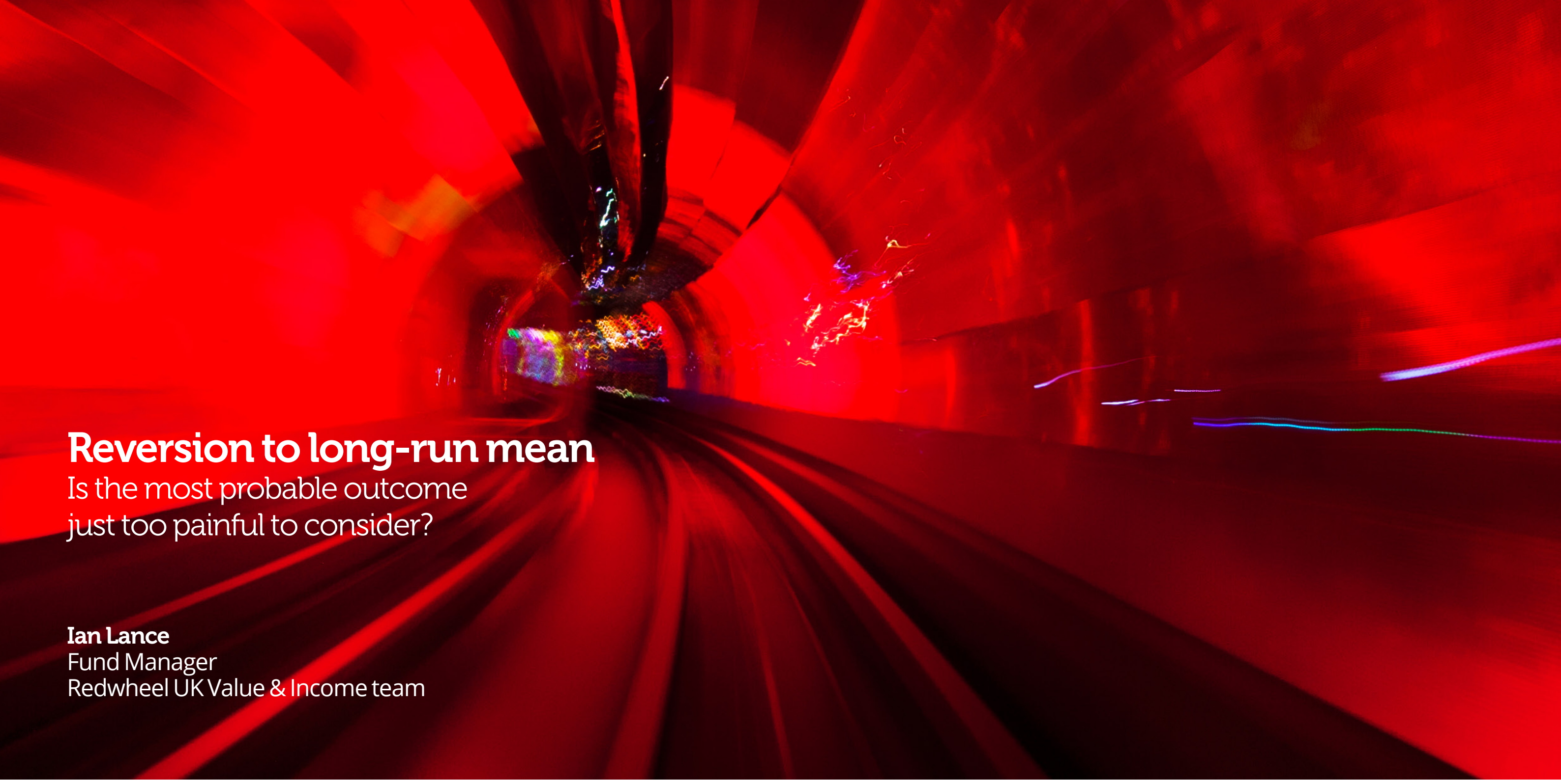

Reversion to long-run mean

Is the most probable outcome just too painful to consider?

Ian Lance
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Summary

- Returns across a range of financial assets have been exceptionally strong over the last forty years and are unlikely to be repeated in the future
- The decline in interest rates from the late eighties until 2021 was arguably a key driver of these returns but the increase in inflation suggests this process has ended
- A mean reversion of financial assets to their long-run mean could be a strong possibility and this would have very wide-ranging implications
- Equity investors may require a very different approach to that which succeeded in the last decade

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Introduction

Having started working in asset management thirty-four years ago, I used to pride myself on the fact that I had experienced a variety of financial market conditions, witnessed many economic cycles and seen booms, busts and manias come and go. Three things that I have read recently have challenged this notion and made me consider that I may have been participating in one massively elongated cycle which started in 1980 and possibly ended last year. If the last forty years have been the exception rather than the norm this would have very significant implications for likely future returns and investor positioning which I explore in this paper.

The first of the three notes was a paper entitled 'The Allegory of the Hawk and Serpent: How to Grow and Protect Wealth for 100 Years' which was written in 2020 by Christopher Cole of Artemis Capital Management. The paper highlights how returns from all asset classes were abnormally high over the last forty years.

> "The period 1984 to 2007 is an outlier comparative to any other period in economic history, yet both discretionary and quantitative managers treat this period as normalcy… a remarkable 91% of the price appreciation for a Classic Equity and Bond Portfolio (60/40) over the past 90 years comes from just 22 years between 1984 and 2007. 94% of the returns from domestic equities, 76% of the profit from bonds and 72% of the performance in Home values were from this period as well."

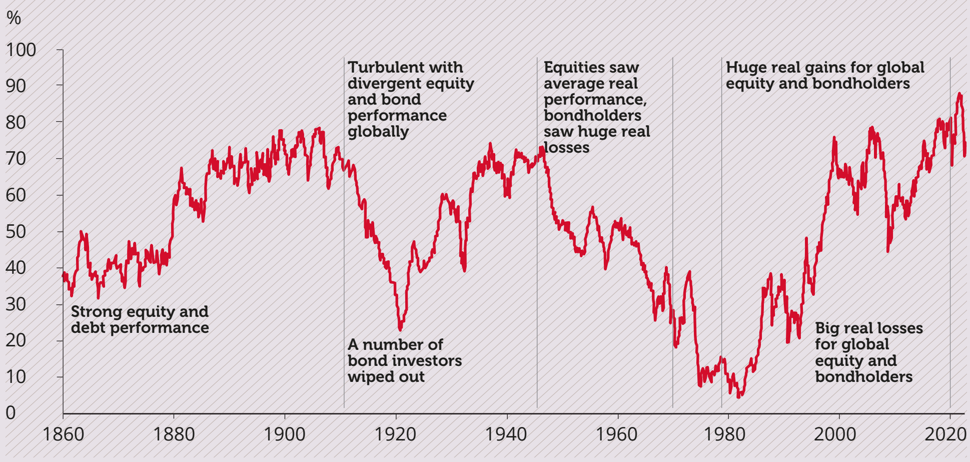
The paper goes on to explain the factors behind this forty-year super-cycle and why it may now be coming to an end.

