The Ruffer Review 2022

> **“WE NEED TO REMEMBER A LESSON WE LEARNT IN KINDERGARTEN – IF YOU MAKE A MESS, YOU HAVE TO CLEAN IT UP.”**

Tim Kruger

PAGE 56

Thinking in narratives

Charalee Hoelzl

PAGE 90

The gathering storm

Alexander Chartres

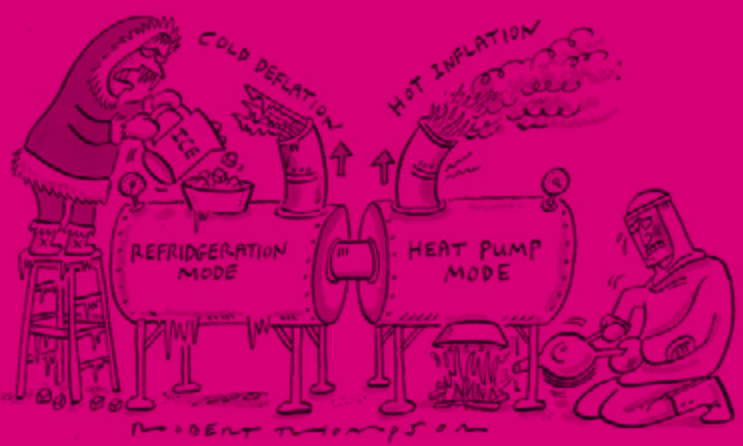
PAGE 34

The perils of yesterday’s logic

“Investing for inflation volatility is not the same thing as investing for inflation. Confusion in this respect will be costly to investors.”

Henry Maxey

PAGE 14



The art of bubble spotting

Lauren French

PAGE 82

The risk addiction

“In the depths of addiction, nothing else matters. So what happens when the addiction is to risk?”

Alex Lennard

PAGE 8

A grand plan for the land

Harry Buscall

PAGE 46

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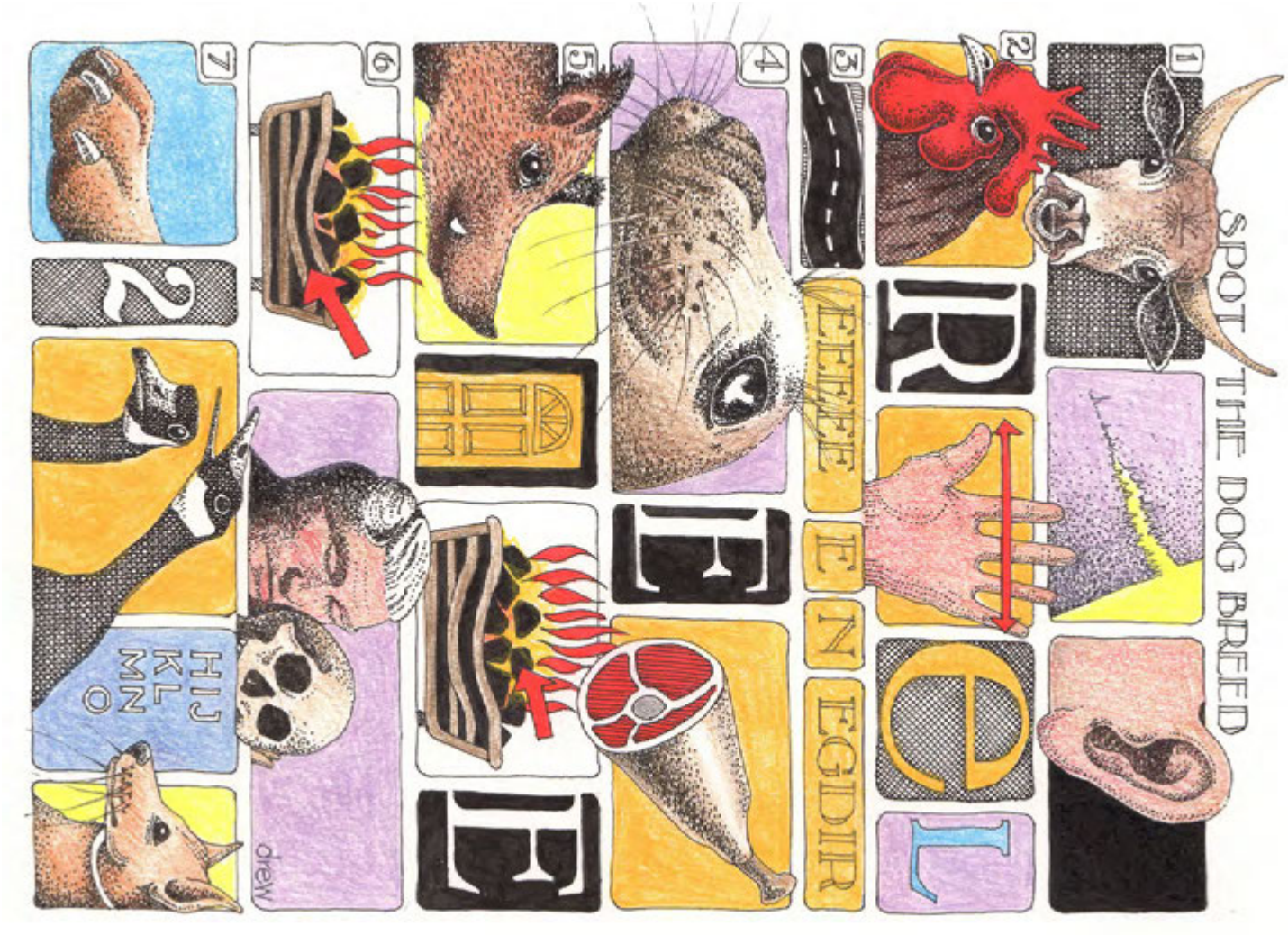
“Even the enlightened can fail to see.”

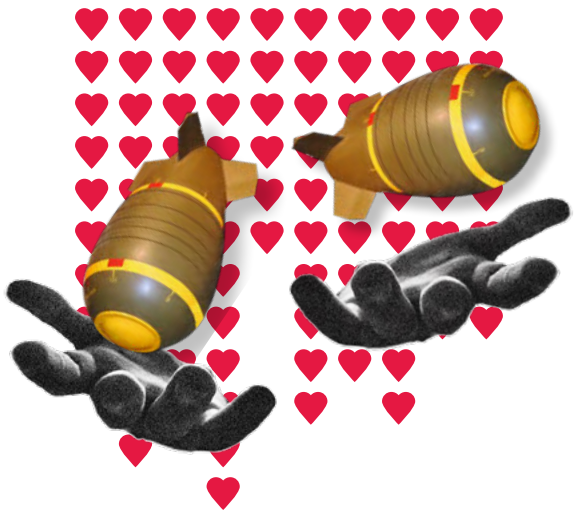
Aled Smith

PAGE 119

This little quiz from Simon Drew (simondrew.co.uk) is for entertainment purposes only. It contains no hidden investment advice and it is not a solicitation to buy or sell securities that may be connected to pet ownership. Answers can be found inside the back cover.

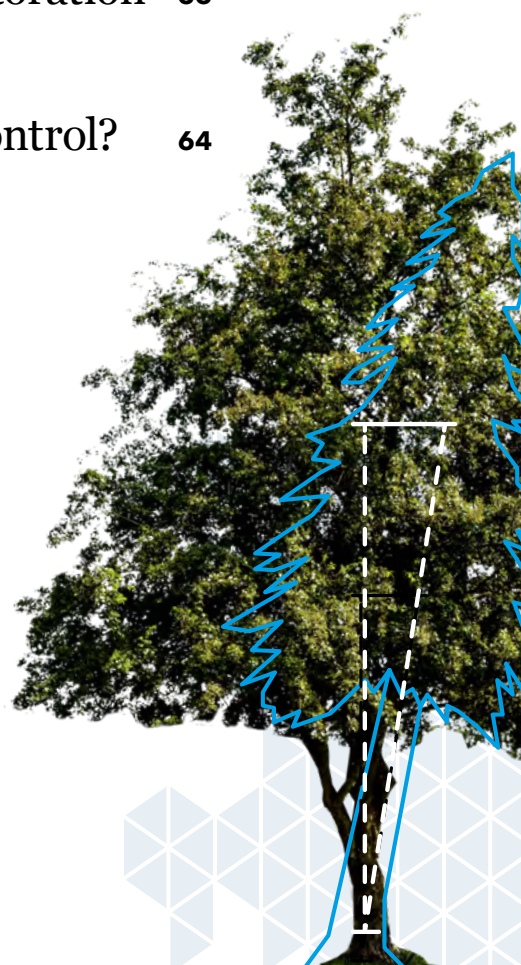


Contents



RISK AND ITS REPERCUSSIONS

A CLIMATE THAT'S CHANGING



STORIES ARE SHIFTING

Foreword

JONATHAN RUFFER
Chairman

THE RUFFER REVIEW EXISTS in part to inform and, at a push, to entertain. More important, it aims to reassure. Have clients of Ruffer chosen well, in committing their prosperity - or a part of it - to these people? Our sole stock-in-trade is judgement, and our universe is entirely in the future. Our clients' prosperity depends on the soundness of decision making.

I have read through, in a single sitting, the contents of this Review. I have changed nothing, excepting for a single split infinitive, which I'm sure would have compromised our reputation immeasurably had it made it to publication. I take away three things.

The first is how broad the base of enquiry is among my colleagues. Ruffer is a school – in the classical meaning of the word – a congregation of independent minds struggling to understand the world in which we live, and committing to keep the investment process flexible and robust in its light.

The second is the breadth of the insights. I see countless evidence of greater knowledge, deeper understanding, and higher sympathies than I am capable of. This is as it should be, but it is not for me to make that judgement – it's for you.

Last, the Review captures the personal and individual qualities of the team members at Ruffer. This is a deep source of pride to me. Pride, because it is something independent of me – and because it is the living organism which can keep us honest.


Welcome to
FLORIDA
THE SUNSHINE STATE
POKER
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THE RISK ADDICTION

IN THE DEPTHS OF ADDICTION NOTHING ELSE MATTERS. The pursuit is focused, relentless and uncompromising – dismissive of any potential consequences. So what happens when the addiction is to risk?

I learnt about the nature of addiction to risk from the experience of my family. I have witnessed the recklessness and the consequences of loss.

This has shaped me as an investor.

ALEX LENNARD
Investment Director

A SEATBELT AND A SPIKE

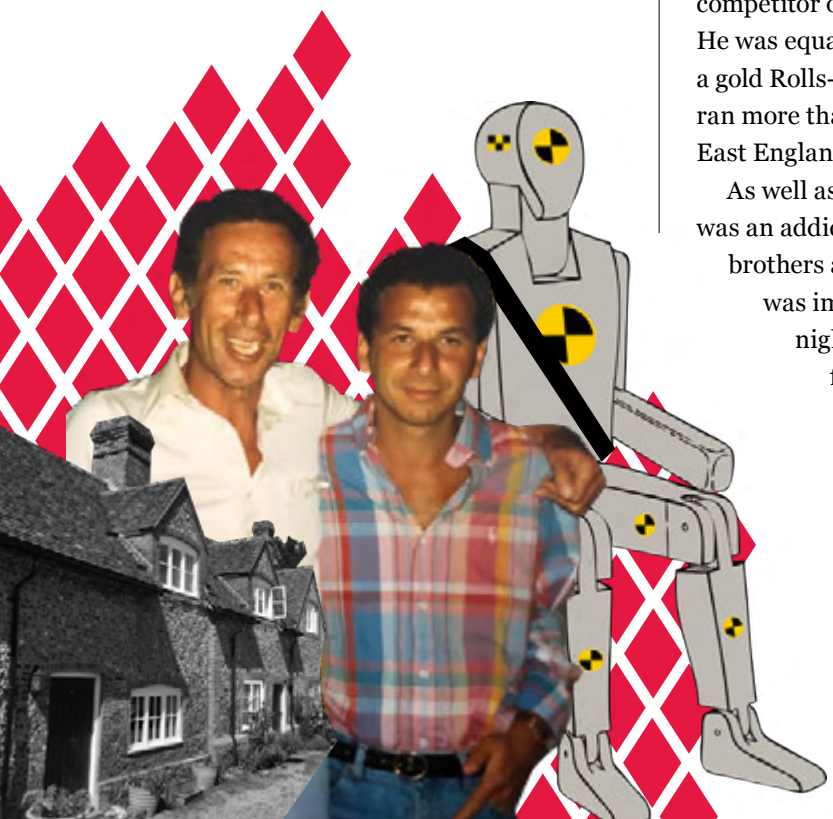
When one of my friends returned from her Oxbridge interview, she regaled us with a question she had been asked: "Should animals have wheels?" Her response: "Only if they have brakes."

Of course, it is worth being mindful of the folklore which surrounds this tradition – questions and answers seem to get whackier and wittier with each passing year and prospective undergraduates have a habit of retrospectively leaving out their 'umms and ahhs'.

