# MARKET NOTE

October 2021

Independent Trustee Services

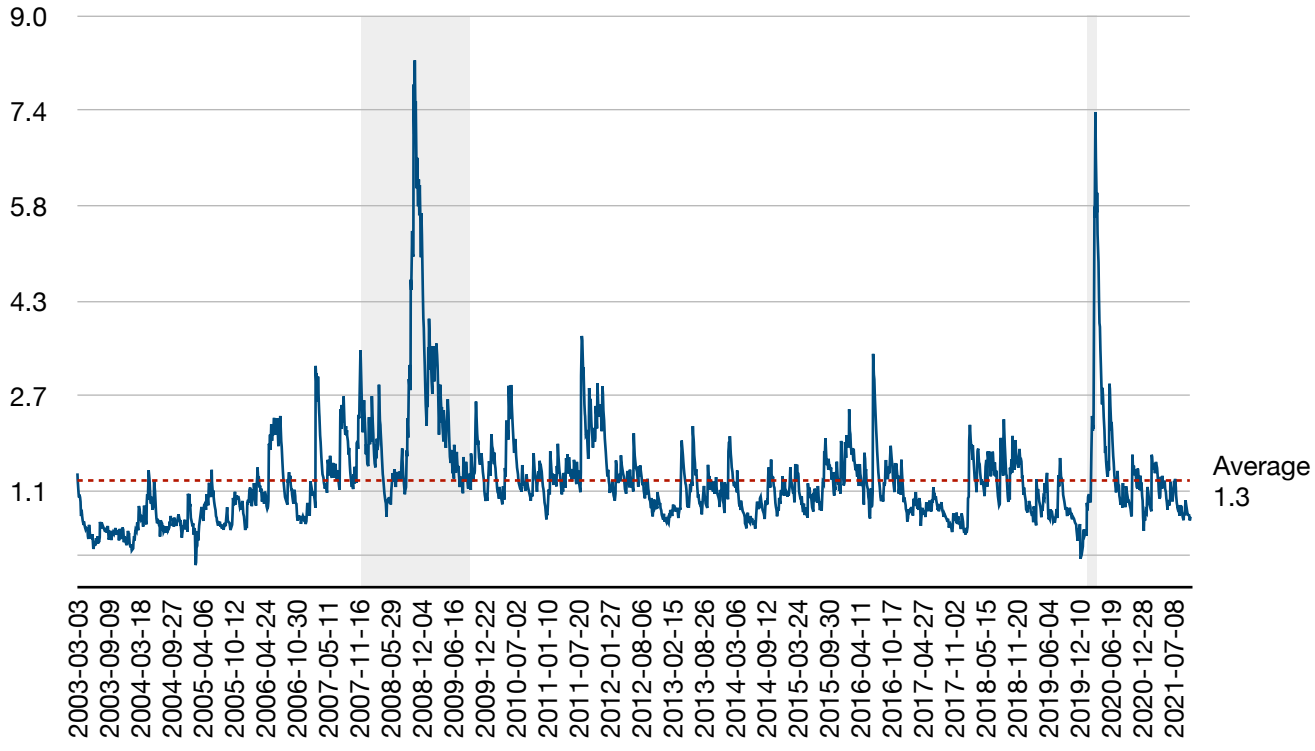
# INTRODUCTION

In this research note, we consider current and relevant factors influencing the United States (U.S.), economy and capital markets. The U.S. is the largest economy - measured by gross domestic product - in the world and therefore has a significant influence on the risk and returns to investors around the globe. In particular, we consider the influence of U.S. specific data on the risk and returns to the SPDR S&P 500 ETF Trust (SPY)[1], the worlds largest exchange-traded fund by market capitalisation, which is traded on the world's largest stock exchange, the New York Stock Exchange. We chose to focus on U.S. data due to its availability and reliability. The effect of U.S. equity market contagion on South African equities is considerable, especially during market downturns. This relationship is depicted in Figure 1 below. Figure 1 plots the dynamic conditional beta (exponentially weighted, daily beta) of the iShares MSCI South Africa ETF (EZA)[2] and SPDR S&P 500 ETF Trust (SPY). The average beta is 1.3, indicating that the South African equity market covaries with the S&P 500 by approximately 130% on average. Beta tends to increase significantly during major market downturns and is proxied by the global finical crisis (GFC) and the COVID-19 market crash. This means that downside risks to South African equities are amplified by downside risks to the S&P 500.

While we do not attempt to forecast future market returns or time market movements, we are cognisant of the fundamental drivers of long-term returns and most importantly, systematic risk. We believe markets are in fact inefficient, in contrast to the commonly quoted efficient market hypothesis. That being said, markets do exhibit long-term mean-reverting properties that can be analysed in an attempt to form data-driven insights and capital market assumptions.

