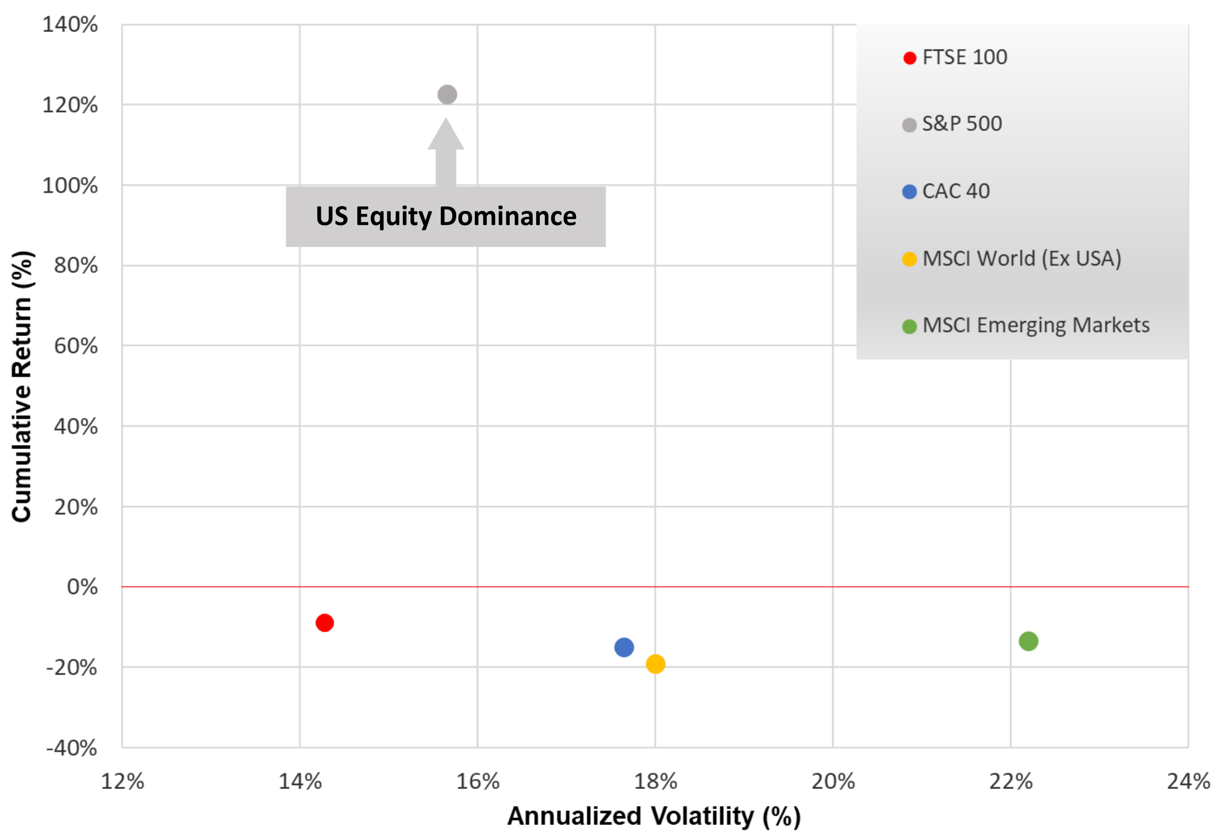
SOURCE: Chart: Plotinus Asset Management, Data: MSCI, Morningstar

The Eurozone had a more troubling period than the US from the GFC to the Covid-19 crisis. In the aftermath of 2008 it endured prolonged austerity and spotted growth across member states, it had the Greek debacle in 2015, followed by the fear and uncertainty of a potential existentialist threat posed by internal national anti-EU sentiment fueled by Brexit.

The EU faces increasing uncertainty with the lack of cohesion exhibited during the pandemic and the unknown consequences that the post-pandemic may bring, being points of major concern. When coupled with the already sub-zero interest rate environment, this leaves the European Central Bank less room to maneuver than its US counterpart, making the argument for selective cash deployments outside of Europe automatically more attractive than European ones.

American Exceptionalism

Risk/Return Profile of Major World Indices from Crisis to Crisis (2008 - 2020)



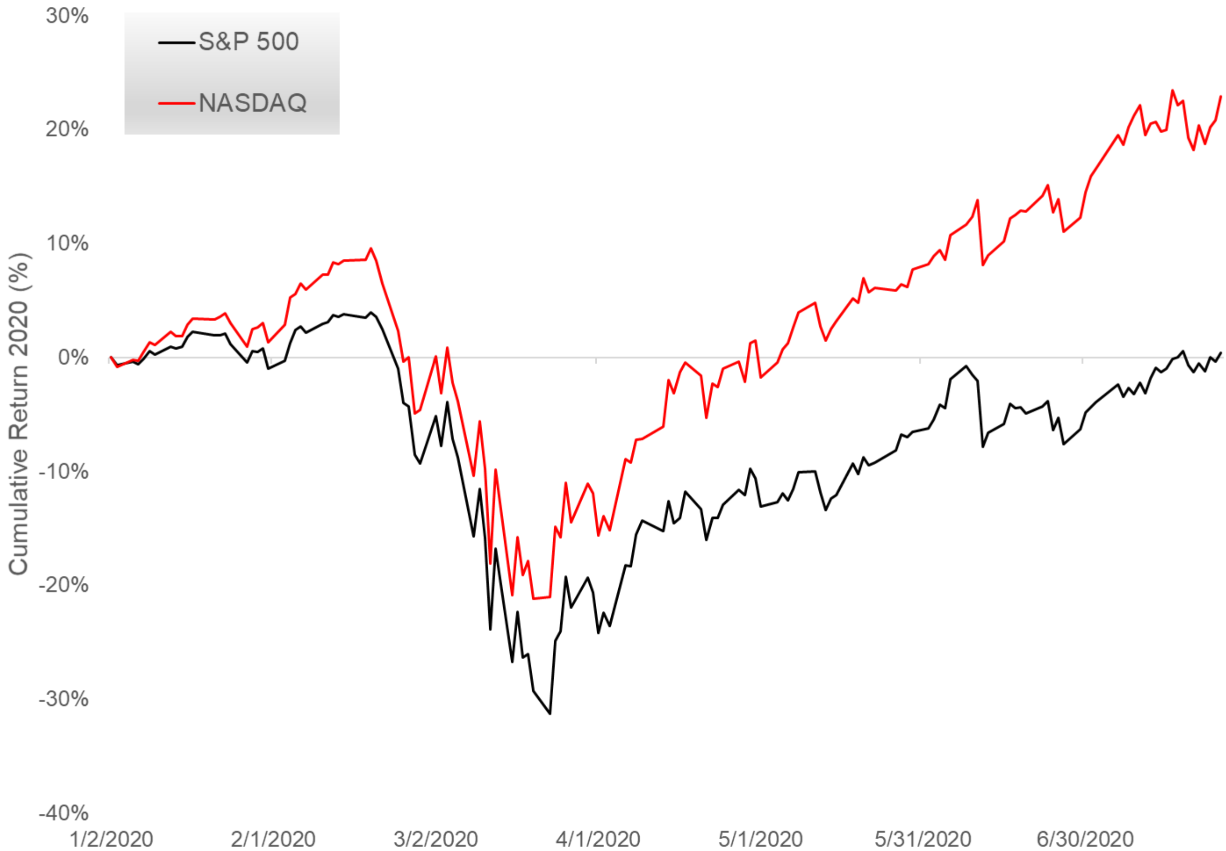
SOURCE: Chart: Plotinus Asset Management, Data: MSCI, Morningstar