> "Over the past four decades, a self-reinforcing serpent of favourable demographics and dollar devaluation drove an unparalleled cycle of asset price gains that is unique to economic times past. The cycle began in the early 1980's as interest rates peaked at the highest levels in over 200 years (19% Fed Funds 1981) as presaged by dollar devaluation against gold a decade prior. The secular peak in rates occurred as the largest generation in American history (76 million Baby Boomers born 1946-1964) entered the workforce intent on buying or borrowing their way to the American dream. The capital flows from Boomers in their prime earning years drove a self-feeding cycle of rising asset prices, falling interest rates, lower taxes, lower inflation, globalization, liquidity and debt expansion. Four decades later, the result is historically high asset valuations, the highest corporate debt-to-GDP in American history, $17 trillion in negative yielding debt globally, the lowest capital gains taxes in US history and historically high-income disparity. The first wave of Boomers began retiring in 2017 and over the next few decades will draw down on $28 trillion in retirement assets to live on. **We are at the end of a forty-year demographic and debt super-cycle, a snake devouring its tail in a diminishing search for yield.**"
> **(Emphasis added by Redwheel)**

As figure 1 below shows, asset prices went from being the cheapest in history in 1982 to the most expensive in history in 2020 which explains why returns were so much better than long-run historical averages. What is puzzling is why so many seem to believe these returns are sustainable.

Figure 1

Asset prices moved from cheapest ever to most expensive ever in 40 years
Aggregated 15 developed market country average bond (nominal yields) and equity percentile valuations (100% = most expensive, 0% = cheapest)



Source: Deutsche Bank, 26 September 2022.
The information shown above is for illustrative purposes.

The second note was my summer holiday reading choice of 'The Bond King' by Mary Childs which is the story of bond fund manager Bill Gross and the rise of PIMCO, the company that he founded. 'The Bond King' is a fascinating story in its own right but one thing that jumped out at me was how much of the success of Gross and the business he founded relied on the start and end point relative to economic history. Gross himself was honest enough to admit this as far back as 2013.

> "Let me admit something. There is not a Bond King or a Stock King or an Investor Sovereign alive that can claim title to that throne. All of us, even the old guys like Buffett, Soros, Fuss, yeah – me too, have cut our teeth during perhaps a most advantageous period of time, the most attractive epoch, that an investor could experience. Since the early 1970's when the dollar was released from gold and credit began its incredible, liquefying, total return journey to the present day, an investor that took marginal risk, levered it wisely and was conveniently sheltered from periodic bouts of deleveraging or asset withdrawals could, and in some cases was, rewarded with the crown of greatness. Perhaps, however, it was the epoch that made the man as opposed to the man that made the epoch."
> Bill Gross,
> Man in the Mirror, 12 April 2013

Thus, Gross is making a similar point that the returns from the last forty years were abnormally high and thus unlikely to be repeated in the future. (As an aside, it would be nice if some of today's cohort of self-proclaimed equity investing gurus showed the same level of humility and admitted that being a growth manager during the greatest bull market in growth stocks in history might have played a part in their success rather than attributing it all to their own individual brilliance.)

The final note was an excellent piece of research by Michael Hartnett and the strategy team at Bank of America (BofA) Securities entitled 'The Longest Pictures' which, using a series of very long-term charts, puts the last forty years in the context of the last century (in some cases even longer). These charts, some of which are replicated below, showed that the last forty years of investment returns have been exceptional when viewed from a much longer-term perspective.

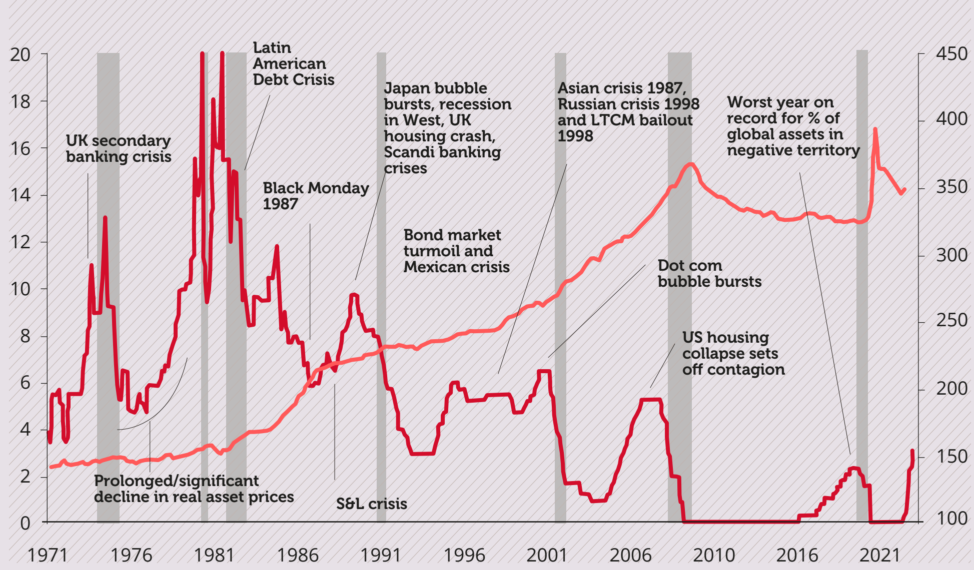
In May 1985, economist Herbert Stein wrote a column in The Wall Street Journal in which he coined the phrase 'if it can't go on forever it will stop'[1]. There have been many things in the last decade that seemed unsustainable but every time it appeared that they were likely to stop, central banks stepped into the market to keep them going. This constant deferral of allowing a reset in asset prices is one of the reasons that valuations of everything have become so extreme. What has changed in the last year is inflation which is at its highest level globally in forty years.

[1] 10 May 1985, Wall Street Journal, My Foreign Debt by Herbert Stein. Stein was discussing the shift in the US balance between foreign debts and foreign assets.

The implication of an increase in inflation is that central banks cannot simultaneously ride to the rescue of markets by cutting interest rates and printing money as they have done before whilst also claiming that they are serious about controlling inflation (see figure 2 below). This suggests the end of the forty-year cycle may be with us with huge implications for investors (and society in general).