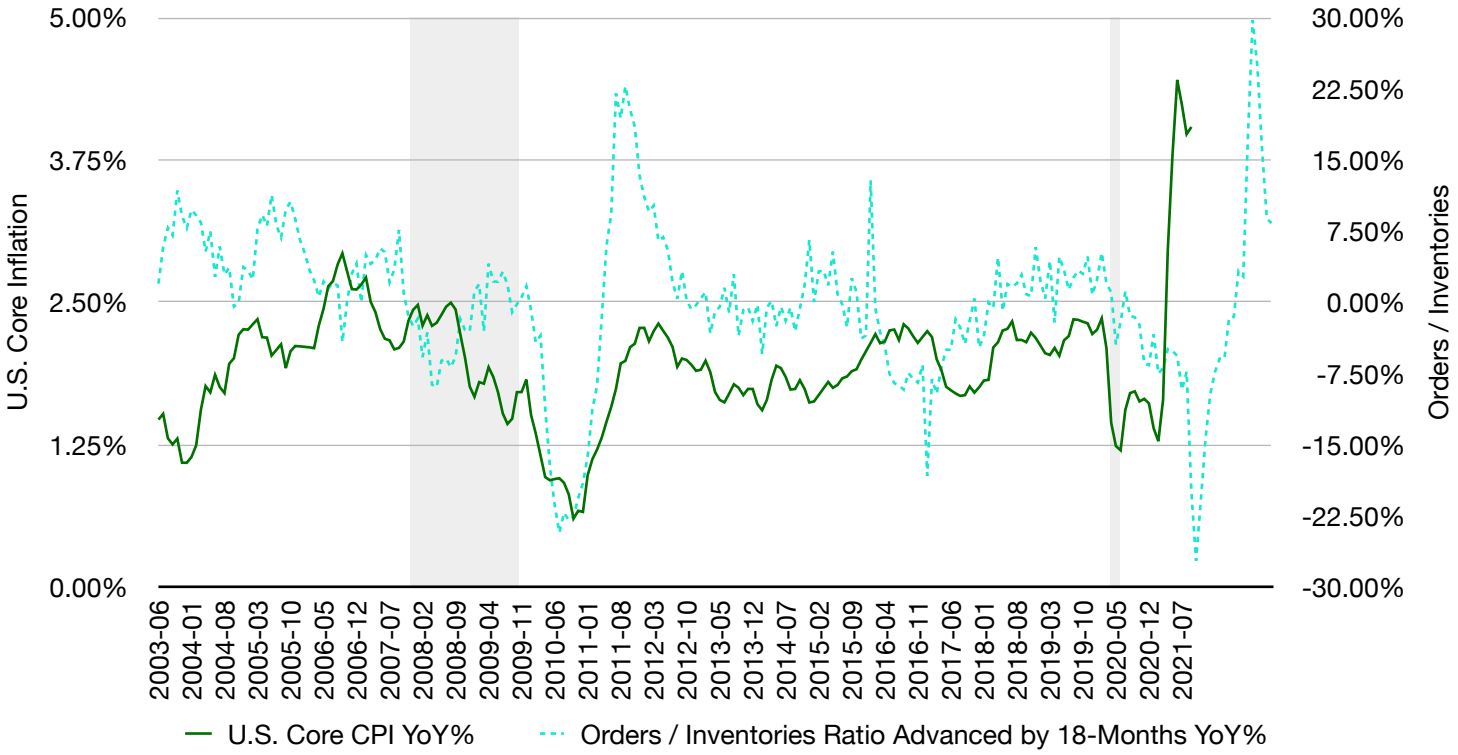
Our consensus view is that there are significant systematic risks in the current market regime and that investors should be wary of the possibilities of market drawdowns, especially considering the historic bull market returns that investors have become accustomed to over the past year. We believe the combination of possible higher longer-term inflation, unsustainable levels of financial leverage, low consumer confidence and historically over-valued equity markets pose significant risks to long-term investors and should be met with prudent de-risking tactical asset allocations.

Figure 1. Dynamic Conditional Beta Between the EZA and SPY




iShares MSCI South Africa ETF (EZA)
& SPDR S&P 500 ETF Trust (SPY) - Dynamic Conditional Beta

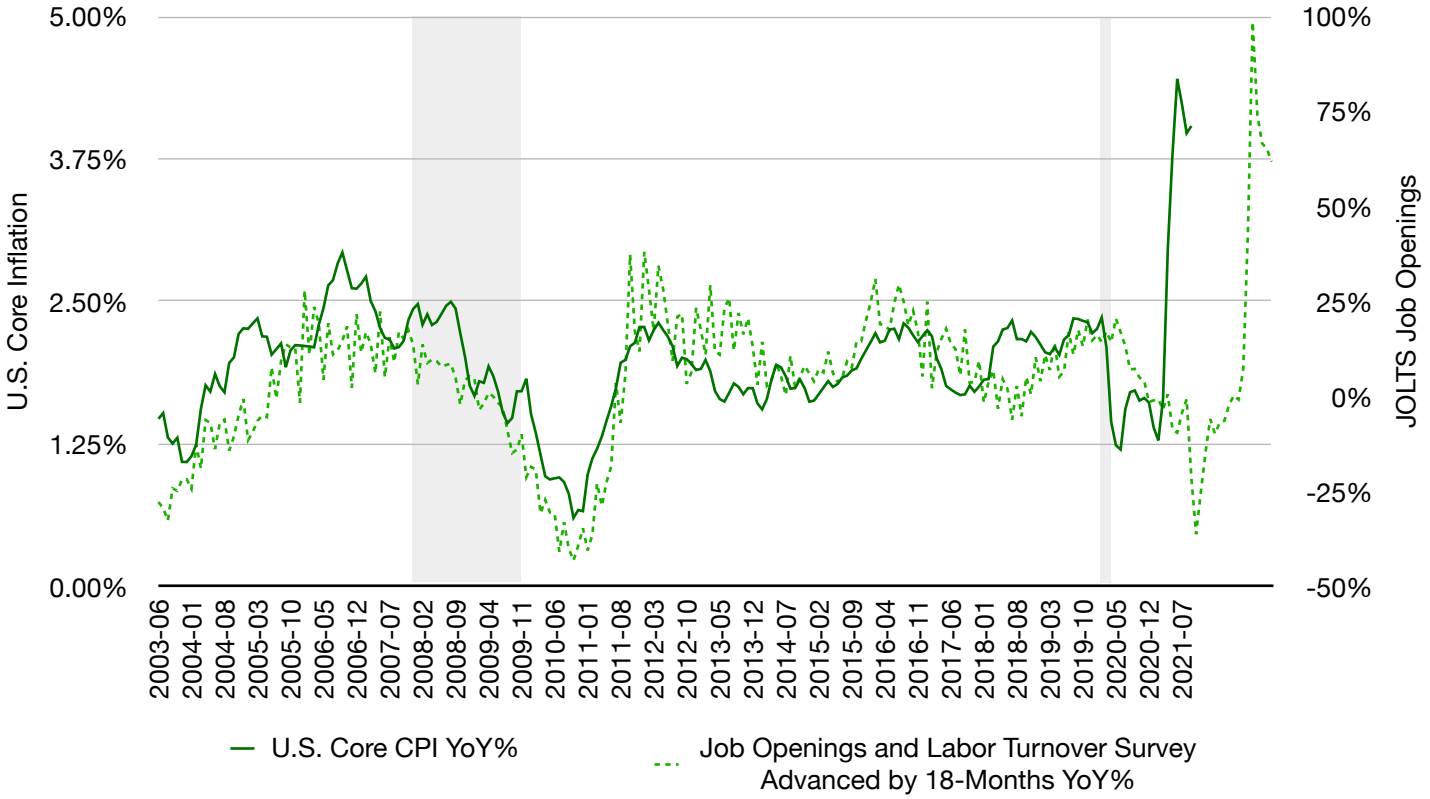
Figure 2. Demand and Supply Effects on Core U.S. Inflation