The United States

The United States has certainly had its own unrest. Unlike other Western nations it has not exhibited a wholly unified stance on lockdown. Positions of protest against, and objection to, various state lockdowns fell mostly across the entrenched political fault line. Similarly, the enormous expression of public anger against racism following the murder of George Floyd has also settled, somewhat, into the toxicity of the old political battle, perhaps not surprising given that it is an election year.

The stock markets' absorption and rebound from the Covid-19 crisis is probably a reflection of the strength of the US economy prior to the crisis. In a technical sense March's bear market was both the fastest and shortest in history. By the end of July, the S&P 500 had turned in its first positive YTD result, the NASDAQ was at a record high and on August 18th the S&P 500 followed suit, breaking through its pre-crisis high.

A Teddy Bear or the First of Two Dips?
(Jan 1 – Jul 31, 2020)



SOURCE: Chart: Plotinus Asset Management, Data: Morningstar

There is of course worry that the US equity recovery is of itself a bubble, the high, in a double-dip recession. This concern is greatly fueled by the level of its disjointedness from the economic shrinkage being experienced by the general American populace.

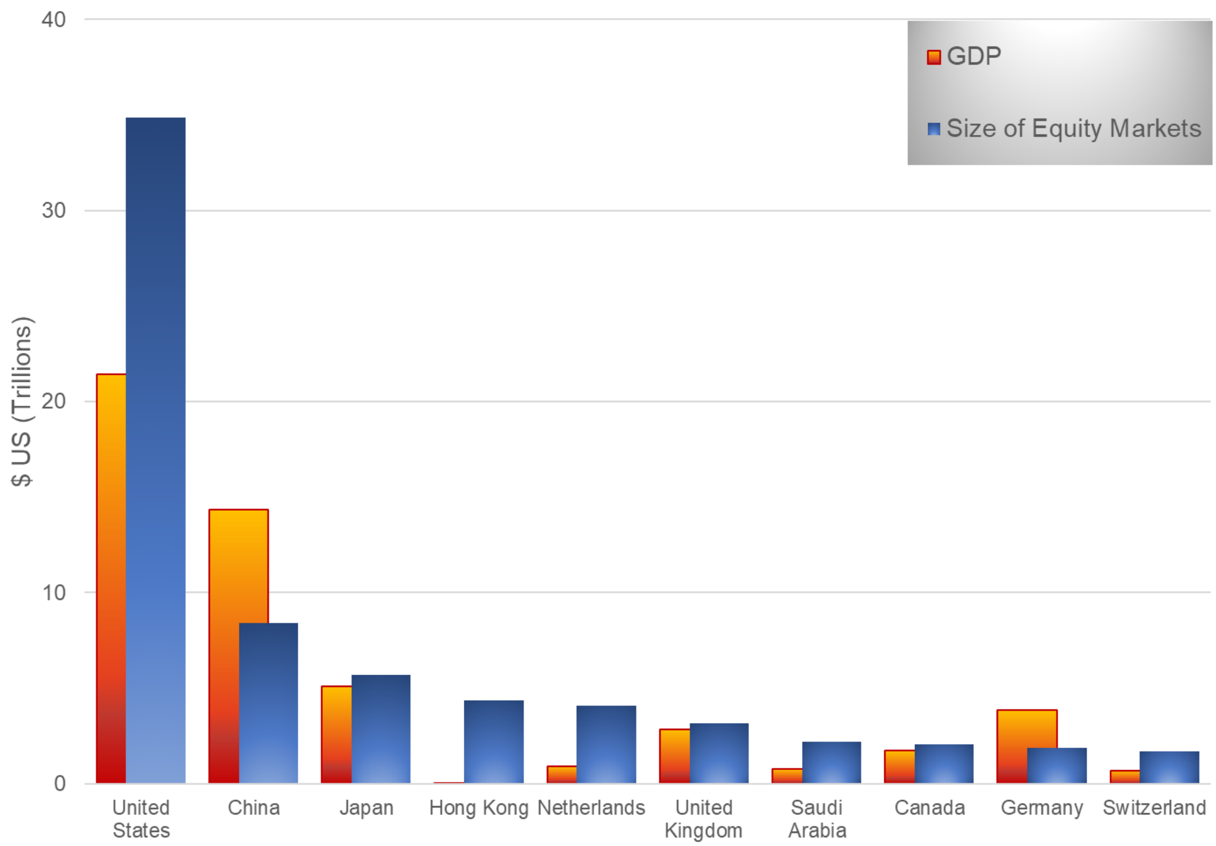
Conclusions on the Geopolitical

Fear is the beating heart of the pandemic mentality and this fear will have enduring repercussions. If as has already been seen, countries exhibit the economic version of this fear by defaulting to a mode of economic national security this will have the effect of eroding the dominant theme of the recent economic era – that of globalization.

To this end, the larger an economy, the more successful it will be at achieving and maintaining a successful economic introversion. It is important not to exaggerate the role of economic national security – to do so would be foolish. It would be a little like the economic equivalent of the bizarrely disproportionate focus New Zealand has received in global media for its "success" in insulating itself from coronavirus. The world economy is not made up of multiple remote New Zealands, so we are not going to suddenly move from globalization to crofterization. That said however, the element of fear can be translated into uncertainty in an economic sense, so naturally a larger economy has more substance to help it withstand the damage that such uncertainty can bring. From an equities standpoint there is one grandee and then, the also-rans.