Figure 2

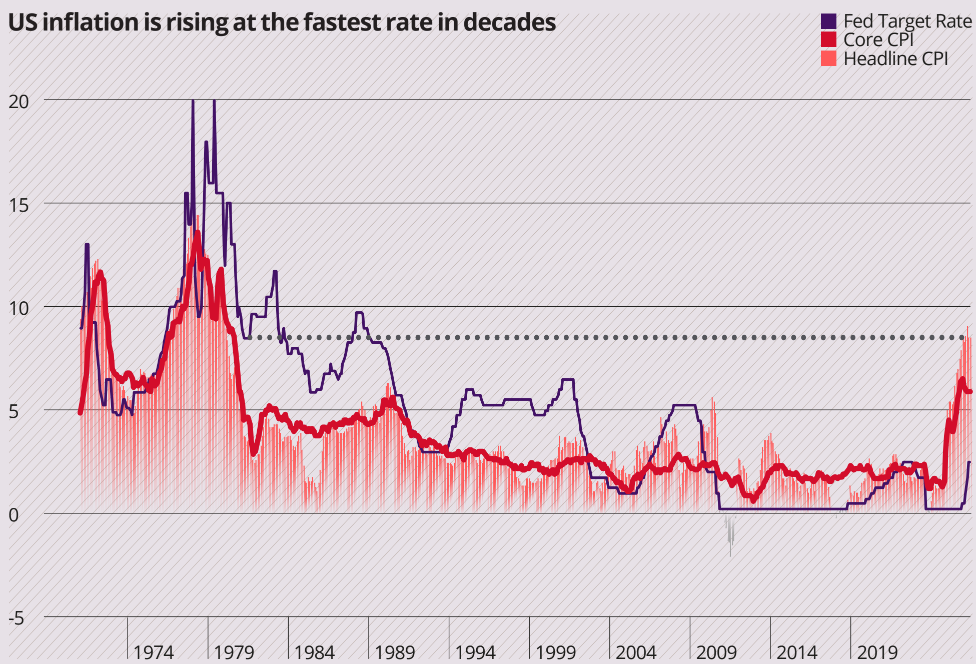
The end of the 40-year interest rate cycle comes at a time of high indebtedness
Federal Funds Rate and US Domestic Debt as a % of GDP



Source: Deutsche Bank, 26 September 2022.
The information shown above is for illustrative purposes.

Figure 3

US inflation is rising at the fastest rate in decades



Source: Bloomberg 31 August 2022.
The information shown above is for illustrative purposes.

Over the next few pages, we demonstrate some of the excesses that have built up over the last forty years (and particularly in the last decade) and discuss the impact of a mean reversion back to long-term averages.

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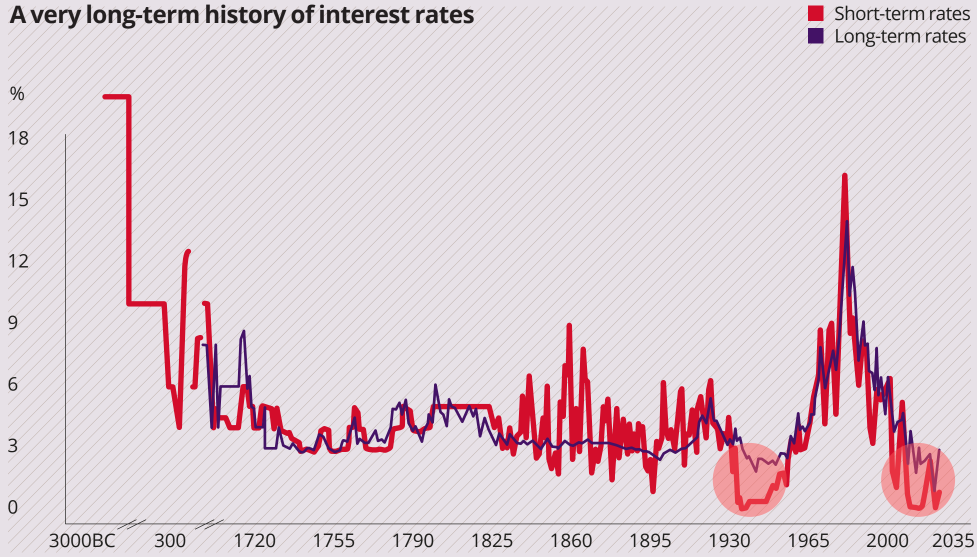
Interest rates

It is logical that we start with a look at interest rates since the forty-year march downwards from 19% to zero explains so many of the excesses manifested elsewhere. As Edward Chancellor notes in his wonderful new book 'The Price of Time: The Real Story of Interest' today's ultra-low interest rates have contributed "to many of our woes, whether the collapse of productivity growth, unaffordable housing, rising inequality, the loss of market competition or financial fragility. Ultra-low rates also seemed to play some role in the resurgence of populism". The book also goes into detail about how low interest rates have contributed to what the author describes as "A Big Fat Ugly Bubble" in which stocks, bonds, real estate, crypto and even corporate profits were inflated to levels far in excess of their long-run norms.

Figure 4

A very long-term history of interest rates



Source: BofA Global Investment Strategy, 22 May 2022, Bank of England, Global Financial Data, Homer and Sylla 'A History of Interest Rates' (2005).
The information shown above is for illustrative purposes.

2020 appears to have marked a secular low in inflation and interest rates after a forty-year bull market which was positive for nearly all financial assets. There must be every chance that the next decade heralds a return to higher interest rates caused by inflationary trends such as net-zero and the end of globalisation. If this is the case, it could spell a much more fallow period for returns from most asset classes.

Interest rates have begun to rise again and as we finished writing this paper, the US Federal Reserve had increased interest rates by 75bps to 3.25% and they are expected to increase to 4.4% by the end of the year. The Bank of England increased the base rate by 50bps to 2.25%. Knowing exactly how high they will rise is difficult although a cursory glance at the chart above would also suggest that there is still some way to go.

Quantitative easing

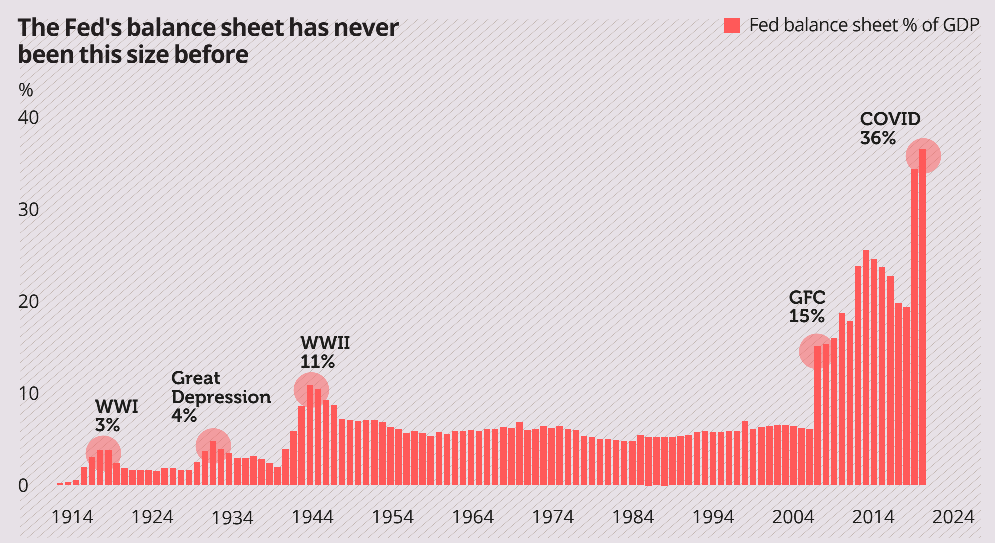
The last decade witnessed an experiment in monetary policy in which central banks around the world printed money on a scale never witnessed before. Central bank asset purchases have exceeded $23 trillion since the Global Financial Crisis (GFC) and this money was used to buy not only government bonds but corporate debt, mortgage-backed securities and even equities.[2] Most significantly, the US Federal Reserve now owns about a third of both the Treasury and mortgage-backed-securities markets as a result of its emergency asset-buying to prop up the US economy during the Covid-19 pandemic.[3] Two years of quantitative easing doubled the central bank's balance sheet to $9 trillion, equivalent to roughly 40% of the nation's gross domestic product.