Embellished or not, it has stuck with me for over twenty years. Not only for my friend's scintillating response but for how it resonates with the world of investing and the concept of risk and return.

Today, investors can travel as fast as they want provided they have sufficient risk processes. The trouble is, this is often a false comfort. In one of the early chapters of his book, *The Armchair Economist,* Steven E Landsburg asks: "Why are seatbelts so deadly?" His hypothesis is that drivers feel safer if they are wearing a seatbelt, so they drive faster and more dangerously. For the investment analogy, replace the sources of false comfort – the seatbelts – with zero-interest rates and volatility targeting.

Landsburg's tongue-in-cheek solution? We should drive around with a gigantic spike mounted on the steering wheel pointed at our chests. We might not get anywhere very quickly, but there would be far fewer deaths.



THE RISK I WILL NEVER TAKE

From an early age, the concept of the spike has weighed heavily on me. One of my earliest memories is of walking up the drive of our family home in Fulmer in Buckinghamshire. My cousin asked what the sign at the front of the house meant. At the time, all I knew was that we had run out of money, and we needed to move out. The house was being repossessed.

I have always been clear with myself, as has my cousin with herself: I would not risk ending up like my father. No risk was worth taking at the cost of losing everything.

A SUCCESS AND AN ADDICT

In the tradition of many Jewish immigrants, my father was in the clothing business (as was his father) and he had been remarkably successful. After leaving school at fifteen, he grew a business selling cheap clothes for women. He was close friends with, and a competitor of, Philip Green of Topshop fame. He was equally flash too – aged 25, he drove a gold Rolls-Royce. At its peak, the business ran more than twenty shops across South East England.

As well as being successful, my father was an addict. He was the eldest of four brothers and the most revered. Money was important in his family. Friday night dinner would start when my father arrived, whether everyone was there or not. The problem was that, although he was earning cash, the business was not terribly profitable.

The first addictive behaviour I recall (aside from the simultaneous chewing of nicotine gum and smoking of cigarettes)

involved him driving from shop to shop to revel in the amount of cash in the tills or the safe. His buzz depended on the thickness of the wads of notes. But the addict is insatiable, and so he would drive to the next shop, and the next.

Little if any thought was given to whether it was money to be spent or not. He only focused on the return, blind to the risk involved.

This addiction manifested in more shops, bigger floor plans and more stock, piled high without any thought of the customers' experience. As long as the economy, and his business, was growing, paying attention to the risks was irrelevant. If he could keep the plates spinning, the cash would keep flowing.

IN SEARCH OF THE BRAKES

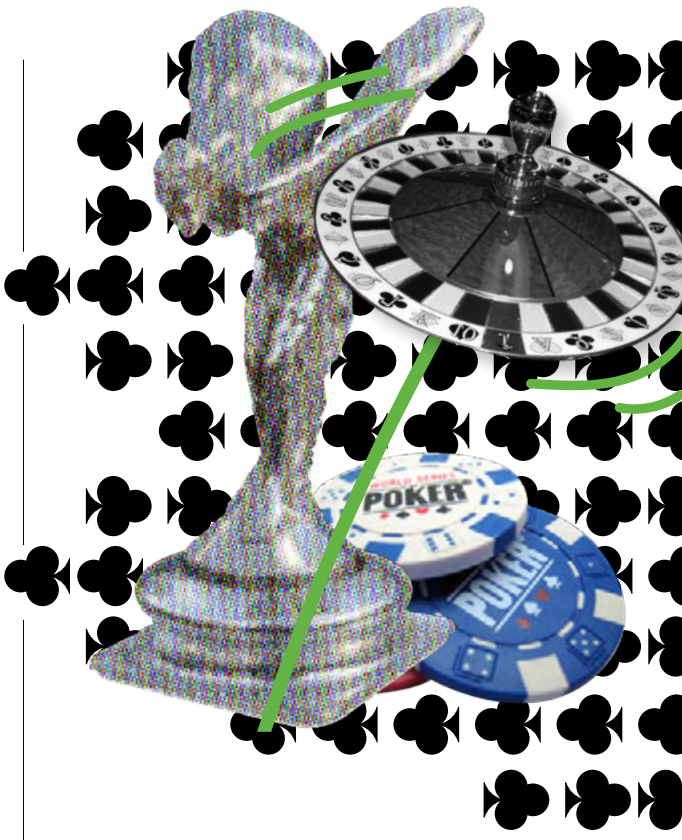
The bets got bigger, eventually culminating in using the family home as collateral. His business partner, as if to distinguish himself from the suffering addict, refused to do the same.

One of the traits of addiction is acting excessively without awareness of consequences. The property crash of 1989 and ensuing recession caused the plates to stop spinning. The results were disastrous – he lost his business and his home and was declared bankrupt.

It was this experience that made me acutely aware of risk and the consequences of loss. And these have become my brakes.

AWARE BUT NOT AVERSE

"A risk averse fund manager is as about as useful as a cowardly soldier." This is something Jonathan Ruffer regularly reminds clients of. He is right; if we were to drive around with spikes mounted on our steering wheels, we wouldn't travel anywhere fast



(if we got in the car at all). In a world where sources of return are becoming increasingly scarce, investors need to embrace risk. I'm always frustrated when I see Ruffer characterised as 'risk averse' in the financial press. We are comfortable embracing risks, but we hold on to another question whilst doing so: what if we are wrong?

What about the wheels? Whilst I have a heightened sense of risk, I can't help but seek it out; the need is genetic. Some might describe it as bravery, but it almost certainly comes from other qualities bestowed on me by my father. He remains an addict – as is the nature of the disease – with little sense of the consequences of risk. His most recent fortune was lost spread betting on equity indices. He would trade day to day, sustained by the days when he won, and wilfully forgetting the

days he lost. The memory of winning was so vivid in his mind's eye that it would inflate on the days he didn't play. And so, returning to the market, invigorated by a skewed reality, he placed bigger positions. He was entirely unaware that playing £1,000 per point was the equivalent of a £1 million position if the index value was 1,000. He obsessed over the upside, laser-focused on the possibility that, if the index rose by five points, he would make £5,000.

Gambling and addiction run in the family. His father had a wedding dress business but made (and lost) most of his money on the gold market. Ultimately, he too would lose everything he had, and spend his later years in a caravan in Florida.

RISK WITHOUT CONSEQUENCE

Is today's investment world distorted by a prevalence of risk-taking and – for the time being – by a dearth of negative consequences? Many of the stimulus cheques issued over the last two years have not been used on food and housing. Instead, they have ended up in equity markets or cryptocurrencies. Instagram and TikTok are littered with videos where influencers describe how, by investing a relatively paltry sum, anybody can achieve astronomic returns in a matter of weeks or months. "Tired of being poor? I'll let you into a secret..."

Trading and investment apps, like Robinhood, have sought to gamify markets. They have made it easier than ever, and more tempting, to take on risk in the search for return. These platforms are well aware of the proclivity to become hooked on taking risk. At worst, they exploit this. At best, they are enablers of risk addiction.

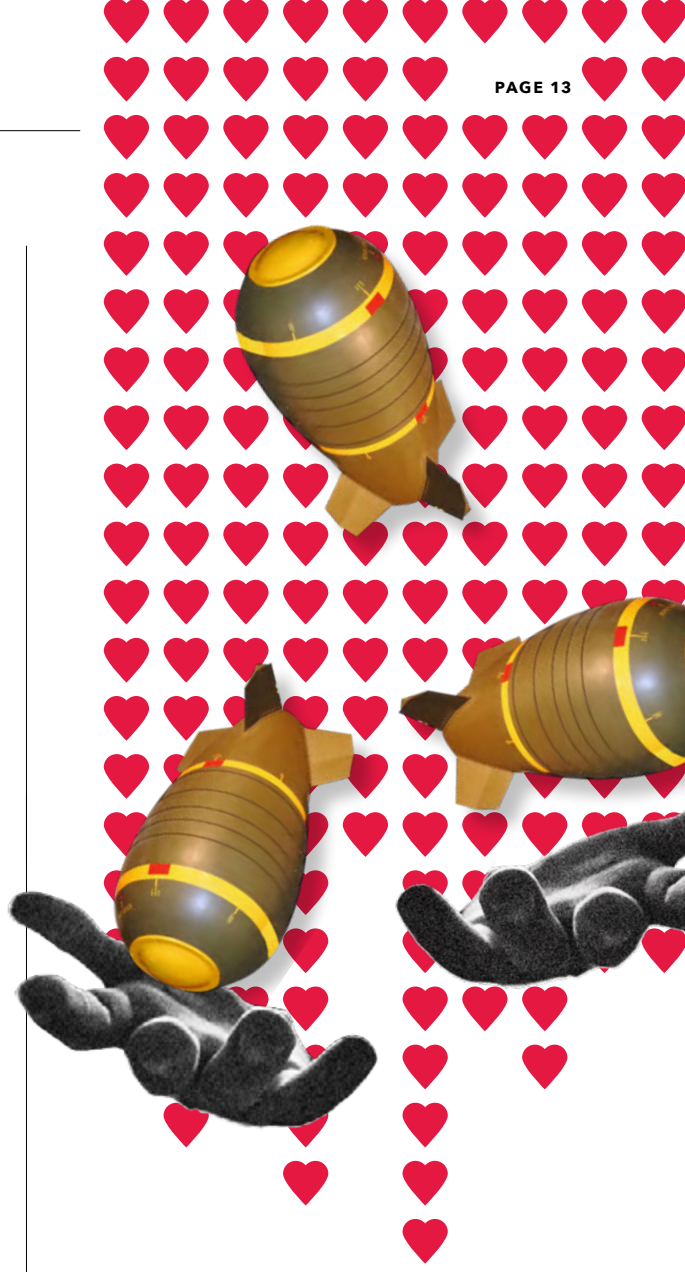
The consequences differ but there are parallels with the OxyContin-led opioid crisis. OxyContin provided relief for many, in the same way as betting on the stockmarket promises great return. The manufacturers were aware of the drug's addictive potential, but only in hindsight have the dangers become truly understood by the wider public.

The growth in popularity of retail investment platforms coincided with a surge in asset prices and risk-taking was almost indiscriminately rewarded, leading to the emergence of a gulf between risk and its consequences.

TWO WOLVES

Both my father and my grandfather were aware of the troubles of gambling. My great uncle was one of the founding members of Gamblers Anonymous in the UK. He gambled away his entire fortune and subsequently entered rehab. He joined the first branch of Gamblers Anonymous in Los Angeles, which consisted of only four members, and seized on the idea of setting up branches in Britain. His obituary refers to a Cherokee story of an old man who tells his grandson that he has two wolves fighting inside him. When the boy asks him how to survive this inward struggle, his grandfather tells him that every day he must remember to feed the good wolf.

I know I have two wolves inside me: one is the need to take risks; the other is an awareness of the danger of those risks. Managing portfolios at Ruffer allows me to feed both. On the one hand, I can satisfy my curiosity and desire to seek out new sources of return. On the other, I am constantly encouraged to ask myself, "what if we are wrong?" Protecting and growing our clients' money requires managing this struggle every day – a tremendous challenge, and one I am privileged to undertake. ●



"I have two wolves inside me: one is the need to take risks; the other is an awareness of the danger of those risks."

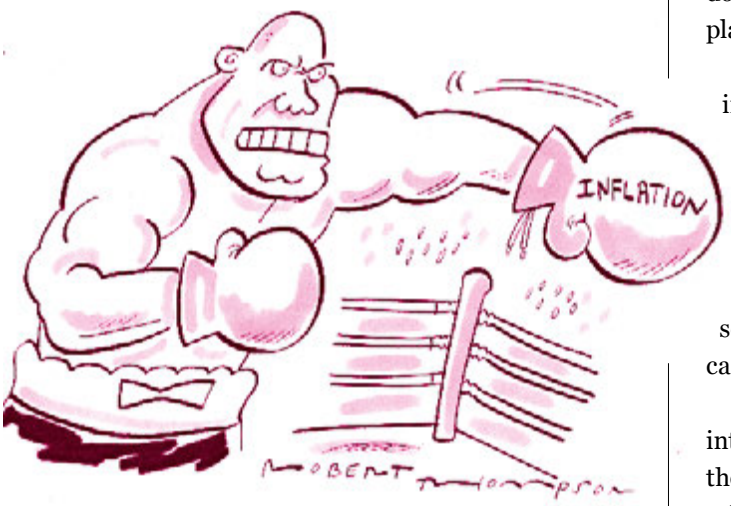
The perils of yesterday's logic

REIMAGINING PORTFOLIOS FOR TOMORROW'S REALITY

WHILE THE COMING INFLATION VOLATILITY WILL GIVE US AN UNCOMFORTABLE RIDE, it should not be an unsolvable problem. But the collapse of the financial market status quo requires us to reimagine portfolios. No longer can we rely on yesterday's logic.

HENRY MAXEY

Chief Investment Officer



"INFLATION IS THE ENDGAME. JUST BRACE FOR INFLATION VOLATILITY FIRST."