American Exceptionalism (II) The Unique Scale of US Equity Markets

Equity Market Size and GDP - An International Comparison



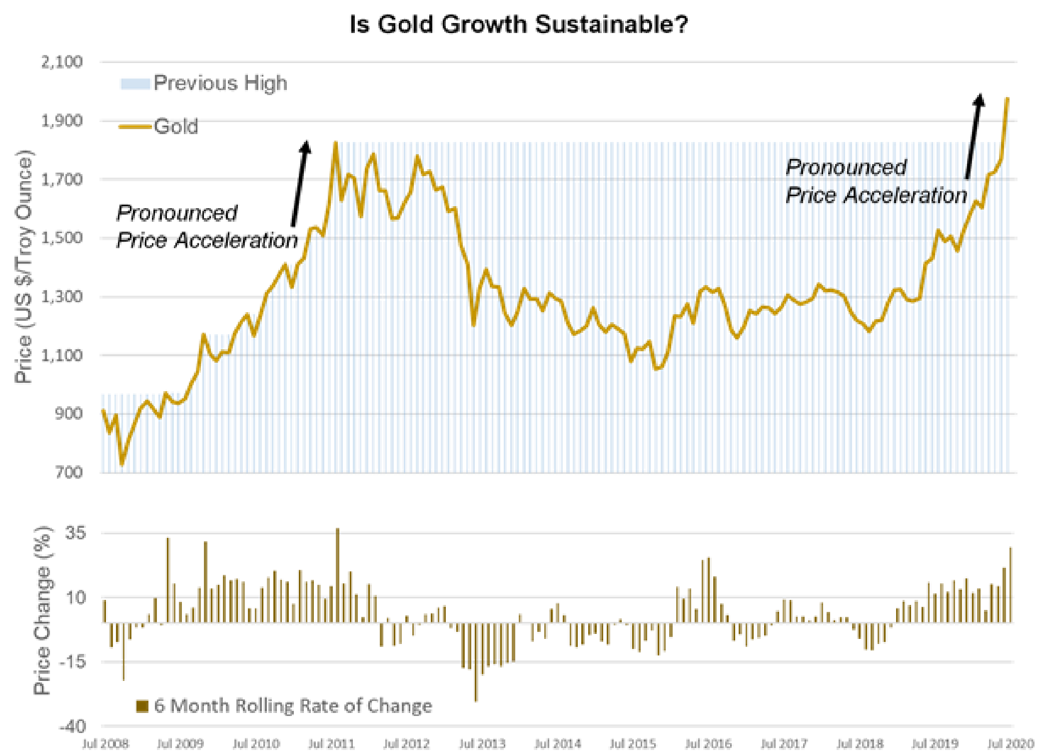
SOURCE: Chart: Plotinus Asset Management, Data: World Bank, World Federalization of Exchanges (WFE)

Gold: An Old Approach for a New Time?

King Tutankhamun's mask is a testimony to humanity's valuing of and attraction to the shiny metal, since antiquity. In times of uncertainty it is to be expected that investors will return to gold to benefit from this historical stability.

For the savvy investor this resorting to gold requires a more nuanced assessment.

Investors in gold during the GFC of 2008 had a rather unnerving journey as it traversed the recession with considerable volatility. It was not until the subsequent recovery that was lifted to its previous high of $1,826 in Aug 2011.



SOURCE: Chart: Plotinus Asset Management, Data: Federal Reserve Economic Data

The Change in price this year so far should be of some concern. Perhaps it is the shock of the Covid-19 crisis that is reflected in the soaring price of gold, but the rate of this acceleration should be treated cautiously (see chart). The allure of gold is hard to break but this must be met with a balanced consideration as to whether or not its current high is sustainable.