By adding so much liquidity to the financial system, the Fed (and other central banks) helped fuel significant gains in the stock, bond, real estate markets, and across many other investment assets. Unsurprisingly, this created an epic bubble in all these asset classes but did not really produce economic growth. This has increased wealth inequality as those with the assets (the rich) benefited the most. Latterly, this has contributed to inflation, which is also hitting the poorest in society the hardest and exacerbating wealth inequality.

Now, with inflation remaining stubbornly high, the Fed is unwinding this liquidity via a process known as quantitative tightening, or QT. In June, the central bank started to shrink its portfolio by letting up to $30 billion of Treasuries and $17.5 billion of mortgage-backed securities, or MBS, roll off its balance sheet, or mature without reinvesting the proceeds. It seems logical to conclude that the reversal of a policy that was universally positive for financial assets should prove to be a negative.

[2, 3] Source: Bloomberg

Figure 5

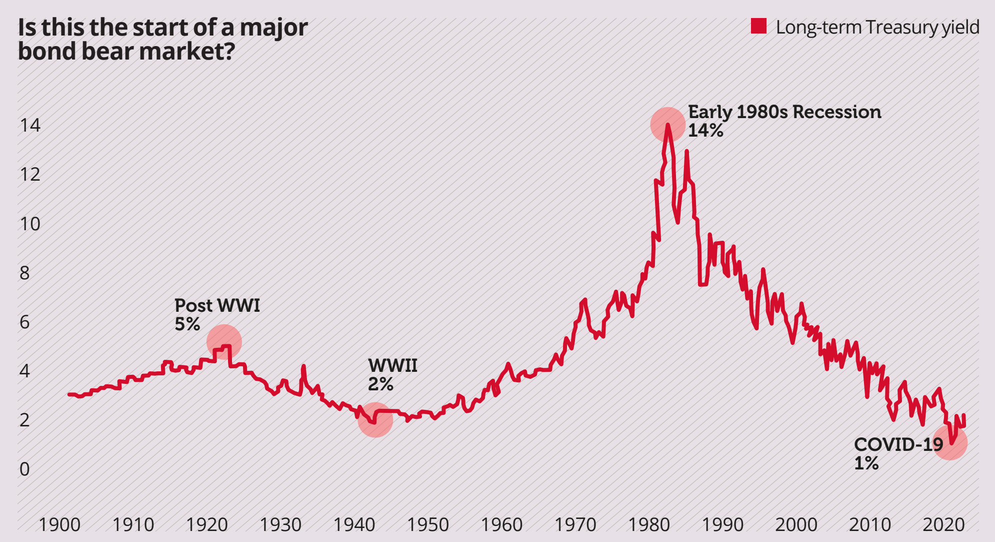


Source: BofA Global Investment Strategy, Haver, Federal Reserve Board, Global Financial Data, White House, 22 May 2022. The information shown above is for illustrative purposes.

Bond yields

With inflation reaching double digits in many countries, governments running massive fiscal deficits and central banks starting to unload their holdings of bonds, it would appear likely the great bond bull market that started in 1980 may have ended in 2020 and that a bond bear market may be underway. As figure 6 illustrates, the two previous major bond bear markets were 1899 to 1920 and 1946 to 1981.

Figure 6



Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg, 22 May 2022. The information shown above is for illustrative purposes. Past performance is not a guide to future returns.

"I used to think if there was reincarnation, I wanted to come back as the president or the pope or a .400 baseball hitter. But now I want to come back as the bond market. You can intimidate everybody."

James Carville

Bond yields have already started to move up fairly aggressively in 2022. In the first half of the year, 10-year US Treasuries had their worst first half since 1788, losing more than 13%. Italy's bonds haemorrhaged 25% in preparation for the European Central Bank's first-rate hike in over a decade; and emerging-market debt was down nearly 20%.[4] I suspect this will have come as a shock to many investors who had been conditioned to believe that government bonds were very low risk. Whilst it is hard to know where bond yields will settle in a market free from central bank manipulation, a glance at the chart above would suggest we are not there yet.

Government debt

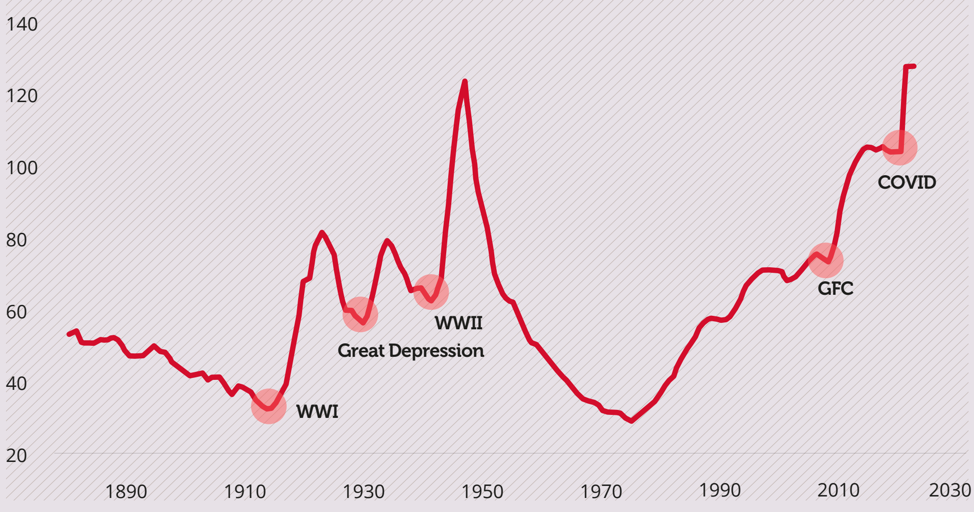
Public debt soared from $100 trillion to $277 trillion after the GFC. Whilst advocates of modern monetary theory have suggested that there is no limit to the amount of debt that a government can issue, historical precedents have never supported this view and I discussed the many flaws in this theory here. Many years ago, financial markets would usually act as a constraint on governments who were fiscally reckless. The term 'bond vigilantes' was originally coined by former EF Hutton economist Edward Yardeni in the early 1980s to describe how bond sell-offs could force the hand of central banks or governments. The concept was later immortalised by James Carville, an aide to President Bill Clinton who in 1994 ruefully wished he could be reincarnated as the bond market so he could "intimidate everybody".