This was the punchline of my 2021 Ruffer Review article.

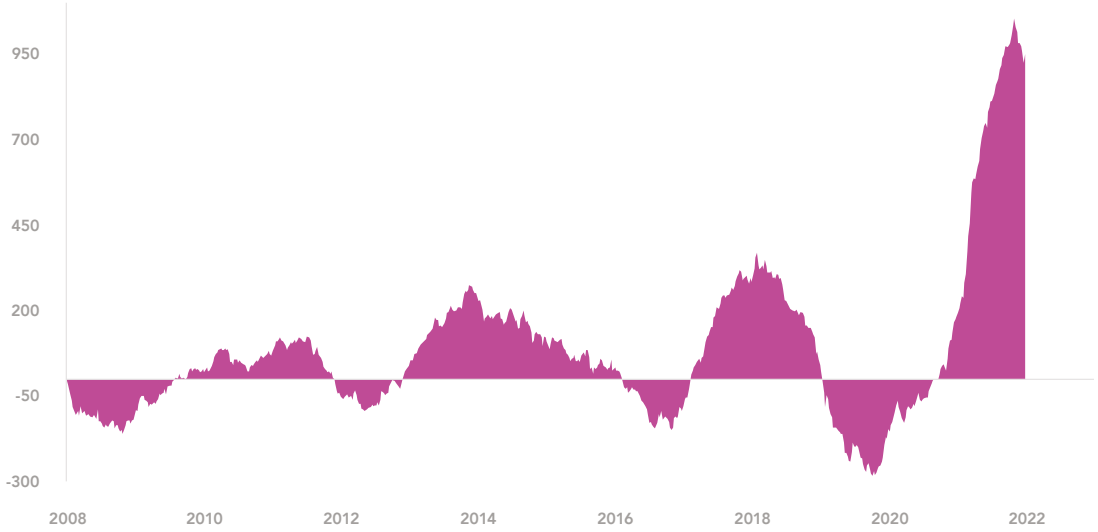
The challenge for investors has been what I've called the 'heavyweight paradox'. We all went into this year knowing the inflation punch was going to hurt but we were reassured by policymakers that the pain would prove 'transitory' as base effects and supply chain issues passed.

What wasn't appreciated was that this inflation punch was being thrown by a heavyweight boxer. Inflation has persisted longer and is higher than expected. And we don't need a tired quote to remind us that no plan survives this sort of pummeling.

Consequently, the pain of the first inflation punch has sent the term transitory to the A&E department. The politics of rage has made sure of that. Many have to come fear that inflation will linger. Ironically, now that it is perceived as a problem, we can rest assured that it will soon appear 'transitory'. But appearances can be deceptive.

Responding to deeply negative real interest rates on cash and bemused by the bond market's seeming inability to acknowledge the inflation problem (bond yields have fallen as inflation has become more of an issue), investors have herded into equity markets. There seems to be no alternative. And there is enormous fear of missing out.

Figure 1
FLOWS INTO GLOBAL EQUITY FUNDS (ROLLING 53 WEEK PERIODS, US$BN)



This raises two questions. Do we still believe inflation volatility will be the primary feature of the next few years? And, if we do, doesn't this imply inflation falling sharply at some point in the next year?

The answers are 'yes' and 'yes'.

Why do I have such conviction in inflation volatility and what does this mean for investors?

These are the questions I hope to answer in this article.

The reason it matters is that investing for inflation volatility is not the same as investing for inflation. Confusion in this respect will be costly to investors.

WARWICK, 26 MAY 1977

Let's step back in time to the University of Warwick, 26 May 1977.

No doubt set to the drizzle of an early English summer, a conference was taking place to discuss the political economy of inflation. At the time, inflation in the UK was running at 17.5% and seemed to be a problem without a solution.[1] Britain had just experienced the ignominy of an International Monetary Fund loan to deal with a balance of payments crisis in 1976. The Warwick conference brought together economists, political scientists and sociologists to consider the problem of inflation as "rooted in political and social forces, and their connection with the economic mechanism".

Yes, you read that correctly: sociologists and political scientists were invited. When we look at our central banks today, powered by the complex models of PhD economists suffering physics envy, it seems quaint that sociologists and political scientists would be asked to express views on inflation. Our policymaking elite take it for granted that inflation is the outcome of the economic mechanism and can be managed by a technocratic, independent central bank which understands the mechanism.

At the time, economist Milton Friedman summed up this mechanistic view by

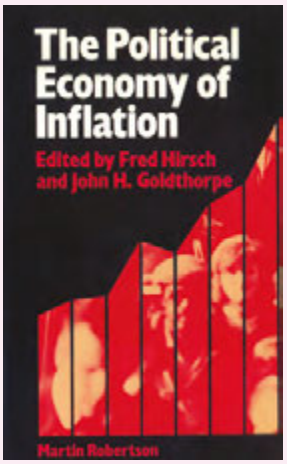
Source: EPFR, Goldman Sachs Global Investment Research, data to 31 Dec 2021

1 Office for National Statistics (ONS)

2 Hirsch and Goldthorpe (1978), The Political Economy of Inflation

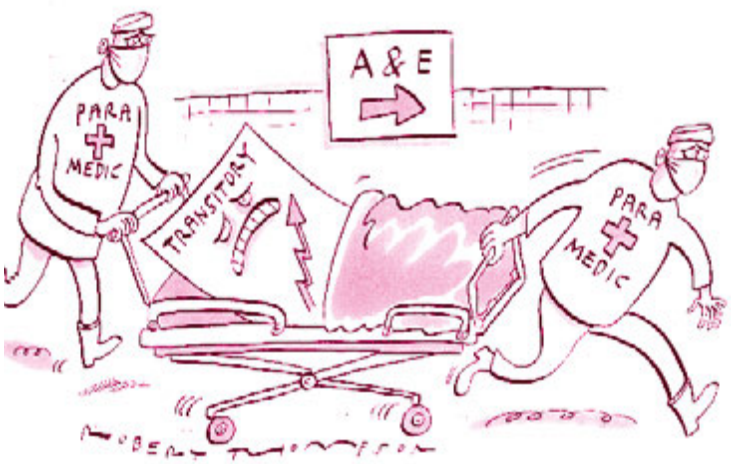
The 1977 Warwick conference was captured in a book which has the front cover of a horror film and the soporific effect of Temazepam.

Not an easy read, but worth it. Its 284 pages provide some clues why conventional explanations of our recent inflation experience need rethinking.



saying, "inflation is always and everywhere a monetary phenomenon". However, to the Warwick sociologists, this was as helpful as saying: "Flooding is always and everywhere a watery phenomenon." They understood that social and political contexts shape the dynamics of inflation in disparate and confounding ways.

It's time we invited the sociologists, political scientists and maybe even anthropologists back into the inflation debate. The lack of humility in the technocratic central bank view of inflation is about to be exposed by a reversal of the dynamics of the past 40 years.



A STATE OF NATURE

The key lesson to emerge from the conference was that inflation should be associated with ideologies and their conflict as much as with a technical monetary process. Three observations about the enduring features of inflation stand out.

First, under a paper money standard – when money is not anchored to a real asset like gold and is only lightly anchored through bank capital regulation – pressures between financial markets and the state are resolved through inflation. Under a gold standard, an overstimulated economy would see an outflow of gold as its trade deficit deteriorated. This would force real interest rates to rise until demand had been deflated to correct the imbalance. In contrast, under a paper money standard, the corrective force is the weakening of the overstimulated economy's currency, which raises domestic inflation. In short, a lightly anchored paper money system is naturally biased towards inflation.

Secondly, inflation is associated with a decay in the status order of society. The late Fred Hirsch, one of the key contributors to the conference, said: "It is no accident that inflation has been most entrenched in societies and periods in which the underlying ideological struggle has been most intense". He elaborated: "Put another way, containment of the latent distributional struggle without financial instability requires either sufficient authority or sufficient consensus, on the values or principles underlying the distribution of income and other aspects of welfare. If established authority weakens before a sufficient consensus or a new authority emerges, inflation results." [2]

The concept of status order sounds

> “Inflation is seen as the capitalist system’s safety valve against its own inherent contradictions and weaknesses.”

awfully old fashioned for today’s liberal democracies, but it really isn’t. Just consider the tectonic social movements powered by the war on climate change and the Build Back Better agenda, which have been accelerated by covid-19. These are powerful challenges to today’s social order. Yet in the democratic world there is insufficient consensus – within countries and between them – to establish sufficient political authority and leadership in response. According to the sociologists, this is the perfect ecosystem to nurture inflation.

Thirdly, inflation is seen to be a guard against the “divisive questions of distributional shares and of the moral validity of economic outcomes” which emerge because a capitalist system naturally tends towards inequality. Viewed this way, inflation is the capitalist system’s safety valve against its own inherent contradictions and weaknesses. A sort of alternative to Marxist progression. I found this an intriguing reframing of the role of inflation, particularly as the absence of inflation over recent decades has reawakened many Marxist critiques. Wouldn’t it be ironic if inflation targeting central bank policy turns out to have been undermining the very system it purports to protect? Just like forest managers who try to protect the trees from regular wildfires only to discover that they are nurturing the conditions for less frequent but existentially threatening ones.

In summary, the Warwick conference alluded to the idea that, under a paper money standard, inflation should perhaps be considered a natural feature of capitalism, not just a nasty bug.

REIMAGINATION

It is a counterintuitive thought for anyone schooled in pure economics. We were taught that, while inflation at low and predictable levels is fine, anything fruitier is an unwelcome distraction. But it hints at some questions we should be seeking answers to if we are to properly understand the recent history of inflation – and its future. Questions like: if inflation is a helpful safety valve for capitalism, how might it re-emerge in a financial system which is intolerant to it? And will it challenge the social order which reinforces it?

I am convinced that the conventional answers to these questions don’t give us the full story, which we need if we are to navigate portfolios through what is to come.

Last October, at the Grant's conference in New York, I attempted to fill in the gaps. My talk's title was 'Preparing for a world central bankers can't imagine'. But it should have had a subtitle: 'Warwick 1977 revisited'.

REFRIGERATION MODE

The obvious question: if a lightly anchored paper money system is biased to inflation, why has inflation gone missing in action for so long?

The absence of inflation can be attributed to three key things. Firstly, the deflationary D's: debt, demographics, disruption, digitisation and détente's globalisation. Secondly, the unwavering monetary policy focus on inflation. Lastly, an overlooked feature of the past 20 years – the system dynamic: the interaction of policies and the environment. Which I've called 'refrigeration mode'.

Specifically, it's been the interaction of an inflation focused monetary policy (inflation targeting) with China's mercantile model.

PART 1: DESTINATION: HYPER-FINANCIALISATION

Inflation targeting is based on a fallacy – that you can model the economy using an equilibrium framework. The theory of equilibrium economics owes primarily to the work of Swedish economist Knut Wicksell. In 2011, Claudio Borio of the Bank for International Settlements had this to say about the modern application of Wicksell's ideas: "For a pure credit economy, with no external gold backing but with only inside money (credit-backed deposits), Wicksell could identify no forces that would take the system towards equilibrium. To Wicksell, a pure credit economy was largely a fictitious, futuristic concept."

But a pure credit economy, which in the nineteenth century seemed fantastical, is effectively what we have today. So to think in equilibrium terms is dangerous, and this has been policymakers' fundamental mistake in recent decades.

Instead, what we've had is a path-dependent reality – the successive bringing forward of future demand to today. The path travelled has looked something like this.

Deflationary dynamics deliver positive supply shocks; this lowers inflation, which allows rates to fall. Consumption springs forward as individuals borrow and spend more, enabling financiers to provide more intermediation and overt financial engineering. Inevitably, this leads to excess, which is met with tighter policy. Financial crisis ensues and central banks – fearing deflation – are forced to respond by lowering rates.

The net effect is that nominal and real rates ratchet ever lower in a path-dependent fashion.

Monetary policy is now lost. So lost that we have had to invent a word to describe this bizarre new world: hyper-financialisation. Economies are now optimised around finance and asset prices. Hyper-financialisation is spotted with leveraged buyouts, financial engineering and executive pay through stock and stock options. The result? Growthless asset-value maximisation, a severing of the link between shareholder value and profits, and a tendency to prioritise short-term profit taking over long-term planning.

This shouldn't surprise us – the Federal Reserve now openly targets financial conditions. But most of the stimulus gets trapped inside finance.

PART 2: CHINA'S MERCANTILE MODEL

This is the second part of the refrigeration mode equation. It's worth briefly describing Chinese mercantilism. The Chinese discovered the magic money tree and with it, they built a manufacturing empire.

Crucially, they stopped the magic escaping by controlling the capital account. China repressed the exchange rate to increase its share of the global export market. In the process, it built up foreign exchange (FX) reserves which were recycled into US treasuries, supporting lower US interest rates. China repressed deposits to favour investment over consumption, and consumption's share of GDP was subjugated to investment, exports and state spending. This supercharged growth of industrial production and exports (Figure 2).