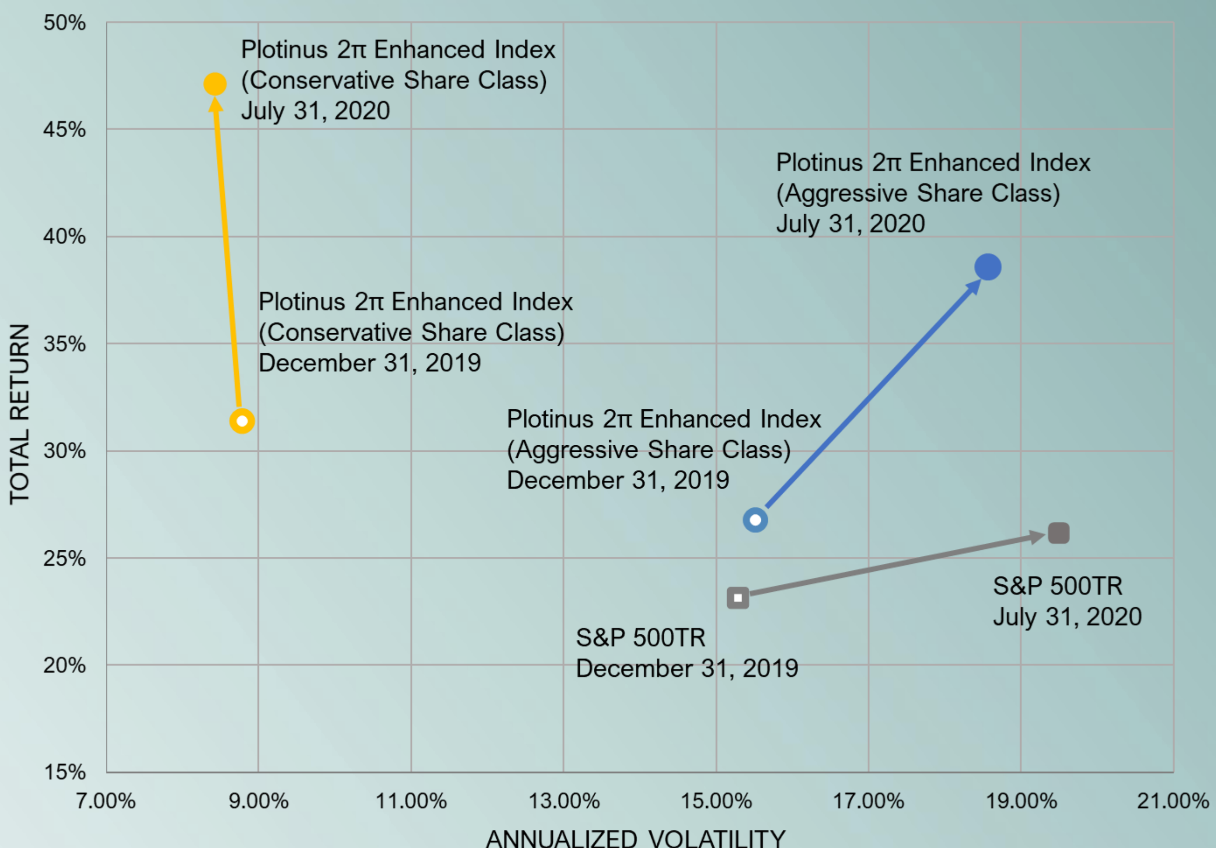
Artificial Intelligence
A New Approach

Artificial Intelligence – A New Approach for a New Time

Investors are fortunate to be meeting the Covid-19 crisis at a confluence of technological innovation and financial services. Artificial Intelligence has become part of the everyday vernacular in the last few years as the technology has developed and been deployed in many fields. In the area of asset management there have been two such applications: AI assisting the process and AI trade decision-making. Investors have been gradually exposed to the use of AI assisting the process, where many of the established systematic and quantitative funds have been using the ever-evolving AI technology to subtly improve and refine their pre-existent investment process. AI trade decision-making is a newer field, where asset managers are using AI technology to make investment decisions.

It is the AI trade decision-making that has the potential to offer new solutions in the new post-pandemic terrain. By its very nature it is about the discovery of new alternate investment approaches, a method that is perfectly suited to an investment world where traditional norms are under question as to whether they remain valid.

The Covid-19 Crisis as Illustrated by 2020 Change in Volatility/Return



SOURCE: Chart: Plotinus Asset Management, Data: Plotinus Asset Management, S&P Dow Jones Indices

An Illustration of an AI Based US Equity Strategy – the Plotinus 2π Enhanced Index.

The chart examines the effects the Covid-19 crisis has had on the S&P 500TR by looking at change in the volatility/return profile since the beginning of 2020 as compared to the same profile over the previous 2 years. This is compared with a conservative and aggressive version of Plotinus' artificial intelligence 2π Enhanced Index strategy. By the end of July, the S&P 500TR had finally turned a positive YTD return of 2.48% but the trauma of the Covid-19 crisis created an increase in volatility from 15.28% to 19.49%. Plotinus' aggressive version also experienced an increase in volatility from 15.52% to 18.57% but its comparative return increased by 9.29%. The conservative version protected itself during the core of the market turmoil reducing its volatility from 8.78% to 8.44% with a return of 11.93%.

Comparative Risk Measures

	Plotinus 2π Enhanced Index (Aggressive Share Class)	**Plotinus 2π Enhanced Index** (Conservative Share Class)	***S&P 500TR***
Maximum Drawdown (%)	-16.13	-4.06	*-19.60*
Peak	Jan 2020	Sep 2018	*Dec 2019*
Valley	Mar 2020	Oct 2018	*Mar 2020*
Duration (Months)	2	1	*3*
Upside Capture (Monthly)	104.73	70.99	*100.00*
Downside Capture (Monthly)	85.90	25.12	*100.00*

SOURCE: Data: Plotinus Asset Management, S&P Dow Jones Indices

Identifying the Important Qualities

The key to assessing whether this new technology has something to offer investors is through verification. It is important for Investors to be able to "lift the lid" so to speak, on AI asset managers. They need to be able to understand the investment process and methodology that lies behind the manager, not be required to understand the technology. To this end being able to easily benchmark AI investment returns with like-for-like performance metrics is crucial.

Beyond returns, though is the question of whether they are repeatable, this is where the investor has to seek the depth of an AI asset manager. Behind the manager there has to be philosophy, method and a clear differential, reliance on clever technology is not enough. The manager has to be able to illustrate for instance how they avoid the pitfalls of strategy drift and data dependence vulnerabilities. There must be an appreciation on the manager's part that it is their responsibility to make AI investing tangible and humanly explicable. For the sophisticated investor, the black box mentality just won't cut it.

> We exploit information and understanding inefficiencies, building data-independence by generating bespoke derived data
>
> CJ Finnegan CEO Plotinus

Background to the Plotinus 2 Pi Fund

The Strategy behind the Plotinus 2 Pi Fund is based on the Plotinus 2π Enhanced Index. The approach acts as a replacement for an investor's core passive S&P 500 exposure using Artificial Intelligence. The Plotinus 2π Enhanced Index is a managed futures investment in the S&P 500 that seeks to deliver consistent, above-average returns, with a similar market volatility.

The strategy aims to provide the desired characteristics of an S&P 500 investment but not the behavior. In effect it acts to cushion investors by reducing the drawdowns relative to an S&P 500 index investment in bear markets. It seeks to do this without compromising the positive returns of an S&P 500 investment in bull market conditions.

The strength of the strategy is that it emulates the desired S&P 500 return with reduced drawdowns. It is easily benchmarked against the index; it is a replacement strategy for an S&P 500 investment. Using artificial intelligence trade decision-making, the Fund is a new style of alternative investment for a core exposure.

The Plotinus 2π Enhanced Index hunts investment opportunity in trading the S&P 500 Index by applying proprietary derived data generated from its in-house created, AI-based quantitative analytics system. The approach separates statistically significant tradable signals from noise. Plotinus trades E-mini S&P 500 futures contracts (ticker: ES).

The aggressive version of the strategy aims to have equivalent volatility to the S&P 500 index. Taking into consideration the turbulence of the market so far this year, the strategy achieved slightly lower volatility on a monthly basis but it has been considerably less volatile than the S&P 500 index on a daily basis.

For institutional investors this Cayman based fund offers share classes for two versions of the strategy based on the Plotinus 2π Enhanced Index. A 'Conservative' hedged version that seeks to curtail the effects of a fall in S&P 500 and an 'Aggressive' version seeking to capture S&P 500 growth, emulating the S&P 500 more closely than the 'Conservative' version.