[4] Source: Bloomberg

For the past two decades there has been little sign of the vigilantes. Inflation remained quiescent globally, and a desperate hunger for returns eroded the discipline of many bond investors. Since the financial crisis, many central banks have smothered fixed-income markets with a succession of vast quantitative easing programmes that neutered any would-be vigilantes.

Figure 7

Government debt is at levels only seen previously after major conflicts
Public debt in advanced economies, 1880-2021



Source: BofA Global Investment Strategy, IMF, Historical Public Debt Database; IMF, World Economic Outlook database; JST MacroHistory database; Maddison Database Project; Thomson Reuters Datastream, Global Financial Data; and IMF staff calculations. Note: The public-debt-to-GDP and long-term interest rates series for advanced economies are based on a constant sample of 20 2w2wcountries, weighted by GDP in purchasing power parity terms. WWI = World War I; WWII = World War II, 22 May 2022. The information shown above is for illustrative purposes. Past performance is not a guide to future returns.

As discussed above, it seems likely that the bond vigilantes may return, and we are potentially about to find out the true cost of borrowing for a highly indebted government with no plan to return to running a surplus. As I write, the new UK Chancellor of the Exchequer, Kwasi Kwarteng has announced a mini-budget which involves £291bn (12.6% of GDP) in fiscal measures over the next five years. Since this is mostly to be financed by increased borrowing, the Gilt market has reacted very badly with the UK 10-year Gilt now yielding 4.2% versus 1% at the start of the year. The 30-year Gilt yield spiked as high as 5.1% before falling back to 4.0% following intervention by the Bank of England to stave off an imminent crash in the UK bond market.

Figure 8

The return of the bond vigilantes?
30-year UK Gilt yield

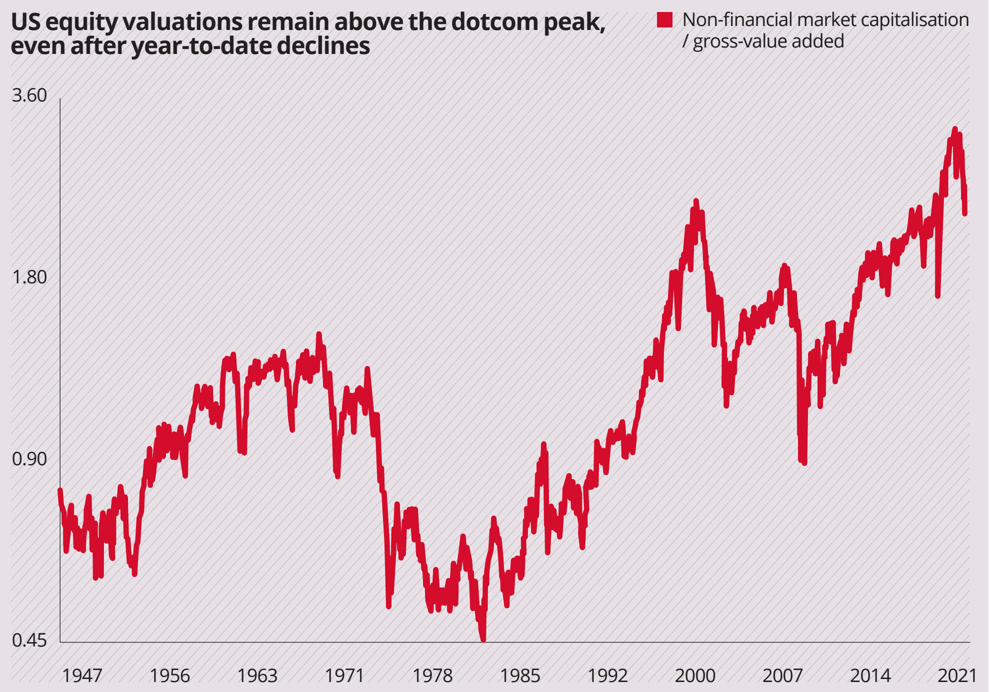
Source. Bloomberg, 29 September 2022.
The information shown above is for illustrative purposes. Past performance is not a guide to future returns.

Equity valuations

US equity valuations in 2021 exceeded the previous peaks of 1929 and 2000 to such an extent that even the 20% decline year to date has not yet taken them down to 2000 peak valuations. A decline back to long-run averages would require the US market to lose two-thirds of its peak value.

Figure 9

US equity valuations remain above the dotcom peak, even after year-to-date declines

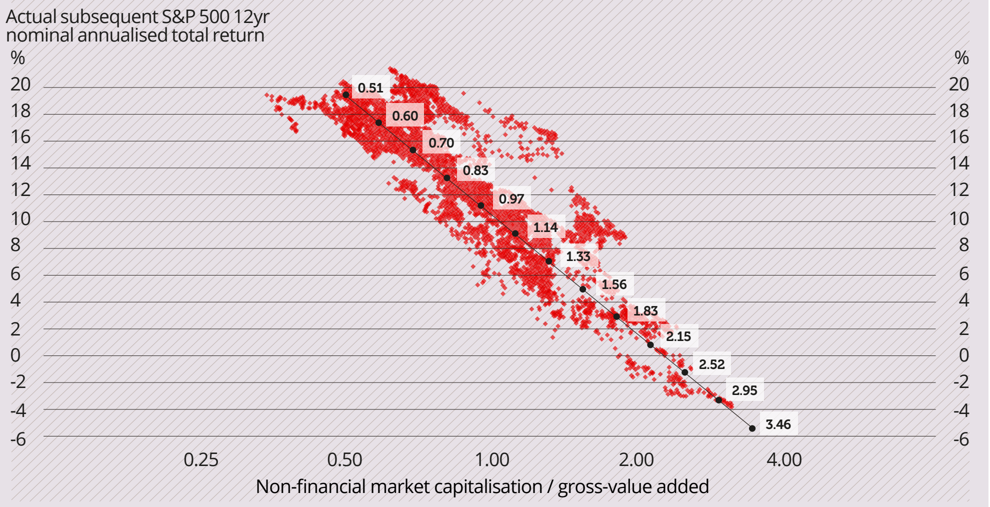


Source: Hussman Funds, August 2022.
The information shown above is for illustrative purposes. Past performance is not a guide to future returns.

Empirical evidence shows that there is in an inverse relationship between starting valuation and subsequent returns as figure 10 below shows.