This rapid industrialisation piled deflationary pressure on durable goods prices, which kept the lid on both consumer price inflation and interest rates in the West.

China was able to insulate its highly cyclical industry from any default cycle by monetising bad debt. This preserved unproductive, deflationary capacity and the stock of money ballooned. Figure 3 shows assets in the Chinese banking system. It has grown by about $40 trillion since 2008, putting on the equivalent of the entire US banking system in just eight years. This is the magic money tree in full bloom.

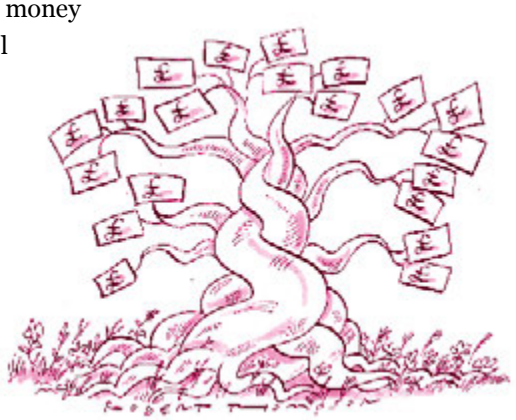
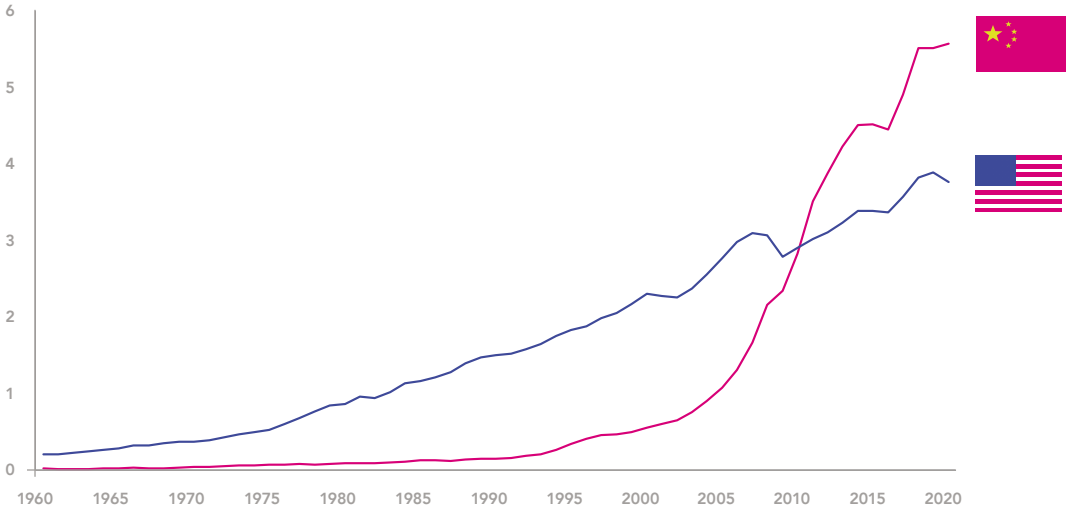


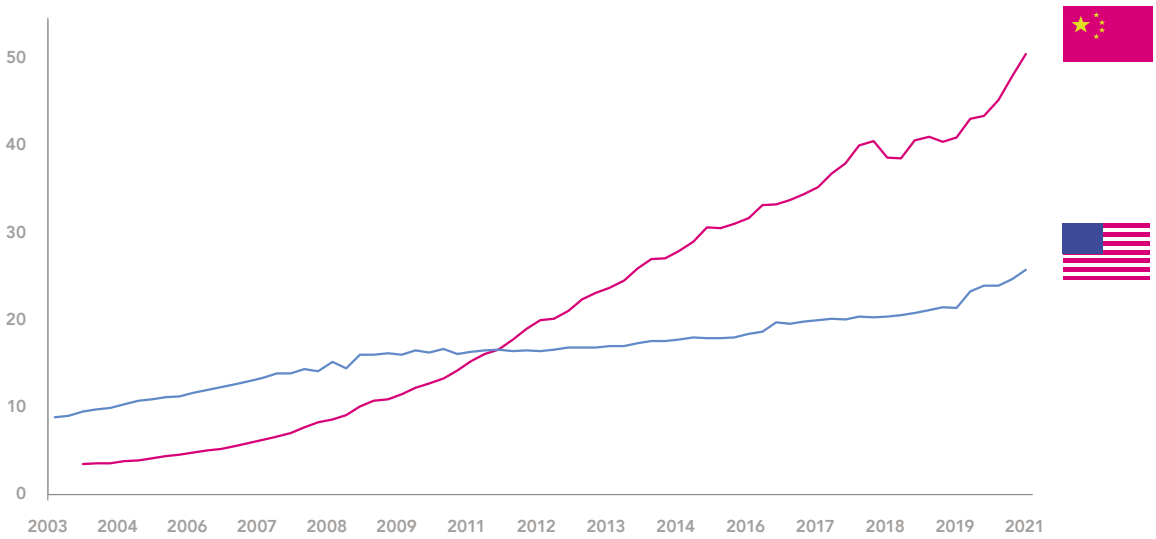
Figure 2
INDUSTRIAL VALUE ADDED, $TN



Source: World Bank, BEA, Ruffer calculations, includes manufacturing, mining/energy and utilities sectors

Figure 3

BANKING SECTOR TOTAL ASSETS IN $TN, 2004-2021



Source: People's Bank of China, New York Fed, Refinitiv

DEFLATIONARY DOORS LEFT OPEN

Part one and part two – monetary policy and China's mercantile model – fed off each other, and the extraordinary monetary growth which resulted became a powerful, global deflationary mechanism – the refrigeration mode. Both China and the US got what they wanted. China got to leapfrog its industrial development. While the US got low inflation and quiescent monetary conditions – a great moderation.

But this had side effects. There is now a huge monetary overhang in China. And the US economy has been hyper-financialised. These extremes are biting back through the political economy. A shift is now underway from refrigeration mode to a new mode – heat pump?

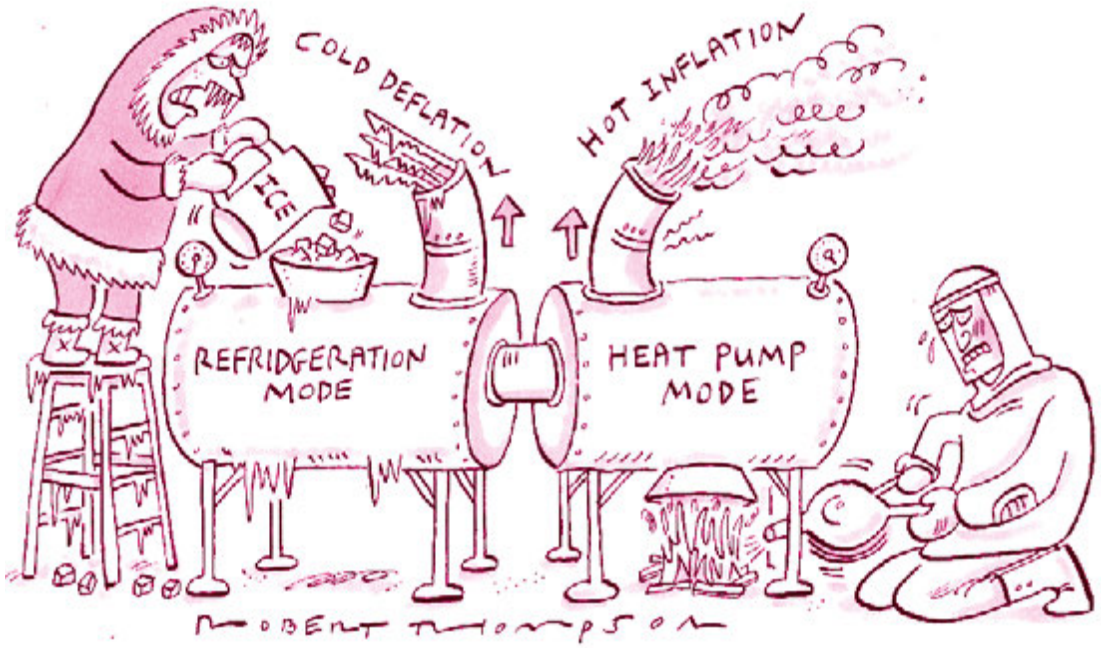
WHAT IS THE HEAT PUMP?

The deflationary D's may not have gone anywhere, but the reversion to heat pump mode is underway. The system dynamic has become inflationary, and there are new supply side shocks which, crucially, aren't deflationary.

Using the same lens – macro policy and China's economic model – we see that both sides are in flux.

On macro policy, powerful social reactions to the extremes produced by the refrigeration dynamic are feeding into the political economy. Wealth inequality, climate change and China containment have grabbed the public conscious in the West. From 'Tax the Rich' ballgowns to celebrity-endorsed climate marches, the challenge to the status order is clear and present. Covid-19 has mapped out the battlelines.

This puts fiscal policy back in the driving seat, just at the moment central banks have reintroduced an inflationary bias to their reaction functions. When fiscal and monetary policy combine, overall policy becomes more directly inflationary. The permanent creation of money breaks the cycle we became used to in refrigeration mode.



The China model is also in flux. China is beginning to export price inflation as domestic consumption strengthens. Common Prosperity and the dual circulation strategies are shifting the emphasis from reliance on exports to a focus on the domestic consumer. To boot, China will present its new digital currency as a haven of stability just as other major currencies are being debauched by their custodians.

Together, these changes take us firmly into heat pump mode.

AMPLIFIERS

There are inflation amplifiers in the system too. Quantitative investors claim to have worked out which investments work in inflationary periods – apparently commodities and trend strategies are particularly reliable. Investor actions to pre-empt inflation can therefore bring forward both inflation and inflationary psychology.

INFLATION FROM TRANSITION

The biggest of the new, inflationary supply side shocks is the transition to Net Zero. The Peterson Institute estimates that, if carbon is priced at $100, the resulting impact on GDP would be equivalent to the 1974 oil shock, at 3.6% of GDP. [3] While it's dangerous to take this comparison at face value, it reveals the regime change implied by the Net Zero transition involves a deadweight loss with profound and potentially adverse macroeconomic consequences.

A SYSTEM INTOLERANT TO INFLATION

The system dynamic is biasing back towards heat pump mode. But it faces a financial architecture which is intolerant of inflation. Financial market obstinance is multi-layered. The list of intolerances extends to: rising rates and risk premia; declining flows (liquidity); and falling collateral values. The

3 Peterson Institute for International Economics (2021), Climate policy is macroeconomic policy, and the implications will be significant

> "Winter is coming for liquidity, it's coming for narcissism, it's coming for retail punting, and it is definitely coming for businesses which depend on any of these things."

financial system wishes to believe in the narrative of lower rates forever.

So, when central banks assume that a 200bps rate rise from 0% to 2% is broadly the same as one from 4% to 6%, they are not only wrong, but dangerously so. Convexity is rife, in both prices and investor behaviour. Some illustrations:

Figure 4 shows modelled equity duration, currently at 55 years. It has only been higher during the dot.com bubble.

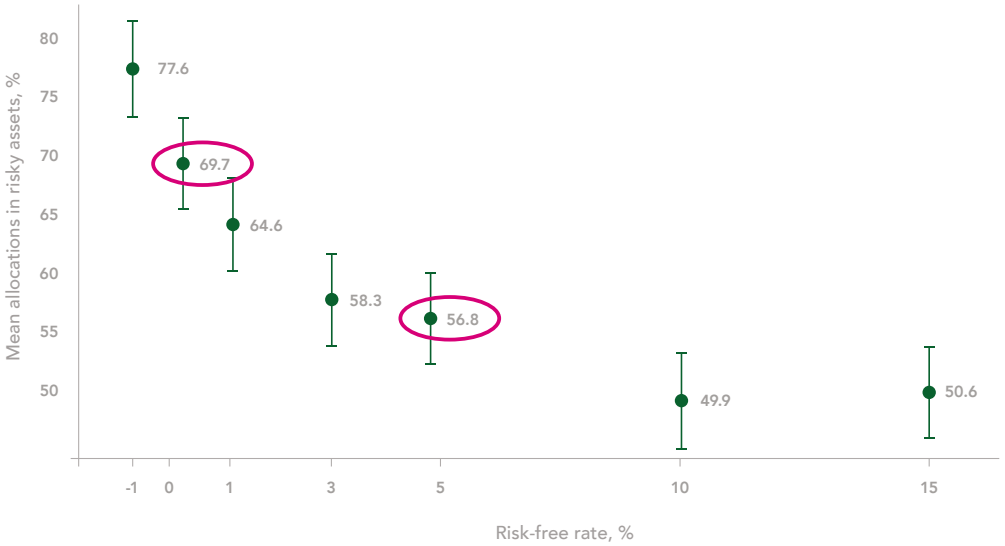
Figure 5 shows the results of an experiment to see how investors change their portfolio allocation between a risky and a risk-free asset in response to changes in risk-free rates.