Economic Deformation

Economic Deformation

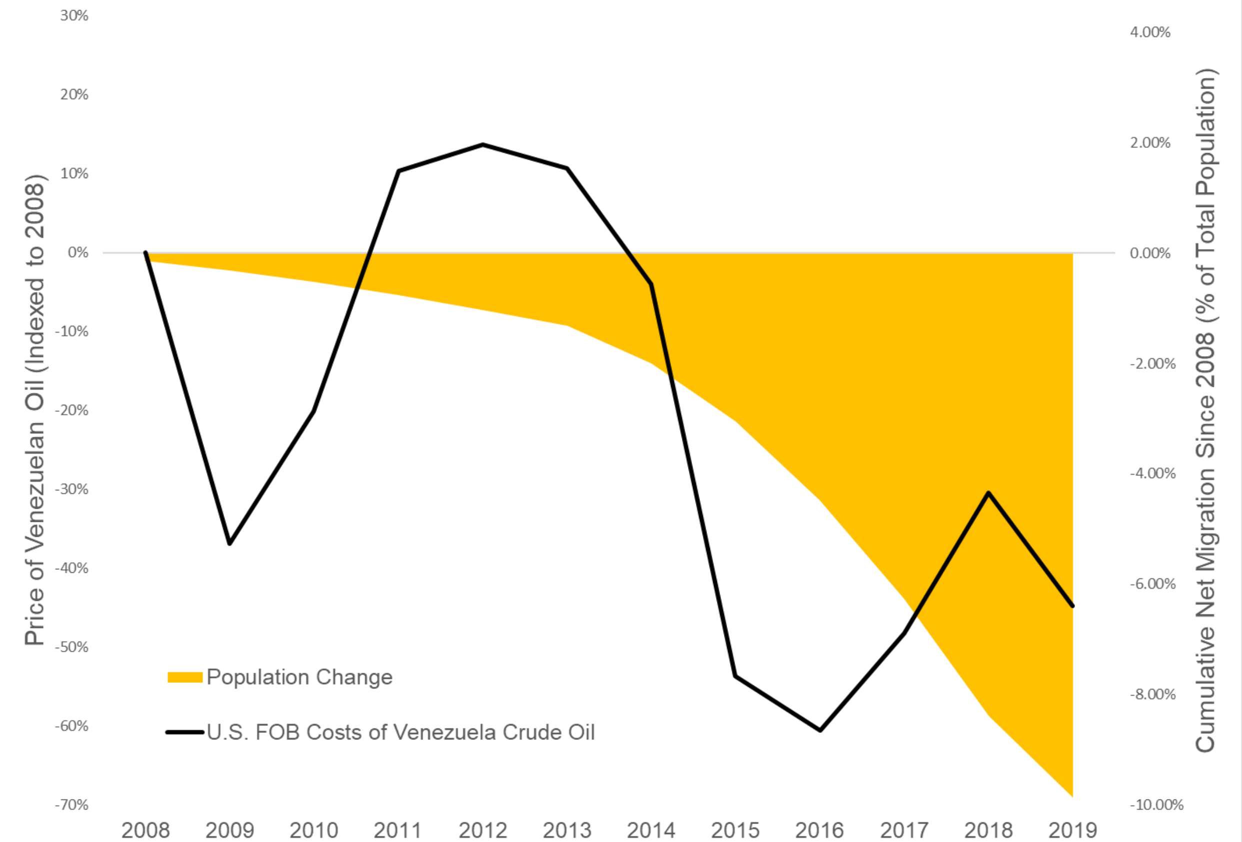
Economies could be thought of having different states of deformation that describe their behavior under stress. We highlight three states which are not necessarily exclusive to one another. The potential exists for all three states to be present in any single economy. They represent varying degrees of fluidity or permanence that determine the underlying robustness and fragility.

Plastic Explosive Economy

This is an economy which when placed under excessive pressure crumples to a point where the pressure causes an explosion. This explosion is usually due to a cocktail of different factors coalescing, that cause such an enormous collapse in confidence that the entire stability of the economic system fails.

A recent example of this phenomena is Venezuela. The drop in oil prices in 2014 sparked a cascade of factors leaving it holding the unfortunate acumen of having the world's highest inflation rate which was estimated to have "reduced" to 6,567% by the start of 2020[7].

The Human Suffering of the Venezuelan Economic Collapse



SOURCE: Chart: Plotinus Asset Management, Data: United Nations World Population, US Energy Information Administration (EIA)

The unfurling of the economy is illustrated by the absence of meaningful economic data, as reporting or at least believable reporting has become a casualty of the collapse. In this absence perhaps one of the most poignant expressions of the suffering and desperation of the people of Venezuela is net migration.

The story of Venezuela is extremely complex. In broad-stroke terms it involves its history, societal structures, inequalities, dependence on oil, lack of diversification, its economic model, the undermining of that model from within via corruption and externally as a pawn in the larger geopolitical sphere. These conditions (with their own individual hue) effect many nations, they function however, for better or worse, in a working economy. When that economy is tipped over a certain point, it can unravel – at huge cost to its populace in terms of human suffering.

> Theory for an investor means something quite different than it means to an academic, the investor must bear the weight of the implications of practically acting upon theory as opposed to having the luxury of pondering a speculative idea.
>
> CJ Finnegan CEO Plotinus