Figure 10

Charting the inverse relationship between starting valuation and subsequent long-term returns



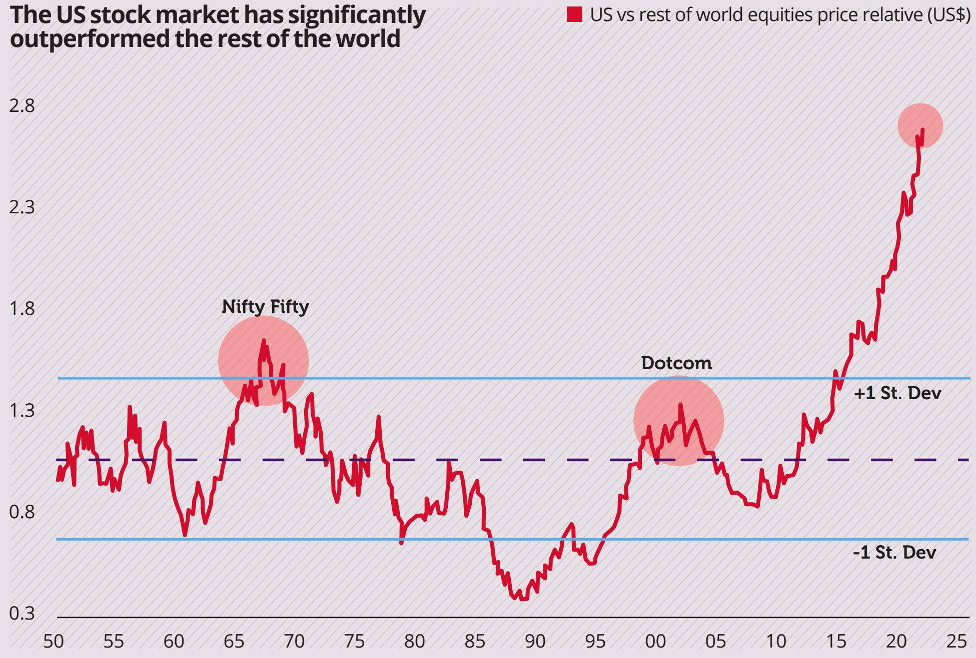
Source: Hussman Funds, August 2022.
The information shown above is for illustrative purposes. Past performance is not a guide to future returns.

US equity market versus other world markets

As figure 11 shows, the epicentre of the equity bubble has been the US market which has far outperformed all other markets. Even in comparison to the Nifty Fifty Bubble and TMT, today's excess is truly remarkable. The US now represents 68% of the MSCI World Index and since many professional investors feel the institutional imperative not to stray too far from the benchmark, exposure to this index will be high despite it being more expensive than any other developed market and most expensive relative to its own history thus paving the way for substantial losses.

Figure 11

The US stock market has significantly outperformed the rest of the world



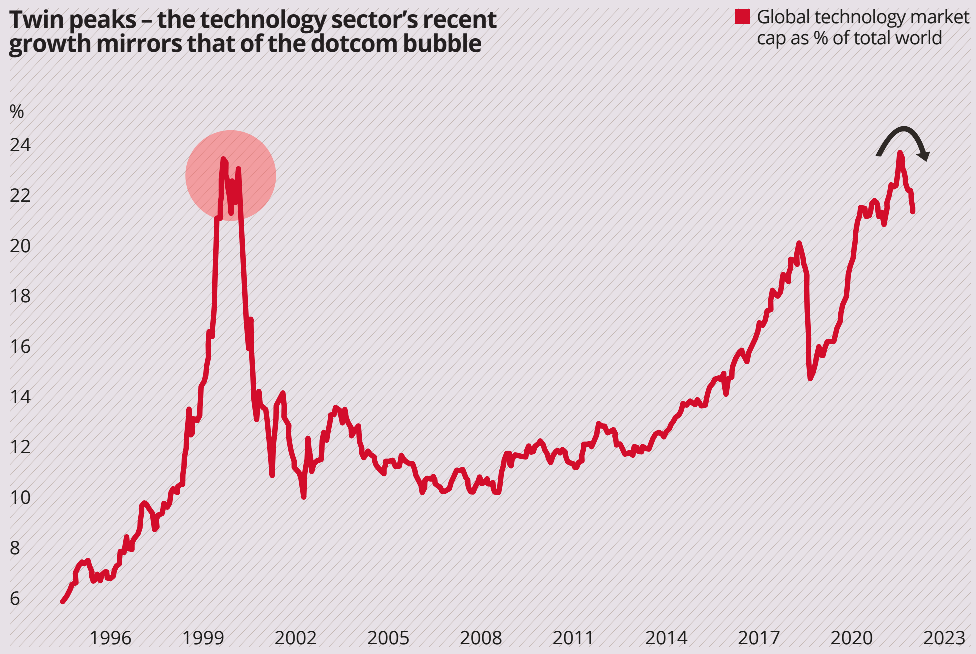
Source: BofA Global Investment Strategy, Bloomberg, Global Financial Data, 22 May 2022.
The information shown above is for illustrative purposes. Past performance is not a guide to future returns.

Sectors

One of the reasons for the excessive valuation of the US equity market is because of the bubble in technology stocks so amply demonstrated in figure 12. From a mere 6% in 1994, the technology sector rose rapidly to a high of 24% in 2000, making it the largest sector in the world at the time. After the TMT bubble burst, during which Nasdaq lost 78% in two years, technology's market share fell to 11%. More recently, technology as a share of world market cap increased in 2021 to 20.2%, its largest share since September 2000 but now clearly looks to have rolled over.

Figure 12

Twin peaks – the technology sector's recent growth mirrors that of the dotcom bubble

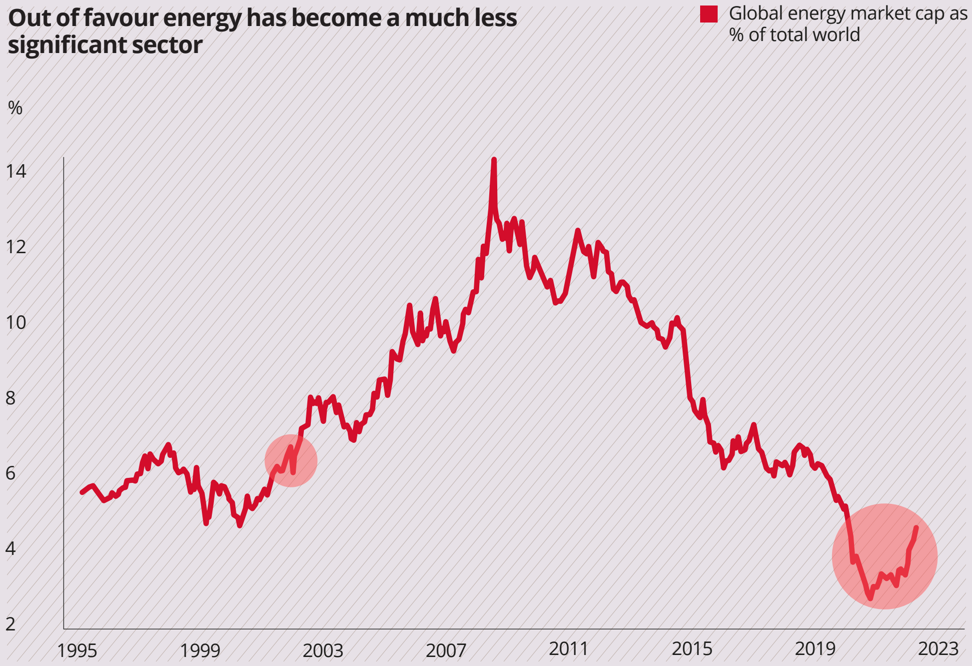


Source: BofA Global Investment Strategy, MSCI, DataStream, 22 May 2022.
The information shown above is for illustrative purposes. Past performance is not a guide to future returns.