At a 5% risk-free rate, they allocate around 57% to risky assets. At a 0% risk-free rate, they allocate around 70% to risky assets.

Figure 4
ESTIMATED US EQUITY MARKET DURATION, YEARS

Source: Robert Shiller

Figure 5
BEHAVIOURAL CONVEXITY:
LOWER RATES DRIVE HIGHER ALLOCATIONS TO RISKY ASSETS



> “In today’s financial system, flows seem to matter more than fundamentals.”

The change in allocation is material and convex. It demonstrates what we instinctively know – investors operate in a nominal return world. As interest rates rise, we should expect this change in allocation to reverse.

In today’s financial system, flows seem to matter more than fundamentals. A recent study suggests that a one dollar flow into equity markets creates a five dollar price impact.[4] Drivers of flow (stimulus, volatility, past performance and passives) have been mutually reinforcing for at least a decade. So the danger for investors is that, as liquidity support is reduced in response to inflationary pressure, this virtuous dynamic for equity prices could become a vicious one.

Markets are unlikely to tolerate much tightening, of liquidity or interest rates. That’s why we should expect inflation volatility.

Source: Ma and Zijlstra (2018), A new take on low interest rates and risk taking

4 Gabaix and Koijen (2021), In search of the origins of financial fluctuations: the inelastic markets hypothesis

Figure 6

LESS EFFICIENT FRONTIERS: BOND VOLATILITY DOUBLES = MORE EQUITIES

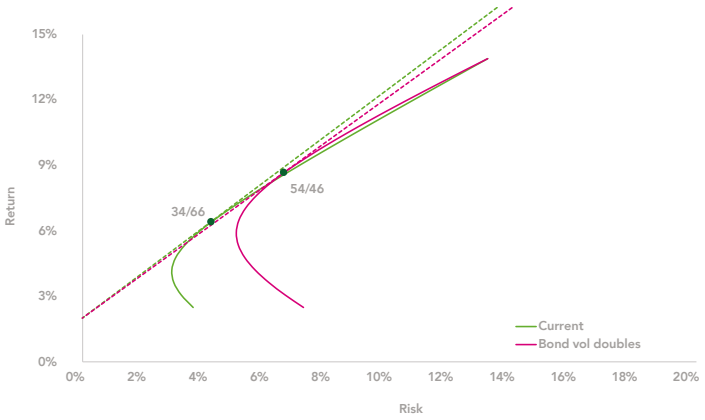
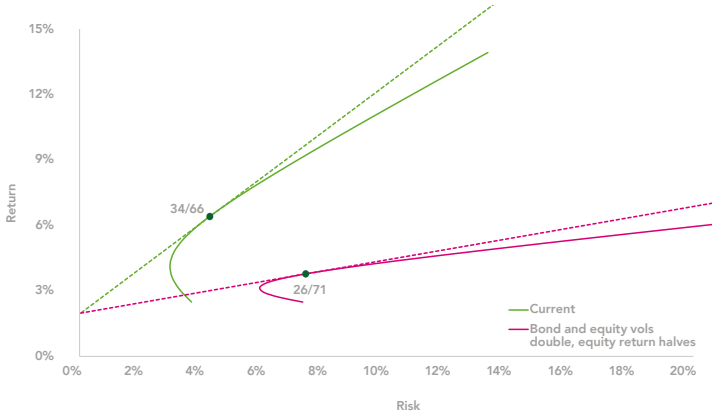


Figure 7

EVEN LESS EFFICIENT, ACTUALLY MAYBE LESS EQUITY



Source figure 6: Ruffer. Bloomberg
Source figure 7: Ruffer, Bloomberg

INFLATION VOLATILITY VERSUS MODERN PORTFOLIO THEORY (MPT)

To clarify, increasing inflation volatility simply means inflation going up and down more sharply, more often. If inflation volatility is the future, bond volatility won't be far behind. And bond volatility will have severe implications for portfolios built around a mean-variance framework.

Figure 6 shows that, when bond volatility increases, the efficient frontier (the possible risk-return combination in the MPT framework) becomes less efficient. In other words, the frontier moves to the left. In this simulation, MPT invites us to buy 20% more equities and sell bonds.

But this risk-return framework ignores the distribution of returns. We're already seeing more unexpected, bad outcomes in this distribution. However, if you focus only on risk and return, as MPT does, you won't see it. So, as inflation volatility antagonises the extreme ends of the distribution, it will eventually show up in lower returns and higher volatility for equities. That makes the efficient frontier even less efficient. Figure 7 shows what happens when bond volatility doubles, as it has done. It implies allocating 5% less to equities and more to bonds – for less return and more risk.

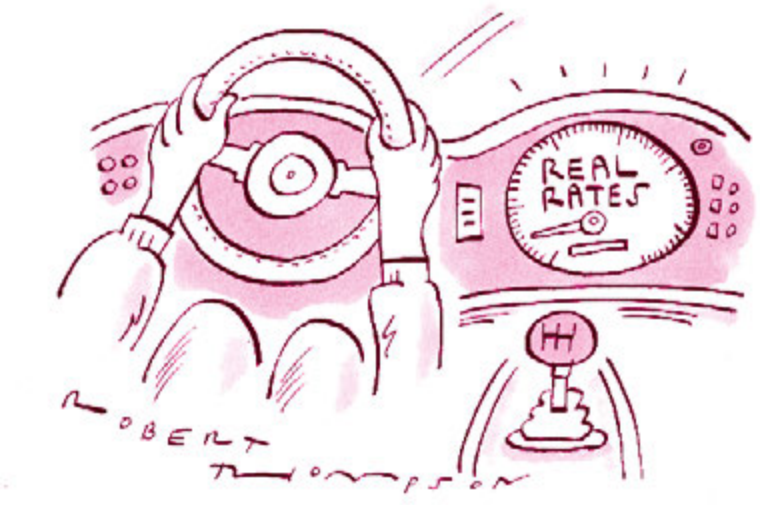
And then comes the final nail in the coffin. As the balance of risk between inflation and deflation begins to tilt back towards inflation (as it should with higher inflation volatility), we can expect term premia – the extra yield you get for taking duration risk – to be reinjected into the bond market.

This is the pivot point when the bond-equity correlation becomes positive again, wedging 60:40 and risk parity portfolios firmly between a rock and a hard place.

WHAT SHOULD INVESTORS DO?

It is tempting to simply invest for the inflationary endgame. After all, turbulence passes eventually. But inflation volatility could be with us for some time. And, when inflation is on a downswing, a portfolio positioned solely for inflation risks losing a wing.

To survive the turbulence of inflation volatility, investors will need a hedged portfolio. Better still, a topiary portfolio – *buxus sempervirens* pruned to the millimetre. Portfolios will need to be intricately constructed – active, for sure, as no static portfolio will survive. And the hedges may be expensive. A portfolio positioned for resilience, rather than optimisation, will sometimes have a weighty cash balance. Cash is an uncomfortable asset to hold in an inflationary world, but it is an essential quiver – storing the portfolio arrows needed to pick off opportunities as they arise.

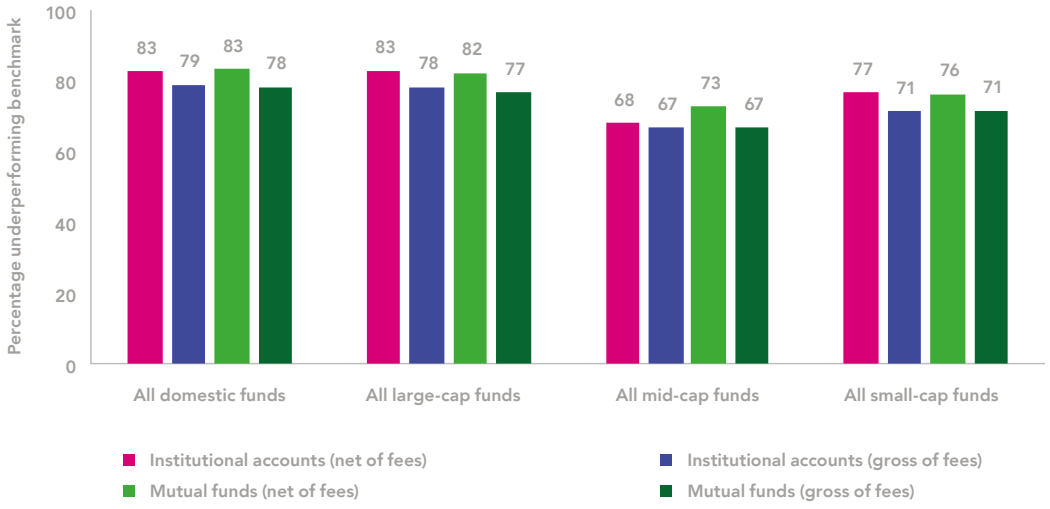


It has become an article of faith that investors should not try to time markets. This is hardly surprising: around 80% of active US investors have underperformed their benchmark index over the past ten years.

Figure 8 seems reassuring fodder for the passive investment industry; if you can't beat the index, join it by buying an ETF or similar, for much lower fees. Which is exactly what is

Figure 8

SIMILAR PERCENTAGES OF INSTITUTIONAL ACCOUNTS AND MUTUAL FUNDS UNDERPERFORMED THEIR BENCHMARKS OVER 10 YEARS



Source: S&P Dow Jones Indices LLC, eVestment Alliance, CRSP. Data to 31 Dec 2020

Figure 9

S&P 500 RETURNS VERSUS RETURNS EXCLUDING 10 BEST AND WORST DAYS

happening, with passive products winning the battle of flows.

As active investors disappoint and ETFs are validated by the data, fund managers are frightened of missing out. To demonstrate the dangers of market timing, investors are often shown a chart of S&P 500 performance versus that of the S&P 500 excluding the best ten days. As Figure 9 shows, if you are out of the market on the best days, this more than halves your return since 1997. It demonstrates how easy it is to underperform the index.

A dominance of passive investing is the logical corollary of the refrigeration mode we have been in. There have been bumps along the way, but equities have always been saved by successively lower nominal and real interest rates. If we are switching to heat pump mode, two things will happen:

1. Risk premia will expand as nominal interest rate volatility remains persistently high. So equities will lose the re-rating tailwind they have enjoyed.
2. Rising skewness[5] and kurtosis[6] are likely to make the worst days in the market even worse. Look at the top line in Figure 9, which shows S&P performance if you are out of the market on the ten worst days. Not surprisingly, this chart doesn't get as much airtime from the passive investing enthusiasts.

So, if equities face valuation headwinds and the worst days in the market get worse still, the market truism that it doesn't pay to try to time the market will be challenged.

Investors will have to switch to manual and drive their portfolios more. I don't mean high frequency trading; I mean knowing what to watch to guide broad asset allocation and thematic changes.

HEDGING WHEN SPEEDING

Here's a live example.

In a hyper-financialised economy like the US, the coupling between financial conditions and real-world activity is generally quite tight. As soon as something

Source: Bloomberg, Ruffer

5 Skewness represents the extent to which a given distribution of returns varies from a normal distribution.

6 Kurtosis measures extreme values in either tail of a distribution of returns. High kurtosis of the return distribution implies the investor will experience occasional extreme returns.

causes financial conditions to tighten, activity in the real world slows sharply. Usually (covid-19 was the exception), the Fed is the marshal of financial conditions. It tightens monetary policy until some element of the financial system – typically the most leveraged – falls over, causing a tightening of financial conditions. So, as the Fed embarks on a tightening bias, we must look out for speed traps in markets.

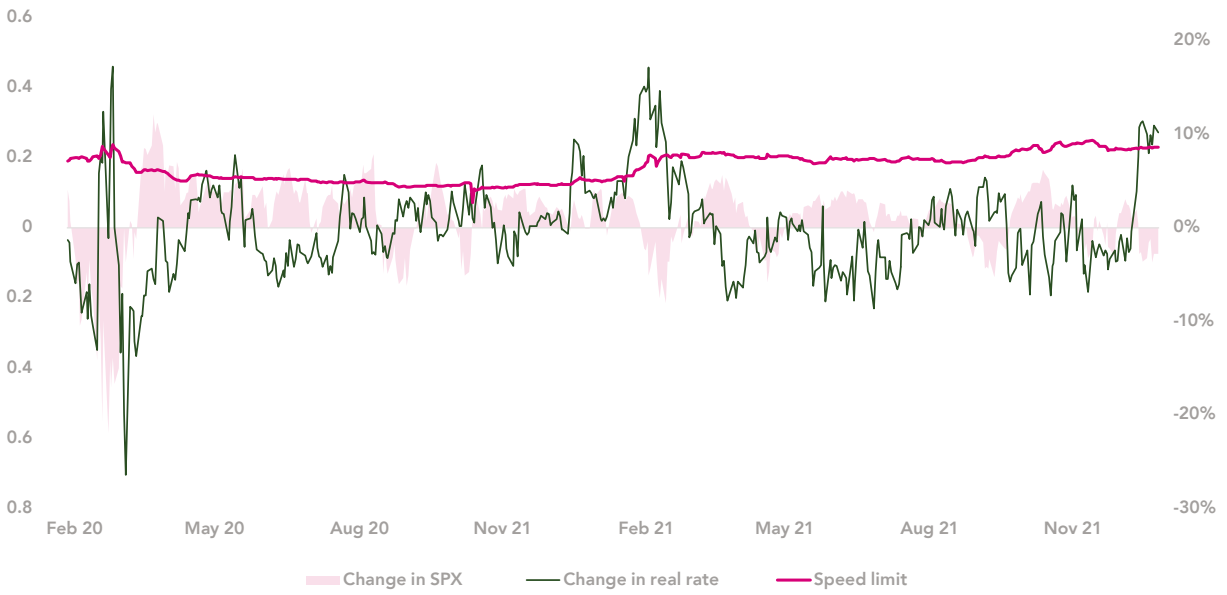
Real interest rates can serve as a useful speedometer (Figure 10). At Ruffer, we compare how fast a medium-term measure of real rates is rising relative to how fast derivatives markets expect them to move - the speed limit. We know that, once real rates speed up, there is a higher probability of equity markets selling off and rotating out of growth stocks and into value stocks. Once real rates exceed the speed limit, the chances of an accident are high.