The YoY% change in the Total Manufacturing Orders[3] / Inventories[4] (O/I) ratio has seen a steady decline from a peak of 29.74% in April 2021, to 8.36% in August, driven by a decrease in new orders, and an increase in available inventories. The decrease in new orders has coincided with a decrease in industrial production[5] from July through August. Decreased demand and a build-up of inventories, in a high inflationary regime, may be a signal that output has peaked and that industrial production should be expected to slow even further. This puts the United States economy, and by extension the global economy, in a precarious situation whereby economic activity is slowing and inflation is high in a low interest rate environment. The United States federal reserve will want to quell the current inflationary regime by increasing interest rates, however, this will put severe strain on industrial production and aggregate economic activity, possibly leading to a recession, or worse, stagflation.

The rate of normalisation of the O/I ratio, back to the average YoY% change of 0.48% (over the measurement period), is being slowed by the various supply chain issues facing the global economy, which has also resulted in an increase in global price levels. The Baltic Dry Sea Index[6] - a measure of the average price paid for the transport of raw material by sea - has increased by 252.97% over the past year due to heavy congestion at most major Chinese, European and American ports. Congestion at the ports has been due to a major uptick in the demand for commodities over the past year, as well as labour shortages as a result of COVID-19 outbreaks and strict health protocols imposed on labourers. These increased shipping costs have been passed on to consumers and has therefore resulted in severe consumer price inflation throughout the global supply chain. Insatiably high prices may be rejected by consumers and may further decrease aggregate demand for goods and services, exacerbating the economic slowdown. This situation will put strain on corporate earnings and by extension, stock prices.

Figure 3. Labour Market Effects on Core U.S. Inflation




New job openings[7] have slowed from a YoY% increase of 98.55% in April 2021, to 61.82% in August, however, the number of job quits[7] have increased to unprecedented levels over the past few months, increasing by 242,000 in August to a total of 964,000 in 2021. Many workers in the United States are looking for new positions that offer higher wages to offset increased living costs. In addition, many elderly workers have opted to retire early, partly due to increased retirement fund returns that benefitted from the surge in asset prices over the past year. This has resulted in many job vacancies left unfilled due to demands for higher wages and positions that value experience not being filled due to a lack of an older, more experienced workforce. Employers may be forced to promote younger employees to more senior positions, at the same time increasing their wages. New labour market entrants, and less experienced labourers, may also need to be paid higher wages in order to entice them to work. This will push up the cost of employer payrolls and will likely be offset by higher prices of goods produced and services rendered. While supply and demand dynamics can temporarily affect consumer prices, higher wages are more rigid and often cause permanent increases in aggregate prices.