Conversely, many investors have abandoned the energy sector and hence it today only represents 3% of the global market cap having previously been as high as 14% in 2008, reflecting the boom in commodity prices and Emerging Markets in the past decade.

Figure 13

Out of favour energy has become a much less significant sector



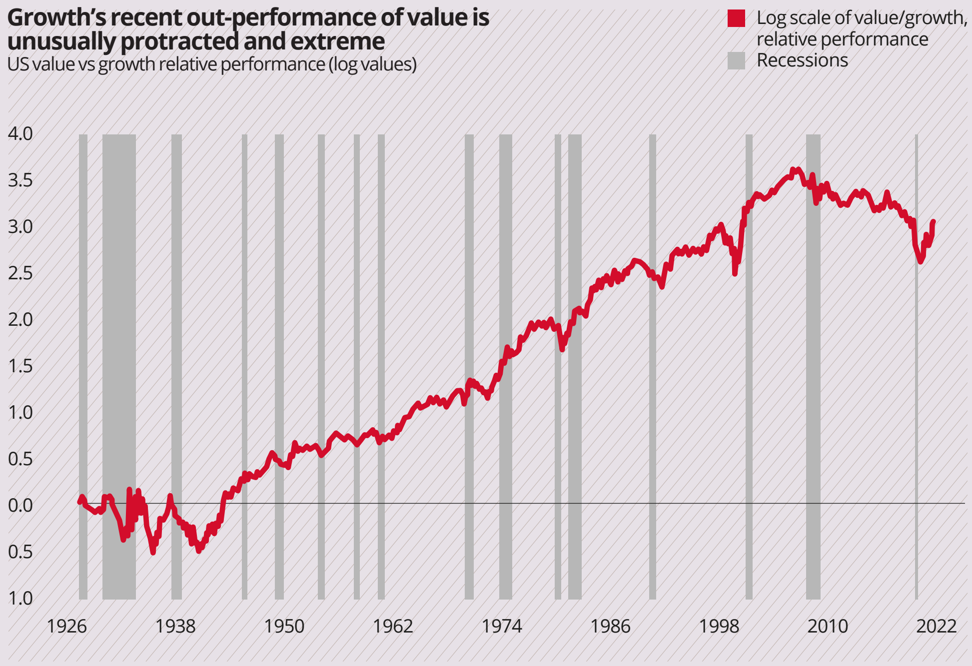
Source: BofA Global Investment Strategy, MSCI, DataStream, 22 May 2022.
The information shown above is for illustrative purposes.

Value vs growth

Another anomaly of the last decade has been the outperformance of growth investing versus value investing. Since 1926, the average annual price return of value stocks is 19% versus 15% for growth stocks and value has beaten growth in three out of every five years. As the chart below demonstrates, value tends to do well in periods of economic expansion whilst growth does better during periods of depression, recession and below trend growth. As the deflationary forces that favoured growth in the last decade turn inflationary, there is potentially a chance of a return to the long-run pattern of value beating growth, particularly given the starting point of the spread in valuations being in the 98th percentile.

Figure 14

Growth's recent out-performance of value is unusually protracted and extreme
US value vs growth relative performance (log values)

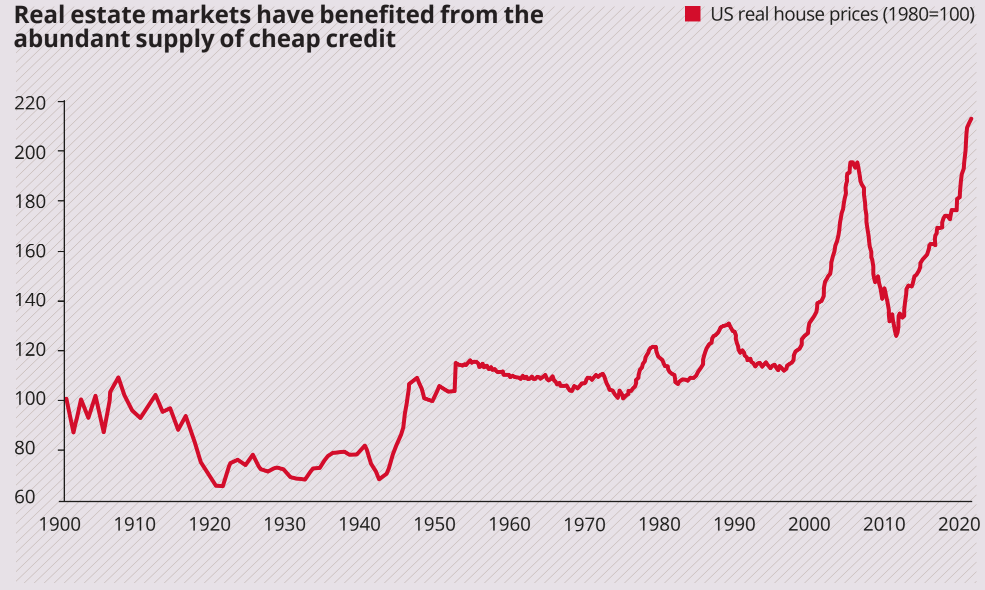


Source: BofA Global Investment Strategy, Ibbotson, Fama-French, 22 May 2022.
The information shown above is for illustrative purposes. Past performance is not a guide to future returns.

House prices

Another asset class that benefited from plentiful supply of cheap borrowing was real estate and despite the fact that this contributed to the GFC, house prices have continued to soar since then. Figure 15 shows US house prices, which are now higher than the level they reached just before the sub-prime mortgage crisis. Rising interest rates seem likely to curb some of the excesses in these areas and it is notable that prices have already started to roll over in these markets.