The sector most exposed to rising real interest rates tends to be the frothy end of the tech market. If we look at the return of a basket of unprofitable tech stocks relative to the market grouped by whether real rates are above the speed limit or not (Figure 11), we can see that this is indeed the case.

When real rates are speeding, profitless tech underperforms the market by 6.2%, the green bar on the right.

Combining these thoughts, the Fed is now in tightening mode to combat inflation. This starts with a tapering of QE and progresses to interest rate hikes, so liquidity conditions are going to worsen, and real rates are likely to get jumpy. In equity markets, this will hurt – and already is hurting – unprofitable tech most.

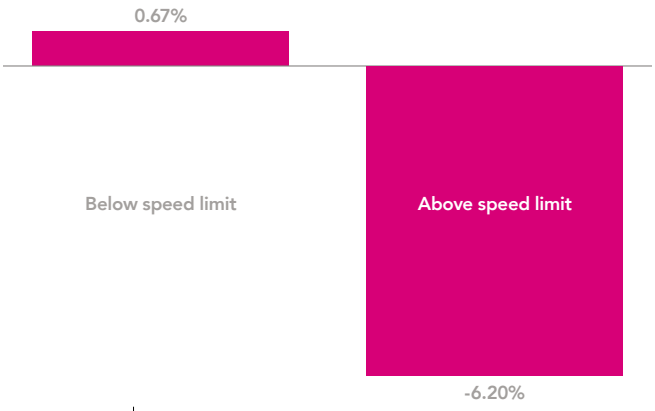
Figure 10
THE REAL RATE SPEEDOMETER



Soure: Bloomberg, Ruffer

Figure 11

RELATIVE RETURN OF UNPROFITABLE TECH BY REAL RATE REGIME



My shorthand for the hedging strategy which falls out of this is...

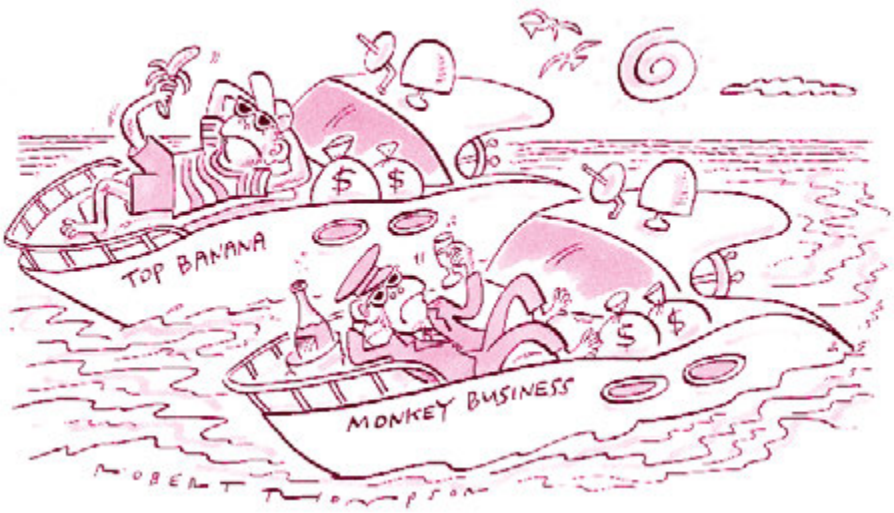
"GET SHORT NARCISSISM"

I am only half joking. Ally the behavioural traits of clinical narcissists with the refrigeration mode's successively lower nominal and real interest rates and what do you get? A selection bias by markets towards businesses run by people who have no humility, who are willing to take the greatest risks to grow as fast as possible, who believe in their god-like visionary powers, who don't accept they need subscribe to the same rules and regulations as the rest of us, and who will stop at nothing until the market takes away their oxygen supply. Corporate America – and especially Silicon Valley – is now awash with these leaders. Profitless tech is an inelegant but adequate proxy.

Obviously, the extended joke should ask: and what happens if you add trillions of dollars of post-pandemic liquidity to this narcissistic ecosystem? You get Bored Apes (in yacht clubs). Or more specifically, a $3 trillion cryptocurrency ecosystem and very expensive non-fungible tokens (NFTs).

For the avoidance of doubt, we believe in the future of digital assets and the underlying technology. We just think excess liquidity has distorted prices, just as happened in 1999-2000 with internet stocks. Narcissism thrives in the crypto world because it is hard to truly understand a lot of what is going on. Narcissistic leaders are naturally equipped to fill that void and act as visionary leaders to the promised land of riches.[7]

But winter is coming for liquidity, it's coming for narcissism, it's coming for



Source: Bloomberg, daily median returns, compounded to weekly

7 Caveat: I am not saying all crypto leaders are narcissists. The best truly are visionary. Unfortunately, the average of the distribution is not favourable.

crypto, it's coming for retail punting, and it is definitely coming for businesses which depend on any of these things. It will not be pretty.

Making sure portfolios are shielded from this, either by hedges or just by avoiding exposure, is one active way of protecting against the immediate threats.

LIQUIDITY AND BEYOND

Beyond the immediate liquidity challenges, investors will have to steer portfolios through the twists and turns of more abrupt economic cycles interacting with liquidity cycles and changing policy reaction functions. For example, fiscal's greater dominance in the policy mix is likely to interfere in the coupling of financial conditions to real economic activity. By creating money through coordinated monetary and fiscal policy, rather than just lowering interest rates, authorities are generating permanent purchasing power, not simply bringing forward consumption from the future.

Financial markets are sensitive to flows, whereas the real economy may increasingly be able to operate on an excess stock of money. If policymakers respond to tightening financial conditions with more permanent money creation, they will be stoking the inflationary potential of the economic system. Throw in the heat pump system dynamic we have described, and you can see why we are moving towards higher inflation through, in the first instance, higher inflation volatility.

SWITCH TO MANUAL

In last year's review, I described how runs on currencies could well be part of the inflationary journey.

> "It is time to flick the switch off autopilot."

The sociologists of the 1970s suggested that periodic inflation may be a natural, sustaining feature of financial capitalism under a paper money standard. I think they were onto something.

The system we have ended up with – wired up through the coincidence of inflation focused policy paradigms, mercantile development models, and disinflationary structural forces – has taken the system to dangerous extremes: hyper-financialisation in the US; massive monetary overhang in China; financial and social inequality; and a climate emergency.[8]

Arising from these extremities are forces – social, political, and geopolitical – which are shifting the system dynamic from refrigeration to heat pump mode. It is becoming more inflationary. But the financial system is designed to be intolerant of the policy reaction to inflation, ie declining liquidity flows and rising interest rates.

The heavyweight punch of inflation resulting from covid-19 stimulus and supply disruptions has given the Fed a nasty headache. It now has to tighten monetary policy. But the positive fiscal impulse is also retreating.

8 China's rapid development during the refrigeration mode should be seen as a major accelerant of climate change. It is clearly not the whole story, but neither is the materiality of its impact fully acknowledged.

It may take time to play out – financial conditions are still incredibly loose – but we know trip wires lie ahead. And inflation will fall sharply again when financial and economic volatility coincide.

Unfortunately, political authority is weak in the West, consensus on what the fair distribution of financial outcomes and welfare should be is frayed, and the ideological divide between China and the US is growing. Policymakers will be forced back into monetary financing mode very quickly if threatened by recession and distress. As the Warwick conference observed, these are fertile conditions for inflation to get rooted in.

Markets will take time to see that this new form of policy put option is more inflationary for the real economy than it is for markets.

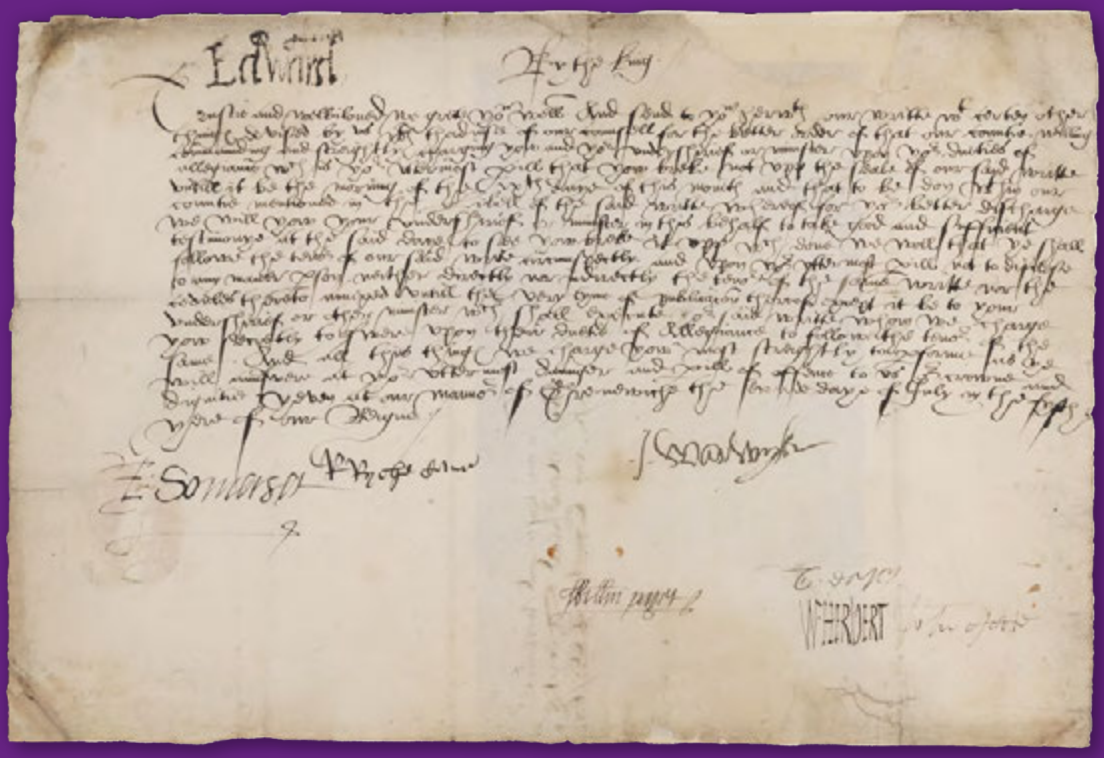
Inflation volatility will eventually give way to inflation, but investing now solely for the inflationary endgame would be a mistake.

Perhaps inflation will come through currency weakness. Financial technology is quickly emerging which allows depositors to run from one numeraire to another. It would be ironic indeed if the technology's deflationary influence ultimately provided the means for inflation to explode back onto the scene.

Peter Drucker, the father of modern management thinking, said: "The greatest danger in times of turbulence is not the turbulence. It is to act with yesterday's logic."

Turbulence lies ahead, that's for sure. The message to investors: portfolios will need to be steered on this journey, requiring new skills, new ways of constructing portfolios and imaginative thinking. The easy, passive – almost free – ride is coming to an end.

It is time to flick the switch off autopilot.



The Great Debasement

THE WRIT PICTURED HERE IS FROM TUDOR ENGLAND. It is a 1551 instruction demanding absolute secrecy – "upon your uttermost perill not to disclose to any maner person… the tenour of the same writte" – addressed to the Mayor and Sheriffs of the County of Chester and believed to be in relation to an incoming order from Edward VI to debase the coinage.

The instruction is countersigned by seven Privy Councillors, including Edward Seymour, Duke of Somerset (the King's uncle and former Lord Protector). 1551 marked the last of seven years of systematic currency debasement, initiated by Edward VI's father, Henry VIII, to cover the cost of wars and finance his lavish lifestyle.

Governments debase their currencies because it enables them to invest in infrastructure, pay for wars, service debt and lift themselves out of crises.