Figure. 4 Margin Debt and Equity Valuations

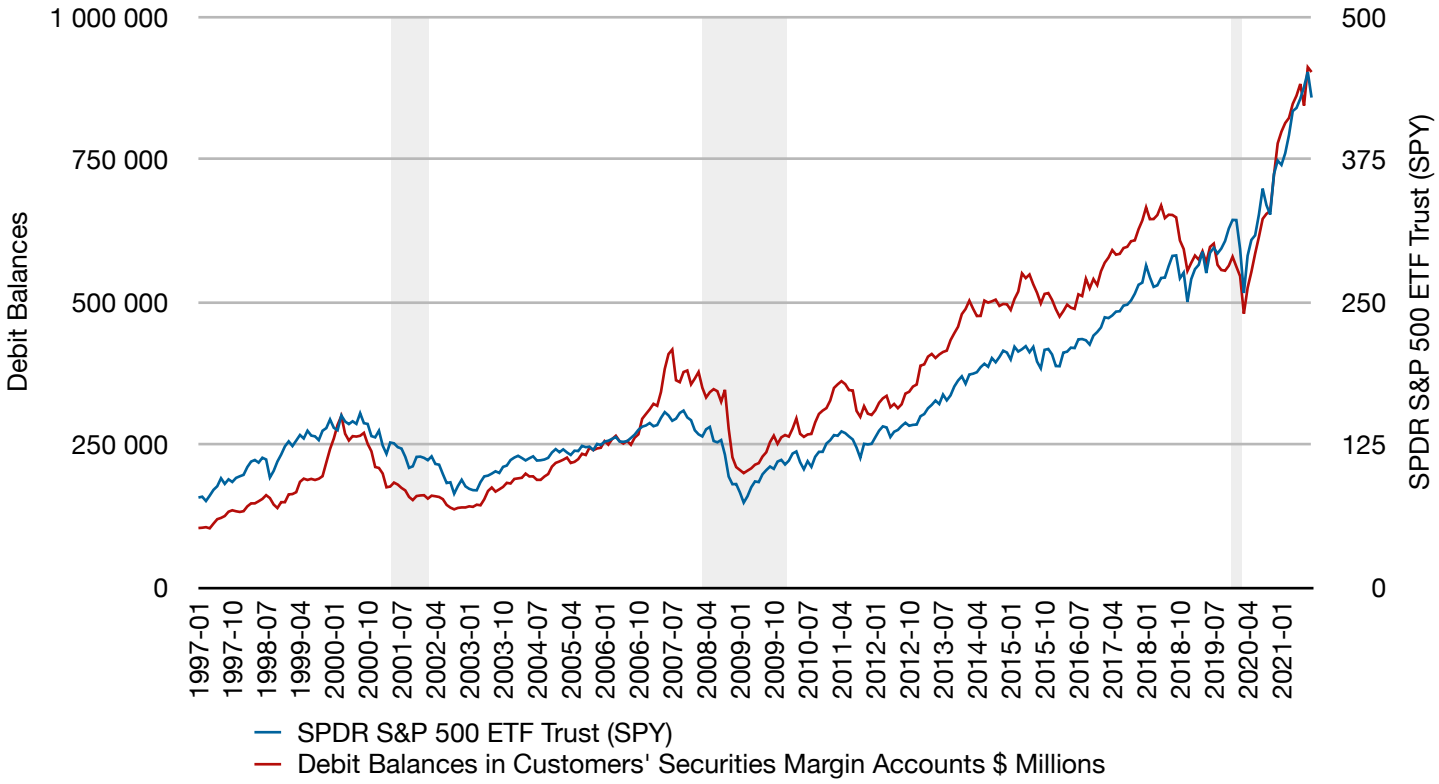
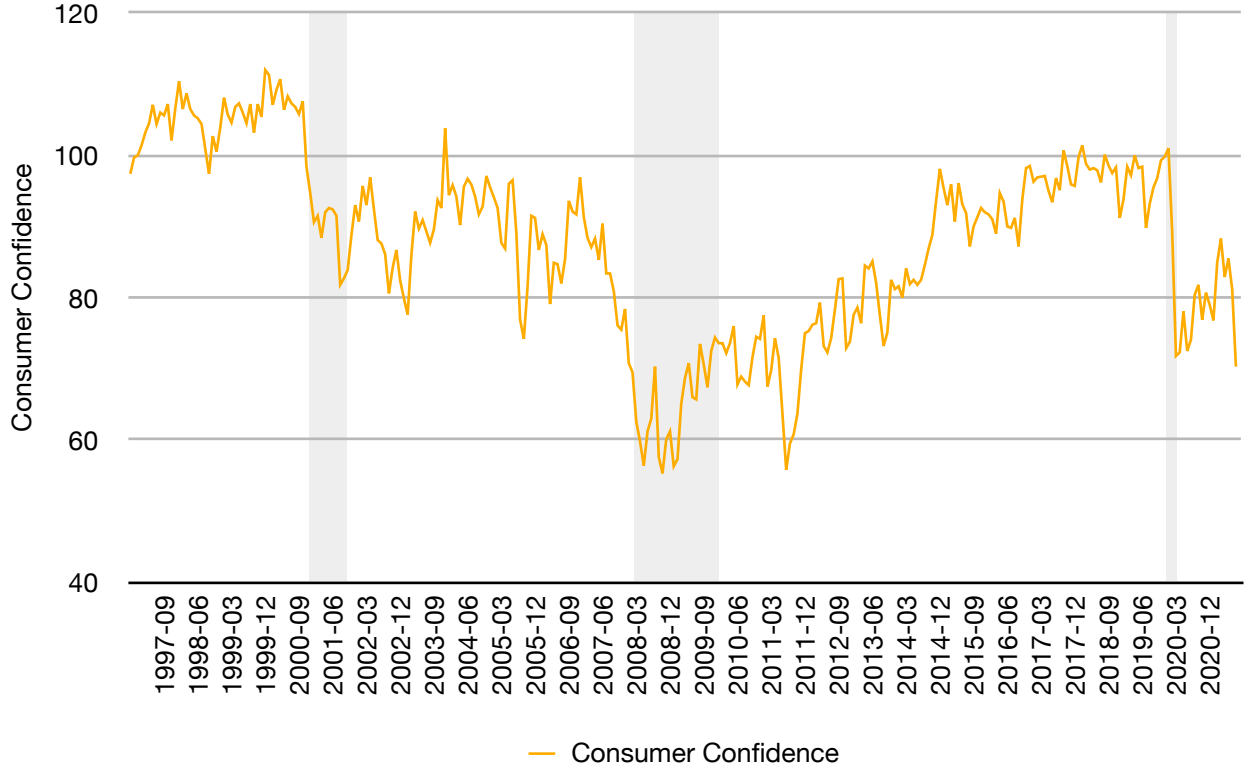