Figures 15



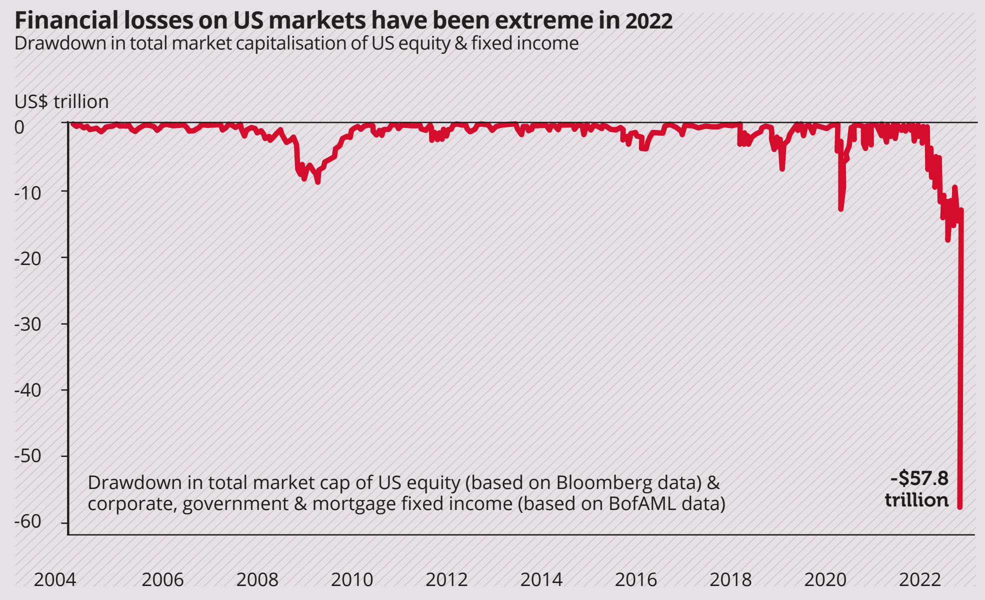
Source: Deutsche Bank, 26 September 2022.
Past performance is not a guide to future returns.

The implications of the ending of the forty year cycle

Any investment advisor in their mid-fifties would have entered the industry in the late nineteen eighties and thus spent their entire career in a secular bull market for equities, bonds, and real estate. They will have become conditioned to believing that these assets only ever go up, that any dip must be bought and that returns will always be improved by the addition of leverage. As interest rates fell, they may have been forced to take on even more risk in search of yield and also been pushed into more illiquid assets. If it is true that the last forty years were in many ways exceptional then it stands to reason that a likely future scenario is mean reversion of many things back to their very long-run averages. In this event, the portfolio that performed so well in the last forty years could prove to be sub-optimal.

The impact of this mean reversion across major asset classes is almost too painful to consider. Jeremy Grantham of GMO has estimated that if the major asset classes return even two-thirds of the way back to historical norms, total wealth losses will be of the order of $35 trillion in the US alone (although figure 16 suggests this may have been a conservative estimate). The impacts will show up in multiple places from government finances to pension funds, consumer spending and could even shape societal attitudes.

Figure 16



Source: Bloomberg, Gavekal Research, Macrobond.
The information shown above is for illustrative purposes. Past performance is not a guide to future returns.

The Artemis paper, The Allegory of the Hawk and Serpent: How to Grow and Protect Wealth for 100 Years, January 2020, considers the impact of lower returns on state pension funds which it suggests could dwarf the cost of the bailout of the US banking system following the Great Financial Crisis.

> " The average US State Pension System assumes a discount rate of 7.25% on plan assets. In the event returns are just -2% per annum lower, the average pension falls from 70% funded to under 50%, and over one-third of the state pension systems will have a funding ratio below 30%. The total underfunded pension liability expands from $1.4 trillion to $3 trillion or 4x the cost of the bailout of the entire US banking system during GFC or the total FY2020 tax revenues of the US government. A lot is riding on the assumption that the period of 1984-2007 is repeatable. If these assumptions prove wrong, a default in the pension and entitlement system is inevitable, setting up a once in a generation financial and social crisis. "

I believe a combination of recency bias (extrapolating forward the recent pattern of returns into the future) and cognitive dissonance (the scale of the potential losses is too painful for most to contemplate) means that many investors are not prepared for a changing environment. Possibly the biggest risk to investors could be the assumption that the last forty years was normal and is hence repeatable. I am struck by how many investment firms still have some sort of variation of the classic 60/40 equity/fixed income portfolio which served them so well over the last few decades and hence don't appear to have considered the possibility that that the next decade could look very different.

What does it potentially mean for an equity investor?
As an equity investor, there are certain conclusions which jump out at me from the charts above:

- Equity returns are likely to be much lower than in the previous decades with the possibility of much greater volatility (as central banks are less able to ride to the rescue in every market decline)
- This won't be the same for every geography or every sector since there is a wide dispersion of starting valuations – thus, the much lower valuation of the UK versus the US could make it a better place to be whilst the same point could be made for energy over technology
- The change from a deflationary to an inflationary environment could presage the return to the outperformance of value over growth, particularly given that the dispersion in valuations between the two are nearly as wide as they have ever been
- Avoid sectors which rely on strong returns from financial markets such as asset managers, house builders and commercial property companies and in particular those that have relied on leveraging up returns
- Avoid companies with weak balance sheets as the combination of rising interest rates and slowing growth can be fatal for these types of businesses
- Look at companies that struggled during the declining interest rate period such as banks as it is quite possible they become the winners during a rising rate environment

Conclusion

It is important to conclude by saying that we are not top-down investors, and this paper should not be taken as a prediction. Hopefully what it has demonstrated, however, is that the last forty years have seen a truly epic environment for financial assets which seems unlikely to be repeated and that reversion to long-run mean is one scenario that investors should consider, particularly because the implications are so far-reaching. In fact, the potential costs of a mean reversion to long-run averages across a wide variety of asset classes are so large that part of me questions whether politicians and / or central banks will allow it to happen. Another scenario must be that just before things turn really nasty, they revert to type and try to bail out the system by printing money once again. Ominously, just as this paper was being finalised, the Bank of England announced a temporary suspension of QT and a return to QE. This would, of course, mean abandoning any attempt to control inflation, which would also have very serious implications for which asset classes to own. But that's another story...

Key Information:
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AIFMD and Distribution in the European Economic Area (“EEA”)

The Alternative Fund Managers Directive (Directive 2011/61/EU) (“AIFMD”) is a regulatory regime which came into full effect in the EEA on 22 July 2014. RWC Asset Management LLP is an Alternative Investment Fund Manager (an “AIFM”) to certain funds managed by it (each an “AIF”). The AIFM is required to make available to investors certain prescribed information prior to their investment in an AIF. The majority of the prescribed information is contained in the latest Offering Document of the AIF. The remainder of the prescribed information is contained in the relevant AIF’s annual report and accounts. All of the information is provided in accordance with the AIFMD.

In relation to each member state of the EEA (each a “Member State”), this document may only be distributed and shares in a RWC fund (“Shares”) may only be offered and placed to the extent that (a) the relevant RWC fund is permitted to be marketed to professional investors in accordance with the AIFMD (as implemented into the local law/regulation of the relevant Member State); or (b) this document may otherwise be lawfully distributed and the Shares may lawfully offered or placed in that Member State (including at the initiative of the investor).

Information Required for Distribution of Foreign Collective Investment Schemes to Qualified Investors in Switzerland.

The representative and paying agent of the RWC-managed funds in Switzerland (the “Representative in Switzerland”) FIRST INDEPENDENT FUND SERVICES LTD, Klausstrasse 33, CH-8008 Zurich. Swiss Paying Agent: Helvetische Bank AG, Seefeldstrasse 215, CH-8008 Zurich. In respect of the units of the RWC-managed funds distributed in Switzerland, the place of performance and jurisdiction is at the registered office of the Representative in Switzerland.