Before this Great Debasement of the sixteenth century, England had enjoyed 400 years of sterling stability. The debasement was kept a closely guarded secret. But, by Edward VI's final issue, the purity of sterling had fallen to 17% of its weight in silver, and the State's lack of monetary control was exposed.[1] This caused widespread public fury. After all, debasement leads to inflation, higher taxes and worthless money.

It doesn't take long for sentiment to exacerbate the effects of currency debasement, as we're seeing today.

Currency debasement has become easier since Tudor times, with the introduction of paper and now digital money. It's harder to judge the overall amount of money in circulation across an economy than to grade the value of a coin. Paper money printing replaced the historic practice of devaluing currency by replacing precious metals with base metals in the coinage and now, digital debasement takes the least effort of all. It's quicker and stealthier.

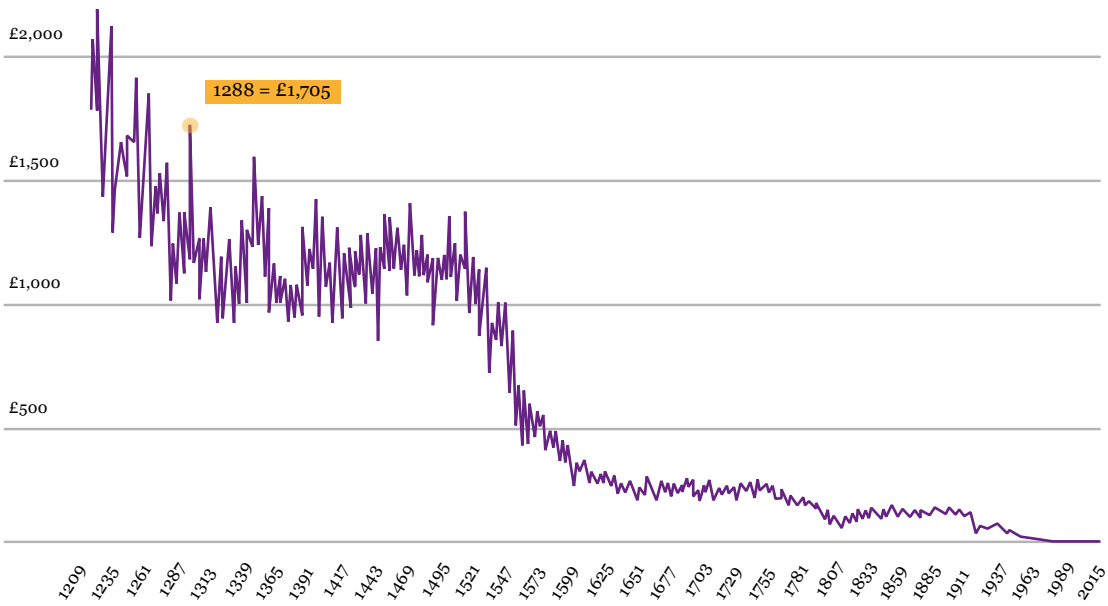
In modern debasement, coin grading has been replaced with real yield watching. If you know the value of your cash is declining, you're more likely to spend it and you may ultimately lose confidence in the stability of the monetary system.

At Ruffer we have accumulated an extensive collection of historic financial paper, from Zimbabwe and Venezuela to post war Germany and Hungary, early 1990s Yugoslavia and the French revolution. Bonds, scrips, and erstwhile legal tender adorn the walls of the meeting rooms in our London office. They serve as a reminder of money's inherent fragility.

We are currently living through one of the largest coordinated increases of money supply in history – instigated after the global financial crisis and accelerated by the pandemic. Some 20% of the US dollars in circulation were created in 2020 alone.[2] As the chart shows, history has a habit of repeating and compounding itself. This is dangerous territory for investors and savers alike.

INDIA WHITE-SPUNNER
Senior Investment Associate

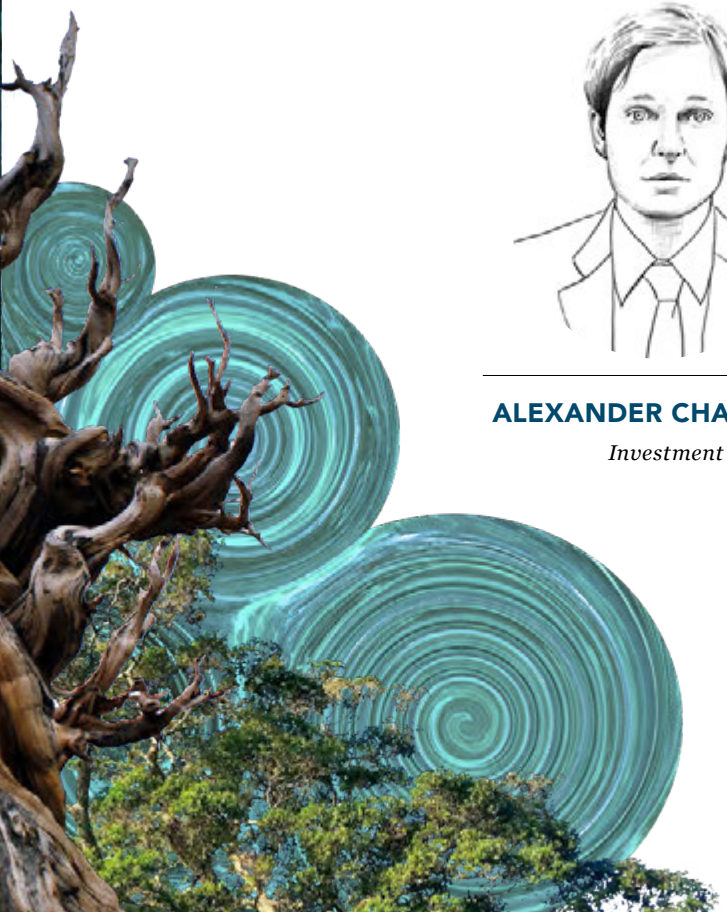
VALUE OF A 2019 BRITISH POUND



1 Deng (2011), Coinage and State Formation in Early Modern English Literature
2 US Federal Reserve (2020)
Source: statista.com

The gathering storm

CHINA'S BID FOR GLOBAL POWER, CLIMATE CHANGE AND THE TRANSITION AWAY FROM FOSSIL FUELS ARE THREE OF THE DEFINING MEGATRENDS OF OUR TIME. Collectively, they promise generational upheaval. But decades of peace and stability have left markets, politics, economies and societies complacent and vulnerable. It's going to get bumpy.



ALEXANDER CHARTRES
Investment Director

ORACLE, ARIZONA, IS HOME TO BIOSPHERE 2. THIS CONTROLLED ENVIRONMENT, RUN BY THE STATE UNIVERSITY, FOCUSES ON CLIMATE CHANGE RESEARCH. Sealed glass spanning three acres houses a wide variety of plants. Shielded from the elements, the flora grows unnaturally fast. But this experiment revealed something unexpected. Starved of wind, the trees failed to develop the strength required to fully mature, instead collapsing under their own weight.

In the wild, that strength comes from 'reaction wood', which grows in response to physical stress. In Biosphere 2, no wind means no resilience.

For decades, financial markets, economies, politics and societies have evolved in their own controlled environment. Long-term megatrends have driven inflation, interest rates and volatility ever lower. In the

absence of headwinds, debts and asset prices have grown too tall, too fast.

Like sheltered trees, markets can collapse under their own weight. At least as great a challenge, however, comes when a controlled environment ends.

In recent years, we have argued that this transition will bring higher volatility and inflation driven by factors including the return of big government, the politicisation of central banks, demographics, geopolitics and climate change. And now covid-19 is acting as an accelerant.

Three powerful winds are picking up: China's bid for global leadership; environmental volatility; and the energy transition. And they are likely to unleash a series of storms, exposing a global lack of financial, political, economic, cultural and environmental resilience.

AMERICA AGAINST AMERICA

Developments in Beijing and Washington over the past year point to a new, more intense phase of Cold War II, with major implications for capital flows.

To understand why, we turn first to the work of Wang Huning, China's foremost intellectual and the eminence grise of China's Politburo Standing Committee.[1]

Wang's views, informed by his time studying in the US in the dying phases of the last Cold War, are representative of much of the Chinese Communist Party (CCP) elite. They run something like this...

Politics exists downstream of culture. The radical individualism in America today corrodes society's foundations by destroying the shared values and narratives a society needs to function. Worse, the West's democratic system robs it of the tools to address its political in-tray, especially the growth of vested interests.

> "The fall of the Soviet Union offered the CCP a lesson in what liberalisation could do to a party-state."

Seen from Beijing – with its traditional emphasis on harmony and order above everything, including economic growth – the political and moral chaos across the West today derives from hyper-liberalism, exacerbated by significant wealth inequality.

From this perspective, America is an ailing hegemon in a state of decadent decline, suckered by a long peace and, in Joe Biden, led by a president who is entropy incarnate: politically, mentally, physically.

After decades of exposure to foreign culture and market dynamics, Beijing is concerned that the West's pathologies are taking root in China. For investors, this includes what President Xi Jinping describes as the "disorderly expansion of capital" and the "barbaric growth" of internet platforms – code for any economic power which threatens the CCP.

The fall of the Soviet Union offered the CCP a lesson in what liberalisation could do to a party-state. Xi has said that the USSR fell because no-one was "man enough to stand up and resist".[2] Now Xi's CCP is standing up and resisting.

1 Lyons (2021), The triumph and terror of Wang Huning; Wang (1991), America Against America
2 The Economist (Jun 2021)

PLAN XI: ORDER VERSUS CHAOS

The CCP's solution is to offer order in place of US chaos by strengthening China's party-state, while bolstering social cohesion via more equitable income distribution and reinforcing cultural unity via shared narratives and values.

Together, these provide the foundation for decisive action in the age of 'great changes' (Xi's euphemism for strategic opportunities afforded by American decline).

Overlapping regulatory and political crackdowns bear witness to the reinvigorated party-state at work. Take the evolving 'common prosperity' agenda with its focus on reducing economic inequality through compelled charity. Or the public morality campaign against "vulgar and [rather marvellously] kitsch inferior tastes, and… the decadent ideas of money worship, hedonism, and extreme individualism".[3] Part of the CCP's effort to win the global battle of ideas with the West, these sentiments were reinforced in the seminal resolution on CCP history ('History Resolution') passed at 2021's Sixth Plenum.[4] It confirmed Xi as 'core' leader and his ideas as central to party policy, boosting his chances of an extended reign (in time, perhaps with Mao's title of Chairman).

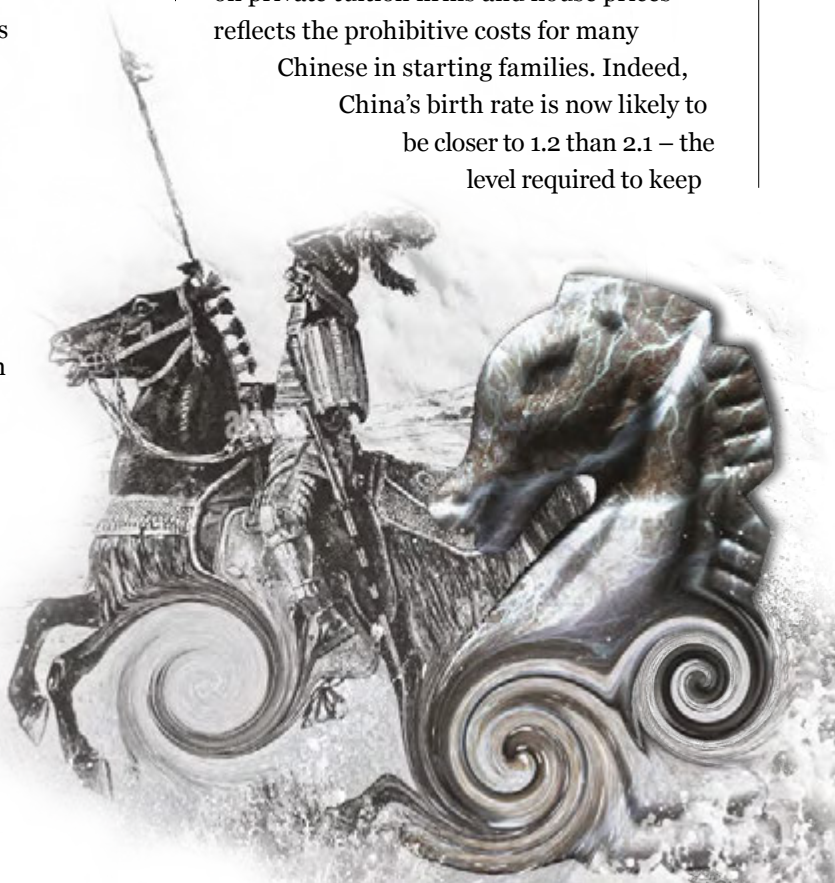
Such policies also reflect a desire to channel financial capital away from 'nice to have' internet platforms and into 'must have' CCP priorities: cutting-edge hard tech in areas such as semiconductors, electric vehicles, batteries, artificial intelligence (AI) and biotech. Additionally, Beijing is reprioritising non-financial forms of capital including political (CCP authority), cultural (public morality) and human (demographic).