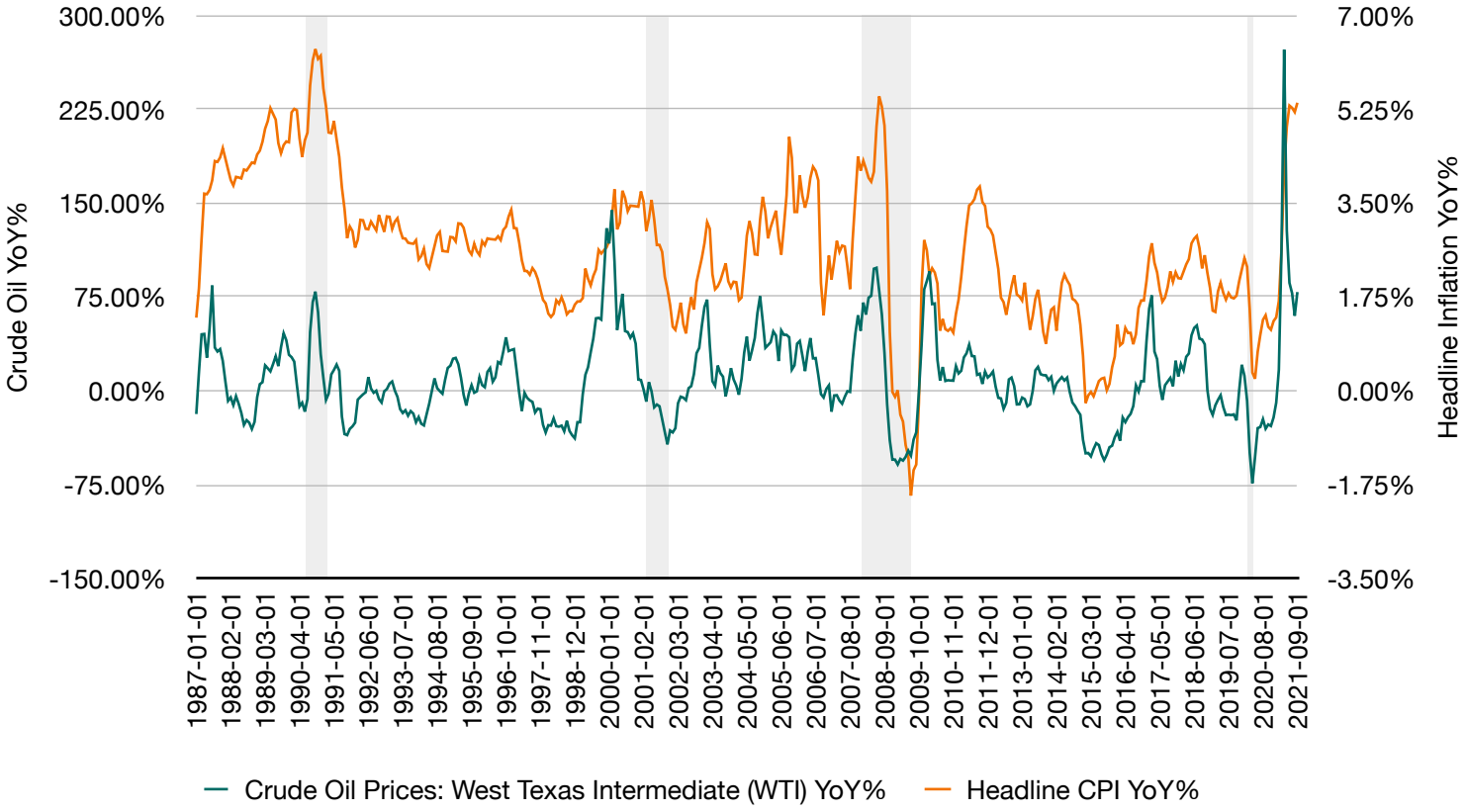

Figure 5. University of Michigan Consumer Confidence Index



Leverage[8] - measured by the debit balances in the margin accounts of the customers of brokerage firms in the United States - has been a significant driver of the post COVID-19 market rally, increasing every month since April 2020, with one decline in July 2021, and the most recent decline in September 2021. A (4.28%) decline in margin debt in September coincided with a (4.76%) decline in the S&P 500. The corresponding declines highlights the strength of the correlation between margin debt and the price of the S&P 500, currently at 0.94.

Increasing volatility in margin debit balances is indicative of the low levels of consumer confidence[9] that the market is currently experiencing. Consumer confidence is currently lower than it was in April of 2020, one month after the market crash. Expectations of structurally high inflation, decreased economic growth and overall uncertainty are spilling over into capital markets and could result in heightened volatility in the coming months. Lower levels of consumer confidence also correspond with lower returns to the S&P 500. This is evident by comparing Figures 4 and 5. During the period from 1991 to 2001, consumer confidence remained relatively elevated and corresponds to increased leverage and rising equity market returns. From late 2001 until 2008, consumer confidence was flat, resulting in a largely side-ways consolidation in margin debt and asset prices. Finally, from 2009 until 2020, consumer confidence trended upwards, corresponding with increased levels of margin debt and exceptional equity market returns. The current downtrend in consumer confidence thereby signals possible downside risks to equity markets in the medium-term.