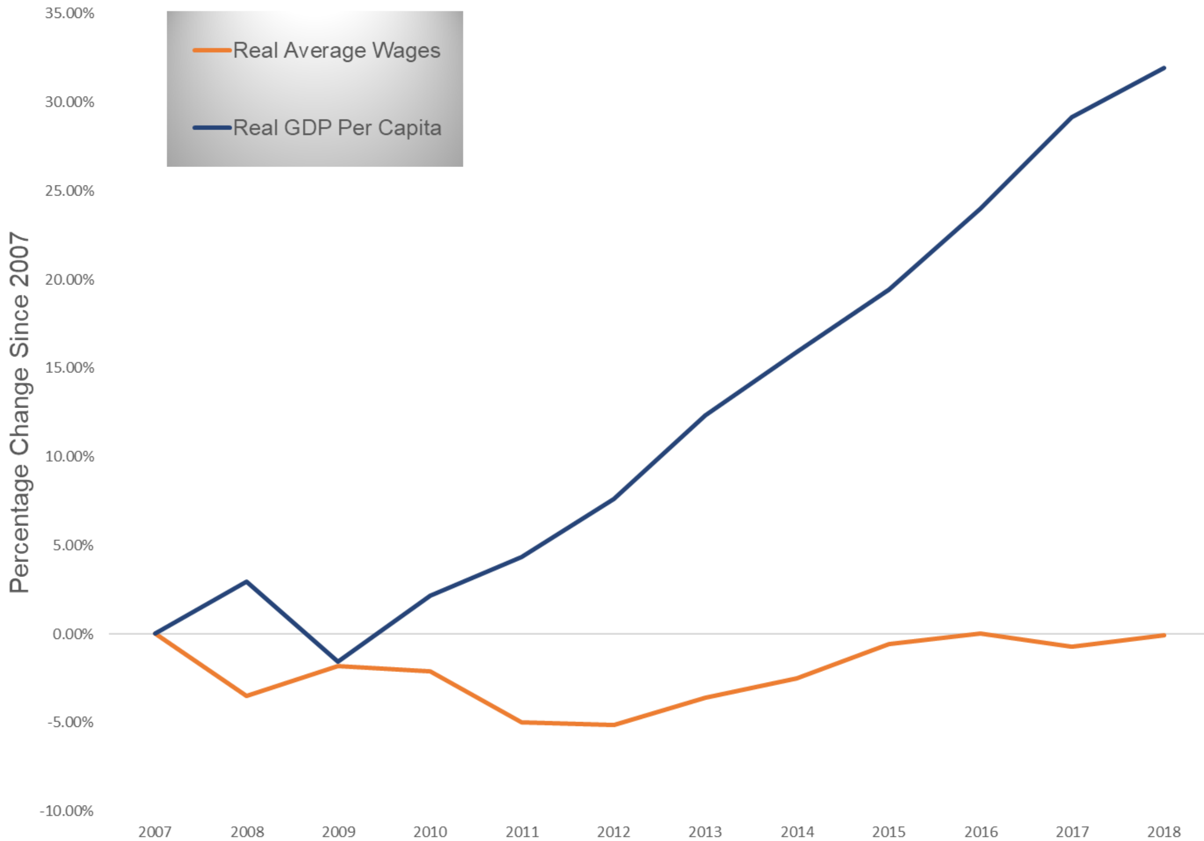
Plastic Economy

If we look at the Eurozone and the UK as developed economies and how they weathered the 2008 crisis – it was, in both cases, a protracted process of recovery. The force of the crisis caused deformation that had permanence. The Eurozone and UK mostly imported the extended consequences of the international financial system's near collapse from what was at root the domestic US sub-prime crisis. Despite the Americentric nature of the "cause" of the crisis, it swept very quickly to Europe. When though the US recovered, this external recovery did not pull either economy up, in the way it had carried them down.

These economies were dented by what had taken place and it took a very long period for the dent to be hammered roughly back into shape. In the process this left creases which were badly stressed as a result of the crisis and have remained weak and deformed. These economies could be viewed as plastic economies in that they have undergone plastic deformation which has required force to bash them back into some semblance of their former shape.

The Brexit referendum result can be traced to the persistence of problems that originated in 2008. Whilst Britain from 2008 – 2016 experienced better growth than its Eurozone counterparts, the growth was increasingly unevenly distributed, with the panacea for recovery – austerity, having a disproportionately negative impact on the poorer section of society.

An Unequal Economy – The UK 10 Years Post the Great Financial Crisis



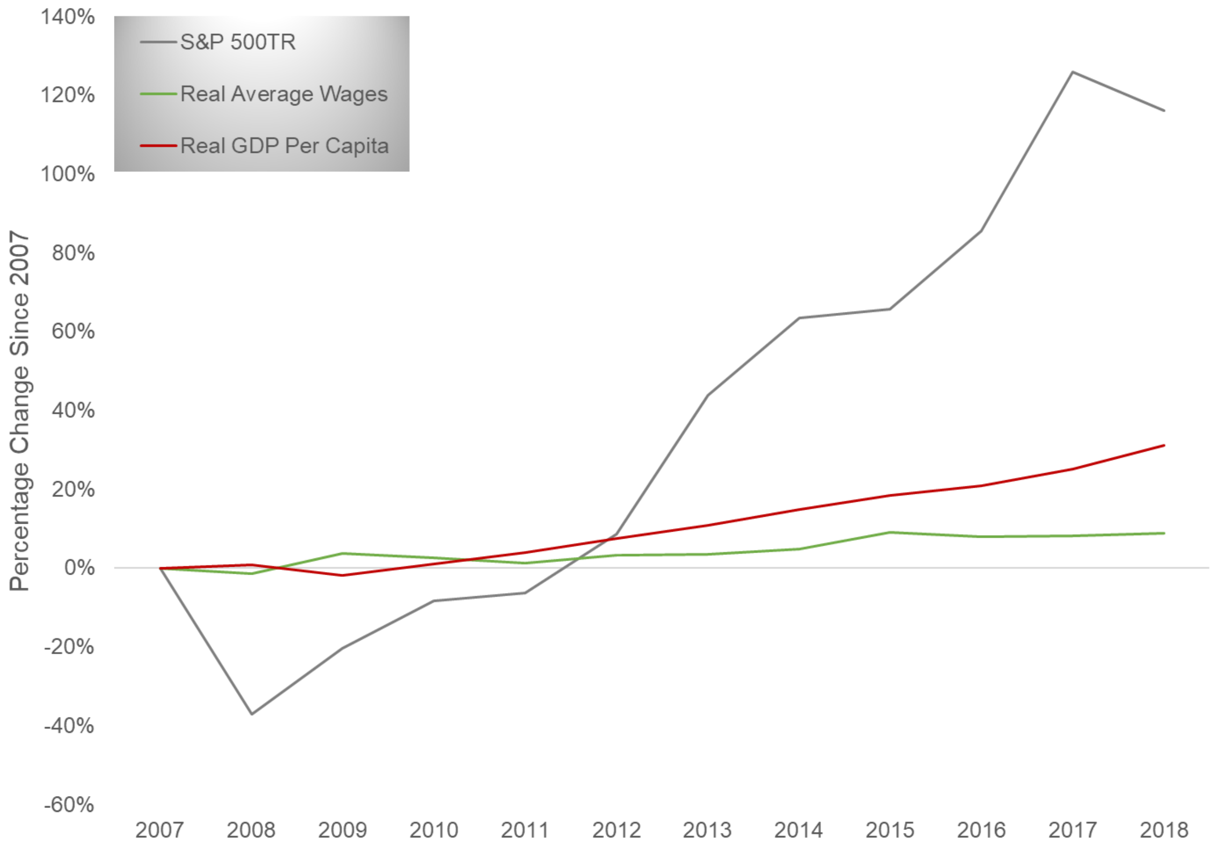
SOURCE: Chart: Plotinus Asset Management, Data: World Bank, International Monetary Fund

If we take France as a Eurozone economy comparative to the UK, it had weaker growth and took longer to recover from 2008. French unemployment could be considered one of the remaining creases left by its Great Financial Crisis – it has remained stubbornly high, so much so that society has adjusted to endemic unemployment. Coupled with this, although better than the UK, the French recovery was not an even one across society. This created a slow boiling, festering problem that took 10 years to unfold in the social discontent of the yellow vest protests. The core of this was the creation of a disenfranchised working poor, for whom austerity translated as wage stagnation with actual purchasing power decline. For those effected by this, it took a proverbial 'straw' to break the camel's back, which manifested itself in a government tax hike on fuel prices at the end of 2018. A combination of carrot (the abandoning of the fuel tax) and stick (police violence against yellow vest protestors, which reached such a level that it was subject to a UN Human Rights investigation) subdued the protests from early 2019, but the reality is that the fundamental issues around inequality in France have not been addressed. The arrival of the Covid-19 crisis is likely to exacerbate these problems but the health first, wealth later approach will likely blur their reemergence in the short-term.