Figure 6. Crude Oil Price Effect on Headline U.S. Inflation

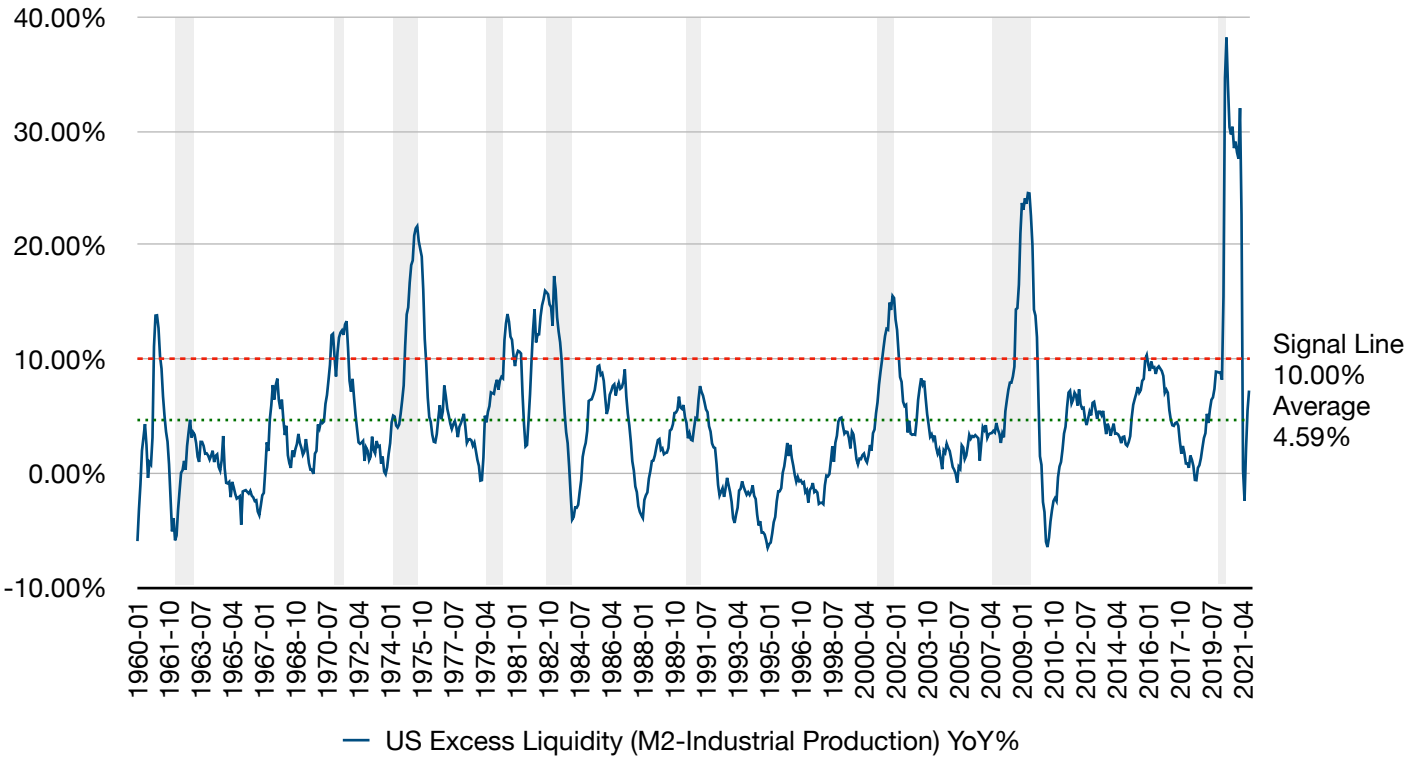



While core[10] inflation (which excludes the cost of food and energy) in the United States was recorded at 4.04% on a YoY basis in September 2021, headline[11] inflation was recorded at 5.38%. The price of food and energy, therefore, has a significant effect on the headline numbers. This is evident from Figure 6 which plots headline CPI versus crude oil[12] prices. Crude oil spiked to 272.96% YoY in April 2021 and has retraced to a YoY change of 78.96% in September. These levels remain substantially elevated as crude oil reached a high of $75 per barrel in September and is currently hovering above the $80 mark as of the second week of October, the highest price since 2014.

Oil prices are akin to a tax on production as increased oil prices are likely to reduce production and output, possibly heightening the risk of stagflation. The Organisation of Petroleum Exporting Countries (OPEC) in October decided against a larger supply hike which could reduce the price of crude oil globally. This decision was based on the concern that demand and prices could weaken to their detriment. OPEC realised a 43% plunge in oil-export income in 2020 and are currently enjoying the benefits of increased revenues.

Higher oil prices may accelerate the adoption of electric vehicles and other sources of renewable energy leading to a secular decline in the demand for oil over the next decade. For example, the United Kingdom has brought forward its deadline to ban sales of new petrol and diesel cars to 2030. This is a significant risk factor for OPEC members and many of them may aim to maximise the benefit of higher oil prices for as long as is sustainable. Political pressure to increase oil supplies have thus far been ineffective and may require further political posturing by oil-importing economies.

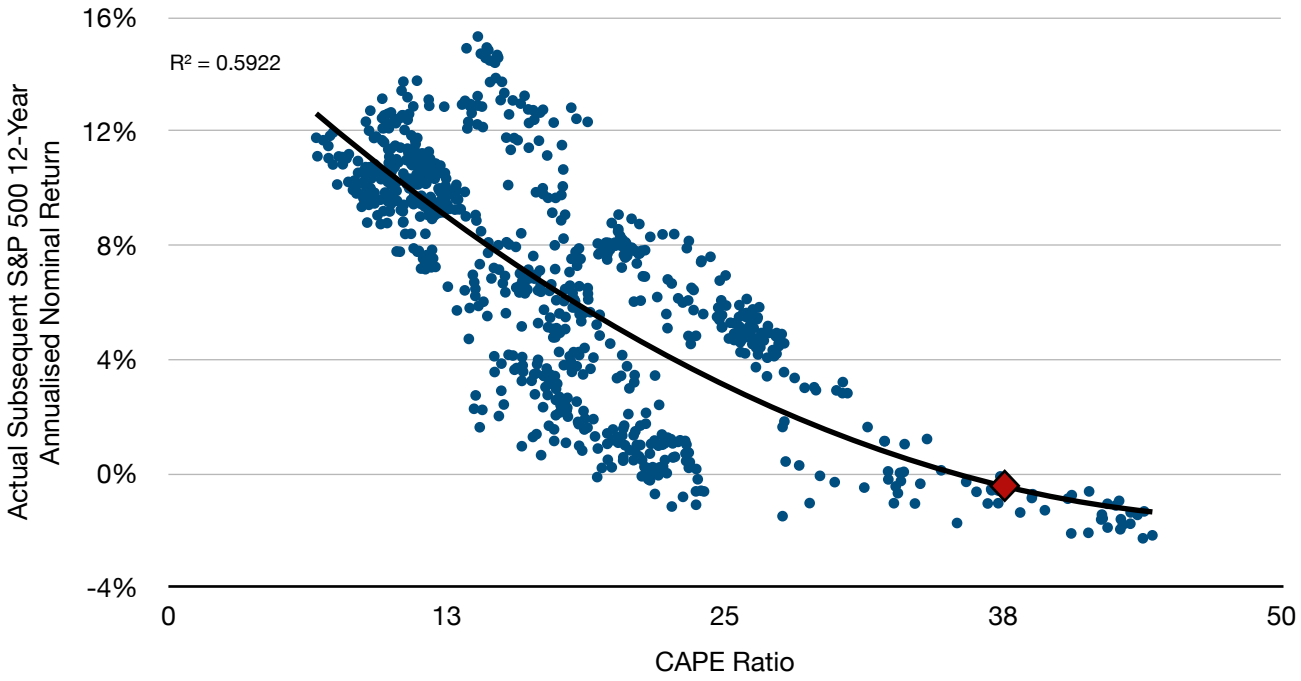
Figure 7. Excess Liquidity Market Signal




| When Indicator Is … | Average Annualised Return | % Of Time |
|---|---|---|
| Above 10 | 16.79% | 13.53% |
| 0 To 10 | 7.14% | 67.25% |
| Below 0 | 4.58% | 19.22% |

We define excess liquidity as the difference between M2[13] money supply and industrial production[5] in the United States and report this metric as a YoY% change. Excess liquidity is provided by the federal reserve bank as a fiscal policy measure designed to stimulate aggregate demand in the economy by increasing the M2 money supply when industrial production falters. Figure 7 plots excess liquidity since 1960 and we define three ranges for this metric. The first range occurs during periods when excess liquidity is above 10% on a YoY basis. These periods generally occur as a response to the onset of a recession. Excess liquidity strengthens aggregate demand in the economy thereby stimulating capital markets. Since 1960, this range has been broken 13.53% of the time and has resulted in an average annualised return of 16.79% to the S&P 500 equity market index. Heightened levels of excess liquidity have therefore proven to be bullish for stocks. Our second range is defined when excess liquidity lies between the 0% and 10% mark. Since 1960, this range has dominated by occurring 67.25% of the time. The average annualised return of the S&P 500 has been 7.14% during these periods. Our final range is when excess liquidity is below 0%. This has occurred 19.22% of the time. The average annualised return of the S&P 500 has been 4.58% during these periods. This period is not necessarily bearish for stocks but is merely not bullish since this is generally above the 2% inflationary target range of the federal reserve. Excess liquidity currently sits at 7.21%, thereby predicting an approximate annualised return of 7.14% over the next 12 months, which is not particularly attractive considering the high levels of inflation in the United States at the moment. This metric is rather volatile and should be examined regularly for any significant fluctuations.

Figure 8. 12-Year Annualised Expected Return for the S&P 500 Based on Current CAPE Ratio