Elastic Economy

The elastic economy suffers a short-lived deformation under pressure. It is fluid in nature and is respondent to the forces applied to it in a non-permanent way. For instance, under the force of a crisis it shrinks but when a counter force is applied e.g. in the form of stimulus, its inherent dynamics lead it to assist its recovery process and the economy 'pops' back into shape. Whilst this cannot be expected to be universally consistent across an economy, it remains broadly true in an economy which is sufficiently diverse. Obviously such an economy has some sectors which are harder hit and become more stressed in particular crisis and may never fully recover to their pre-crisis levels, this tends to be compensated for when viewed across the broader economy as a whole.

The Rebound – GFC and the US Decade of Recovery and Consolidation



SOURCE: Chart: Plotinus Asset Management, Data: Federal Reserve Economic Data, S&P Dow Jones Indices

The US represented this type of economy in the 2008 Global Financial Crisis. It remains to be seen whether or not the same will be true with respect to the Covid-19 crisis.

It is worth noting that inequality does not necessarily correlate with economic growth. However, a stronger economy tends to lead to decreased levels of social discontent. Outside of its soaring stock markets, the US economy in the post 2008 decade did create both an increase in employment and real average wages.

Covid-19 Deformation

Viewing things in the context of the Covid-19 crisis, the behavior to date of the US, Eurozone and UK economies appear to be exhibiting similar deformative properties to those which each experienced during the 2008 crisis. We have yet to see a plastic explosive deformation due to the current crisis, though Lebanon perhaps seems to be the most likely candidate due to the unfortunate coalescing economic woes which are currently being greatly intensified by the Covid-19 crisis. It is important to be aware of the limitations of such comparisons since all crisis are individual and the extremity of the economic handbrake applied by the global lockdowns is without precedent.

That considered, however, all of this presents a strong case for US equity as the most attractive investible area while acknowledging the potential problems and volatility that could be ahead.

The question for investors is what they do whilst confronting a potentially very protracted period of confusion and uncertainty. This lack of certainty is, for example, being reflected by the latest installment of the Modern Monetary Theory debate over the consequences and costs of the bailouts and how or whether they will ever be, or ever need to be repaid. How the scenario plays out with respect to governmental handling of long-term debt, deeply concerns investors as it questions the long-term safety of cash. Theory for an investor means something quite different than it means to an academic, the investor must bear the weight of the implications of practically acting upon theory as opposed to having the luxury of pondering a speculative idea.

It is this lack of clarity that should have investors if not worried about resorting to cash, at least perhaps provisioning for some form of hedge against its failure to provide baseline security. This will become increasingly important if the uncertainty becomes a long-term phenomenon and emergency cash allocations are left going stale.

Capitalism in the Backseat?

The Demotion of Capitalism

One thing that should not be overlooked in the wake of this crisis is that government power has vastly increased and as was noted earlier, could anyone have imagined that what has taken place could have happened?

Capitalism, which has been the dominant propellant of modern development has suddenly taken a back seat and we are yet to understand what the implications of this may be. Existential fear, in its truest personal sense has taken root globally and like an emergency assembly point warning, everyone is prepared to run out of the burning building without care for personal effects or material concerns. The problem with this approach is that when applied to an isolated incident of emergency, the world beyond the emergency remains intact.

This is not so with the Covid-19 crisis since the entire globe has replicated the emergency, there is no isolated incident. This is producing some very concerning observations. A June survey in the UK found that 80% of people would choose not to return to cinemas even after lockdown restrictions were lifted[8] and a recent McKinsey article noted the muted state of consumer optimism globally despite a general move toward easing of coronavirus restrictions[9]. This has even reached the point where the British Prime Minister has 'ordered' office workers to cease working from home and return to their offices to save catering and other associated office work related sectors of the economy from collapse.

The genie has been let out of the bottle, capitalism is no longer at the top of its pyramid and governments have shown their ability to make economically suicidal decisions unilaterally to 'protect' the populous from a perceived danger. This is no longer something belonging to speculative political theory – it has actually happened. This has ironically left conservative governments like the UK, the heirs of Thatcherite neo-liberal free market economics, holding the reins of pseudo mass state employment in its efforts to prop the private sector and prevent it from dropping dead. The talk of the renationalization of key industries would have Thatcher turn in her grave. Suddenly formerly free market economies have a tinge of Sino state-controlled capitalism about them.

The question for investors is can governments be trusted to equitably handle their new-found powers? There has been a profound and sudden shift into unchartered waters and specter of sudden abrupt rule changes cannot be eliminated from one's calculations. What if lockdown becomes a regular yearly or even a per wave occurrence? What happens if there is an annual or bi, or tri-annual spell of government subsidized economic hibernation?

These concerns should have investors thinking twice about their underlying assumptions in relation to cash.

It is in this context that US equity begins to look like a sensible proxy for cash, to offset some of the underlying uncertainty around just going to cash.

The US equity market is by virtue of its size, global, accounting for 42% of world equity investment considerably larger than its 24% share of world GDP (see chart on page 18).

The specific nature of the US equity market and its deeper integration into the life of the average householder means that much of the stimulus efforts by the Federal Reserve serves to effect both Main Street and Wall Street in ways that are not reflected to the same degree in other developed economies. Given the dynamics, scale and nature of US equity index investing, these indices have some characteristics of being 'too big to fail' and as such they demand government intervention when and as is required to prop them and help them retain their long-term value.