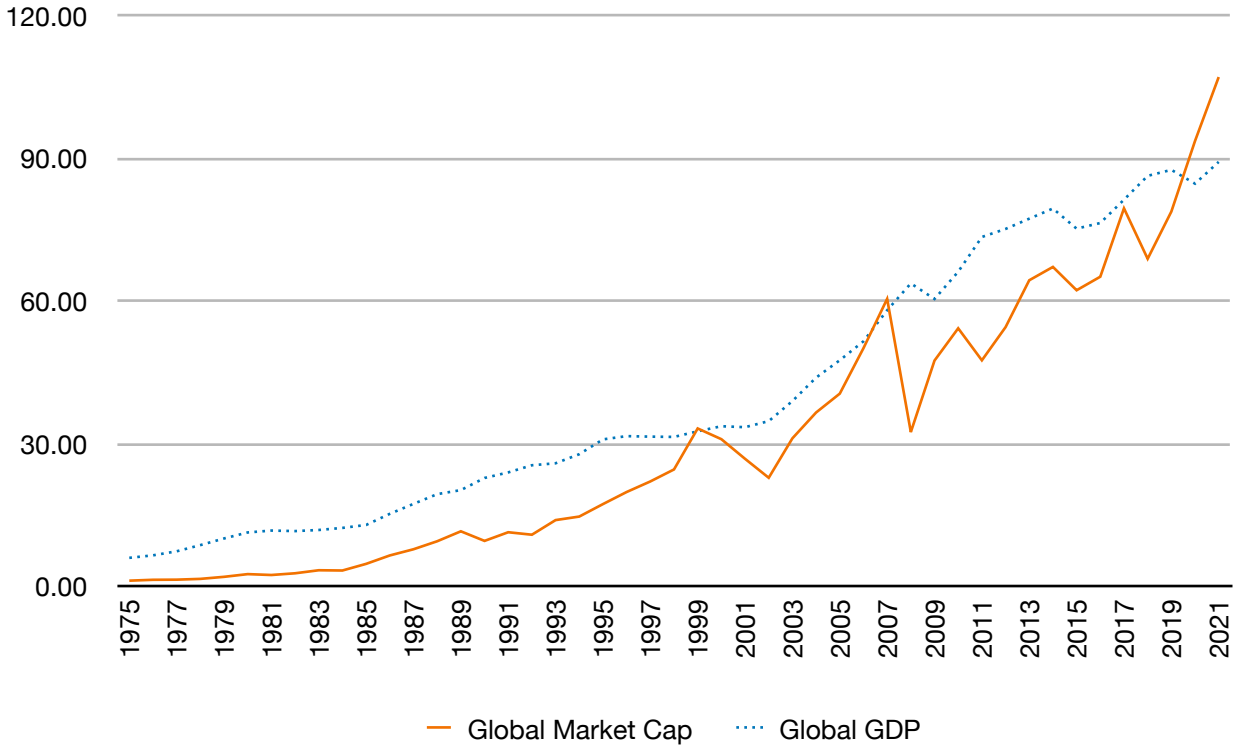



Each point on Figure 8 represents the corresponding 12-year annualised return subsequent to the realised value of the cyclically adjusted price-to-earnings (CAPE)[14] ratio since 1938. The polynomial trend line represents the negative non-linear relationship between the variables. Higher CAPE ratios, therefore, tend to predict lower returns to the S&P 500 for the subsequent 12-years. The current CAPE ratio is 38.34, and the average of the subsequent 12-year annualised returns of all CAPE ratios above 30 is (1.17%). The current expected future 12-year annualised return, as predicted by the trend line and according to historical averages, is therefore negative.

The $R^2$ value is a statistical measure describing the accuracy of the trend line in explaining the relationship between the variables and is calculated as the proportion of the explained variation divided by the total variation. $R^2$ is always between 0 and 1 but can be reported as a percentage. A value closer to 1 indicates a greater level of accuracy in explaining the variation in the data. The $R^2$ associated with the trend line in Figure 8 is 0.59, which means that the polynomial trend line explains approximately 59% of the variation in the data. In other words, the CAPE ratio can explain 59% of the variation in the subsequent 12-year annualised return of the S&P 500.

While past performance is not a reliable indicator of future results, this model has proven to be a reliable indicator of the downside risks associated with over-valuations in the equities market. Long-term investors should therefore consider the risks associated with purchasing equities at current valuations. Diversification into interest-bearing and alternative asset classes can help mitigate systematic risks. De-risking strategies that aim to reduce equity asset class volatility and market beta could further improve the risk-return characteristics of long-term portfolios in the current market regime.

Figure 9. Global Equity Market Capitalisation and Global GDP




| Period | Event | Market Cap / GDP |
|---|---|---|
| 1999 | Dot-com Bubble | 101.84% |
| 2007 | Global Financial Crisis | 104.13% |
| 2020 | COVID-19 | 110.60% |
| 2021 | COVID-19 | 120.00% |

Figure 9 plots global gross domestic product (GDP)[15] and the global stock market capitalisation[16] (the value of global equity markets). The global stock market capitalisation has only exceeded global GDP three times since 1975. The first breach period occurred right before the infamous dot-com crash which occurred due to a stock market bubble that formed as a result of excessive speculation in internet and technology companies. In 1999, the market capitalisation / GDP ratio reached 101.84%, meaning that global equities were valued in excess of global output. The second breach period occurred in 2007 right before the global financial crisis (GFC) which was considered by many as the most serious financial crisis since the great depression of the 1930s. During this period the market capitalisation / GDP ratio reached 104.12%. The next two breach periods occurred in 2020 and 2021 as a result of the market rebound after the COVID-19 market crash. Excessive liquidity was introduced into the market in order to stimulate aggregate demand after global economies had to shut down in order to quell the spread of the virus. Even though the recession was the shortest in recorded history, at only two months long, the level of excess liquidity introduced into the market was the highest since the GFC (see Figure 7). This induced excessive speculation in global capital markets and has caused the market capitalisation / GDP ratio to continue increasing well into the final quarter of 2021. The market capitalisation / GDP ratio reached 110.60% by the end of 2020 and is currently in the range of 120%. As history has shown, this ratio tends to mean revert back below global GDP levels. As industrial production slows in the worlds largest economy, the likeliest scenario would be for the global market capitalisation to revert downwards, quite sharply in fact, resulting in a significant pull-back in equity markets. This metric therefore indicates a significant level of downside risk for equity investors globally.

The decrease in new manufacturing orders in the United States coincided with a decrease in industrial production from July through August. Decreased demand and a build-up of inventories, in a high inflationary regime, may be a signal that output has peaked and that industrial production, and thereby economic growth, should be expected to slow even further. This puts the United States economy, and by extension the global economy, in a precarious situation whereby economic activity is slowing and inflation is high in a low interest rate environment. Raising interest rates to quell inflation is the typical approach, however, this will put severe strain on aggregate economic activity, possibly leading to a recession, or worse, stagflation.

The rate of normalisation of demand and supply dynamics in the United States, and in fact globally, has been slowed by the various supply chain issues which have resulted in an increase in aggregate price levels. The Baltic Dry Sea Index has increased by 252.97% over the past year due to heavy congestion at most major Chinese, European and American ports. Congestion at the ports has been due to a major uptick in the demand for commodities over the past year, as well as labour shortages as a result of COVID-19 outbreaks and strict health protocols imposed on labourers. Increased shipping costs have been passed on to consumers and as therefore resulted in severe price inflation throughout the global supply chain. Insatiably high prices may be rejected by consumers and may further decrease aggregate demand for goods and services, exacerbating the economic slowdown. This situation will put strain on corporate earnings and by extension, stock prices.

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Excess liquidity currently sits at 7.21%, thereby predicting an approximate annualised return of 7.14% over the next 12 months for the S&P 500, which is not particularly attractive considering current inflationary trends. Historical CAPE ratios currently predict 12-year annualised returns below zero due to over-valuations. Finally, the global equity market capitalisation / global GDP ratio has reached 120% in 2021, further highlighting extreme equity market valuations which tend to mean-revert over time and thereby indicates a significant level of downside risk for equity investors globally.

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