The sensitivity of the Federal Reserve to how it manages its Covid-19 crisis response should be providing some reassurance to skeptical investors. Their reading of the markets' reaction to what was inevitably a sobering, bleak statement by Jerome Powell at the Fed's June meeting was to quickly follow up with an unprecedented bond buying scheme to include corporate bonds and further reassurance from the Fed's Robert Kaplan that there was plenty of dry powder for further intervention as necessary[10]. In part this mix of bleak realism for now but confidence for the future, is founded on the strength of the US economy recovery from 2008 (just recall Jerome Powell's statement from December 2019) so that relative to other leading economies, the US was in a much better place to sustain and recover from a hit.

Taking the Opportunity

Safety vs Volatility

The question for weighing cash allocations, has to be the broader macro uncertainty pertaining to this particular crisis, but there are a severe lack of other options, with both private equity and venture capital demanding extended lock-up periods while facing economic conditions that diminish new opportunity and pose the problem of potentially holding some very shaky portfolio components.

It may seem iconoclastic to compare an investment in US equity to cash. Some may wonder for all of its faults and potential to disappoint, how can the dull safety of cash – even if it is costing you, be compared to an investment in US equity – its antithesis from a volatility standpoint?

The Key is how one accesses US equity.

The way US equity is accessed is very much dependent on investors' starting point and where, how and in what currency they would otherwise have gone to cash. A US equity allocation in this sense has two general possible functions:

1. To act as a hedged allocation to counteract some of the potential downside effects of cash. In this situation such an allocation would be limited to the extent that its potential long-term benefit clearly provides a value add against losses due to a cash holding. This is a calculation not a certainty, after all it is an equities investment, prone to loss as well as gain. It requires management so that it mitigates the ensuing costs associated with a cash holding.

2. A protection against the cost of lost opportunity. Crisis cash allocations are precisely that, crisis allocations. They reflect a non-allocation of what the allocation should be deployed in. For many investors, a crisis allocation is not a comfortable one, and the length of the allocation to cash is measured by the projections and anticipated returns of their desired allocation, i.e. they are measured against lost opportunity. So, the question is, does one sit in cash or seek out an alternative to counter the lost opportunity? This is where US equity, even within its volatility offer the stability of 'too big to fail' that can help offset some of the concern about adopting them while the post-crisis period pans out and one's original investment goals can be reassessed when things have stabilized.

The Real Winners

The most likely candidates to benefit from an embracing of US equity in the post-crisis environment are investment strategies that use US equity and manage some of the associated volatility. Here you are likely to see contenders who are consistently able to deal with the concern of volatility without taking away too much from the long-term average expected passive US equity index return. The shear strength of the US equity market is sometimes overlooked, for instance the S&P 500TR from January 2008 until the end of July 2020 had an average annual growth rate of 8.8%, a time period which includes the two worst crises since the great depression. Protective strategies which achieve something below, but within this region of return, with lower drawdowns will be good candidates for cash allocation replacement. It is important to recognize the inherent “too-big-to-fail” status of the asset class itself in its large cap index form. This factor contributes to the versatility of US equity as a cash proxy, as it has the capacity to transform very quickly from a defensive to an offensive strategy.

Conclusion

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As Investors make post-pandemic plans the US equity opportunity must be given serious consideration particularly with respect to reallocating from emergency crisis cash allocations.

In the context of the upheaval that has been generated by the Covid-19 crisis, some key points must be factored in:

- The US equity markets are disconcertingly prescient of the progression of Covid-19. Key to developing an understanding of any problem is debate, the open interchange and potential amalgam of differing opinions. This has been shockingly absent from the Covid-19 crisis – it has taken on dogmatic moralistic tones and toxic political portent all of which has crushed useful and necessary open society debate. The market however has remained free of this ugly hubris, fueled by its usual fickle actioned expressions of opinion it squeezes out dogma – thus it perhaps gives us a clear guidance on the crisis than many of what would be expected to be more tangible direct measures such as healthcare statistics.

- New geopolitical uncertainty has been created by the crisis – the ramifications of this are currently unknown and, in its midst, investors must seek stability. Furthermore, the emergence of economic nationalism as a theme of the coronavirus aftermath means that the larger an economy is, the potentially stronger and more stable it will be in relative terms. All of this reaffirms US equity as the sensible opportunity.

- Artificial Intelligence trading approaches have the possibility to provide value add to a choice to allocate into US equity, with fresh, alternative viewpoints and technological advantages. This lies in contrast to the potential difficult outlook for other allocation options, gold the old faithful has been kind to its early crisis participants but its ability to provide a sensible long-term safe harbor has to be questioned.

[1] BBC, May 19,2020 Chile protestors clash with police over lockdown
[2] The Economist, Mar 12, 2020 For the first time Lebanon defaults on its debts
[3] WSJ, Apr 10, 2020 Coronavirus crisis threatens to split an already fractured EU
[4] The Guardian, Apr 16, 2020 Ursula von der Leyen issues “heartfelt apology” to Italy
[5] Reuters, Apr 8, 2020 Parliament supports Dutch government’s tough anti ‘coronavirus bonds’ stance
[6] Reuters, Jun 14, 2020 France must seek greater economic independence after virus, says Macron
[7] Bloomberg, Jan 3, 2020 Venezuela’s latest problem is there are now too many dollars
[8] Variety, Jun 3, 2020 Brits won’t rush back to cinemas, but will return if reassured, survey finds
[9] McKinsey, Jul 8,2020 Consumer sentiment and behavior continue to reflect the uncertainty of the Covid-19 crisis
[10] Reuters, Jun 16, 2020 Fed has lots of dry powder, Kaplan tells Bloomberg radio

Important Information

Plotinus Asset Management is registered with the US Commodity Futures Trading Commission as a Commodities Trading Advisor and as a Commodities Pool Operator. Plotinus Asset Management is a member of the US National Futures Association. Plotinus Asset Management is a registered Investment Advisor with the Cayman Islands Monetary Authority.

The Plotinus 2π Enhanced Index is offered as a complete managed futures program comprised of an active, passive and bonds or cash investment as a replacement for a purely passive S&P 500 Index tracking investment. It is offered in two forms, as a program for separate managed accounts and through the Plotinus 2 Pi mutual fund offering. For the separate managed accounts version, the deployment of the bonds or cash component of the program is the responsibility of the investor. For qualified investors the Plotinus 2 Pi mutual fund has five share classes available for subscription. Where relevant USD 1-month LIBOR rates have been used to illustrate a basic cash deployment.

The Plotinus 2π Index Hunter is also offered as an independent managed futures program as an active investment overlay for a pre-existing core S&P 500 Index investment.

Plotinus Asset Management is happy to discuss how we invest and explain in detail our investment methodology, please feel free to contact us to schedule a conversation.

Disclaimer

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