Far from Westernising, the CCP is running hard in the opposite direction, confident of victory in what Rush Doshi describes as its 'long game' for global dominance.[5] This clash of systems will only become crisper with each frost, keeping political risk for those investing in Chinese assets elevated indefinitely.

DEMOGRAPHICS AS DESTINY

Yet Beijing's agenda also reveals a fear of domestic and foreign challenges which threaten upheaval within China and across the world.

First up, demography. The CCP's assault on private tuition firms and house prices reflects the prohibitive costs for many Chinese in starting families. Indeed, China's birth rate is now likely to be closer to 1.2 than 2.1 – the level required to keep



3 The Guardian (Sep 2021)
4 The official title of the History Resolution is 'Resolution of the CPC Central Committee on the Major Achievements and Historical Experience of the Party over the Past Century'
5 Doshi (2021), The Long Game

a population steady.[6] On current trends, by mid-decade more nappies will be sold for the aged than for infants as China's old age dependency ratio – the number of over 65s versus those aged 15 to 64 – deteriorates sharply, driving up labour costs.

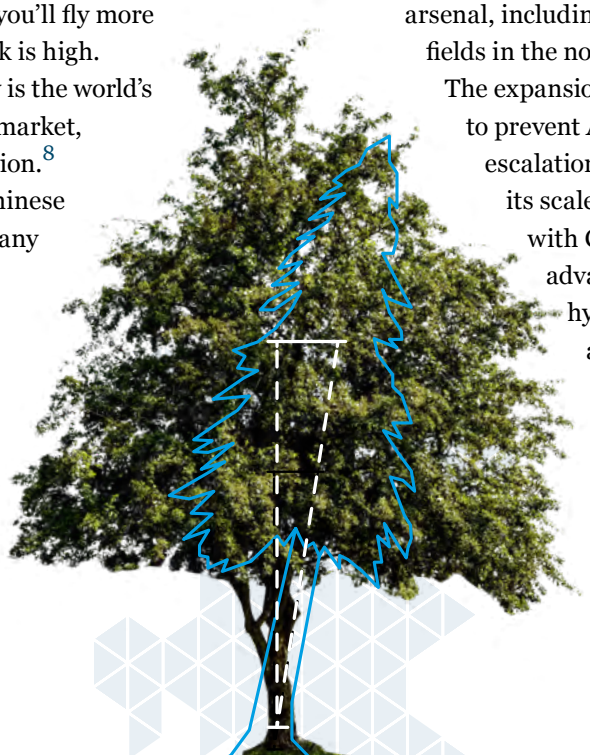
The urgency is palpable: CCP members are being encouraged to have more children, and access to abortions has been restricted.

The cost-of-living focus also aims to address the *tang ping* or 'lying flat' movement. This encourages young workers to opt out of the highly competitive '9-9-6' work culture (9am to 9pm, 6 days a week) in favour of minimalist living.

IN-FLIGHT REBUILDING

Tang ping is particularly unhelpful for Beijing as it attempts a historic pivot away from over-reliance on credit-fuelled property growth (currently running at a dangerously elevated c 29% of GDP)[7] to a consumption-driven economy. This, too, smacks of panic. It is akin to rebuilding an airliner engine mid-flight. At best, you'll fly more slowly, but crash risk is high.

Chinese property is the world's largest single asset market, worth over $60 trillion.[8] Investors used to Chinese demand picking up any slack in the global economy should brace for in-flight volatility.



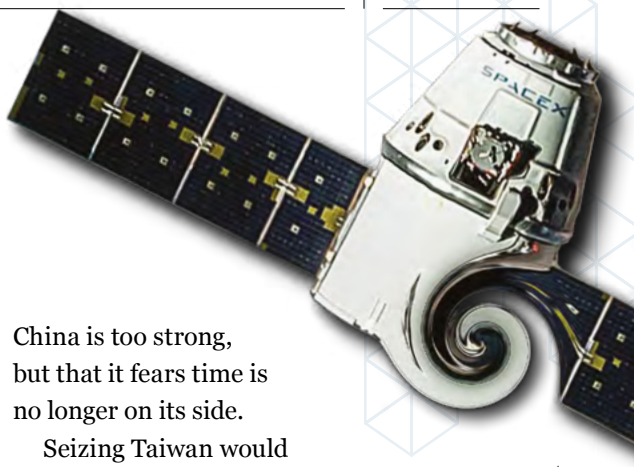
Massive misallocation of capital made a shift in growth model inevitable: there may be enough surplus empty property to house 90 million people in China.[9] But growing international pressure has made the task more urgent.

NUCLEAR CHESS

That pressure comes from Washington. The chaotic US retreat from Kabul might have cemented Beijing's impression of decadent decline, but it also signals a new phase of America's efforts to contain China. Beijing's belief that America is only interested in keeping China down has been reinforced by the unveiling of AUKUS (an Australia-UK-US defence technology partnership), by NATO's pivot to China and by Japan's decision to link its own security to Taiwan's while boosting defence spending to 1950s levels.

With the prospects of physical confrontation rising, China has embarked on a dramatic expansion of its nuclear arsenal, including massive new missile fields in the northern deserts.[10] The expansion probably aims to prevent American nuclear escalation in any conflict, but its scale and speed – coupled with Chinese and Russian advances in cutting edge hypersonic weapons, artificial intelligence-driven autonomous

6 Reuters (Dec 2021) China Statistical Yearbook 2021
7 Rogoff & Yang (Aug 2020)
8 Ibid
9 Financial Times (Sep 2021)
10 US Department of Defense (Nov 2021)



systems and the militarisation of space – signal a more dangerous, avalanche-prone phase of Cold War II.

Taiwan remains the issue most likely to turn the Cold War hot. Notably, the History Resolution does not grant Xi rule for life: internal opposition remains and could yet be emboldened by policy mistakes. 'Reunification' with Taiwan is his ticket to eternity, so if he only has one further term, that could compress his timetable. As might the risk that China, like Wilhemine Germany before WWI or Imperial Japan pre-WWII, sees a narrowing window to achieve its objectives before concerted opposition can thwart it. The real danger may not be that China is too strong, but that it fears time is no longer on its side.

Seizing Taiwan would be China's most ambitious foreign policy gamble since Kublai Khan tried to invade Japan for the second time in 1281. That effort was foiled by *kamikaze* – divine wind. The Taiwanese will be hoping that, this time, the Americans provide the puff.

Full-scale invasion remains unlikely for now. Instead, relentless Chinese diplomatic, military, cyber and economic pressure will aim to wear down Taiwan's will and capacity to fight. But crises in other parts

of the world, most likely between Russia and Ukraine or Iran and Israel, may prove irresistible opportunities to probe the resolve of an increasingly weary US elsewhere. This would increase the greatest near-term risk: accident or miscalculation.

RECENTRALISED FINANCE

Among the reasons not to go for Taiwan right away is America's second nuclear option: control of the US dollar system upon which global trade and payments depend.

But China has a plan to simultaneously reduce vulnerability to this Achilles heel and to draw in capital flows. That solution includes 'Digital Currency Electronic Payment', better known as the digital yuan (eCNY). It forms the foundation of a potential global monetary order to run parallel to the US dollar.

Unlike cryptocurrencies such as bitcoin, which rely on decentralised ledgers with no overall control, eCNY is legal tender administered by China's central bank, the People's Bank of China (PBoC). It is due to be more widely deployed very soon, yet eCNY's potential market ramifications remain significantly underappreciated. What happens, for example, when any foreign trade or investment with China must settle in eCNY? You will have to enter Beijing's technological ecosystem and accept their digital currency standards, giving China huge regulatory and standard-setting power in the digital world, plus real-time oversight of sensitive financial information. Yet how many firms will turn down access to one of the world's largest consumer markets?

Moreover, once foreign capital crosses the eCNY threshold, it will be invisible to US authorities, helping insulate Chinese entities from American sanctions. In short, eCNY will allow Beijing to weaponise its economic gravity more effectively and accelerate its plan to escape the dollar. This is likely to mean even greater Chinese assertiveness internationally.

THE EMPTY THRONE

Digital money would also enable the fuller imposition of negative interest rates, with no cash safety valve for savers. For the time being, however, China's central bank wishes to do the opposite: provide the global savings market of choice – another part of the plan to lure in capital. This throne has been empty since Mario Draghi's 'whatever it takes' moment killed off the euro's Bundesbank tradition of sound money. The PBoC will try to attract inflows by offering materially higher real (ie after inflation) rates of interest to foreign capital fleeing financial repression in the West.

Beijing appears to be betting that, although it cannot compete with the US on rule of law, it can offer monetary good order. Conceivably, gold may in time back international use of the yuan, even if it is not convertible domestically.

To date, Beijing's bet looks good. China is awash with American venture capital funding and, despite the growing political risks, portfolio flows into Chinese assets are accelerating, egged on by Wall Street royalty from BlackRock to Bridgewater – Beijing's unofficial ambassadors. In 2020, foreign direct investment into China hit an all-time high,[11] evidence that companies are still investing more – not less – in production there.

POLITICAL WARFARE

But China is engaged in 'political warfare', defined by legendary diplomat George

Kennan as "the employment of all the means at a nation's command, short of war, to achieve its national objectives." The aim: succession to global pre-eminence. There is, therefore, no distinction between public and private, civilian or military activity.

So far, markets have been able to ignore the new Sino-Western confrontation as of only limited financial significance. That is changing as the chasm between political reality and investor behaviour yawns wider. Why fund start-ups, new technologies and government objectives – including nuclear-armed fractional orbital bombardment systems – for your principal adversary, rather than your own country?

A more intensive conflict now beckons over where capital flows and what it is used for.

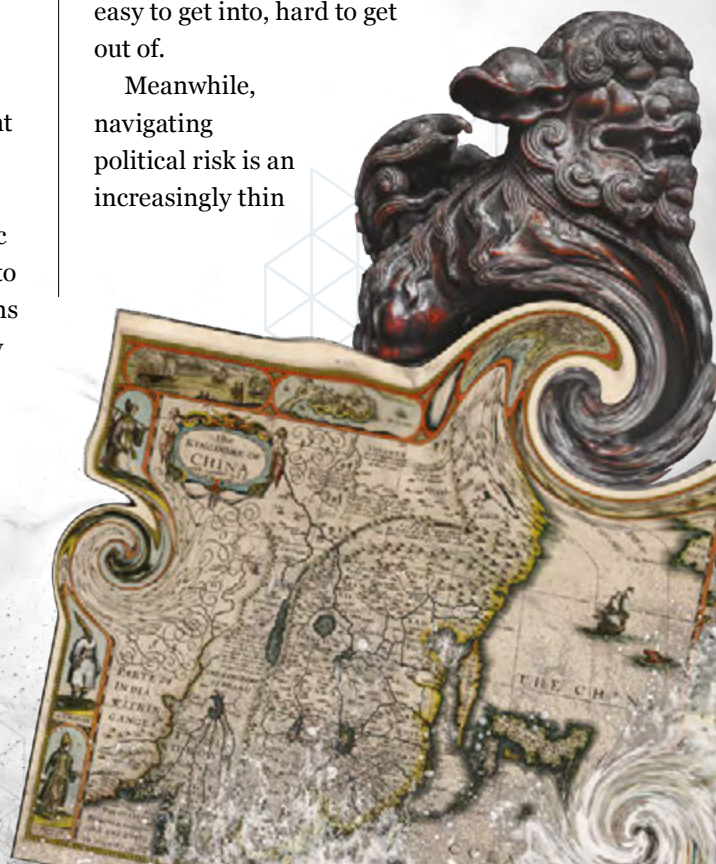
CAPITAL WARS

The US-China Economic and Security Review Commission's 2021 report to Congress[12] offers a plausible vision of the near future. Suggesting that "a basic responsibility of American citizenship ought to be not to do anything to endanger US troops", the commission recommends that Washington consider creating an "economic defense coalition with allies and partners" to resist Chinese economic coercion. Provisions would include the "imposition of retaliatory measures against China in support of the coerced party." That sounds a lot like an economic NATO.

Interim measures would see more effective co-ordination between the various US restriction lists, and renewed pressure on index providers who play a "pivotal yet unregulated role in guiding foreign portfolio investment toward Chinese companies". Sovereign capital flows are already adjusting to the new reality, with Japan's public pension fund, the world's largest, opting to exclude Chinese government bonds. Facing pressure from both sides, Chinese ADRs (stocks listed in America) are at particular risk – around 250 of them, worth over $1 trillion.[13] US politicians and regulators are demanding greater oversight of opaque accounting, and de-listings are likely.

That suits Beijing just fine, since it will force investors seeking Chinese exposure into Chinese markets. Ride-hailing firm Didi's fateful experience of a US listing followed swiftly by pressure from Beijing to de-list, showed that Chinese authorities are not comfortable with the unpatriotic use of US markets or the leakage of capital and, potentially, sensitive data. Chinese ADRs without dual listings could turn into high-risk lobster pots for investors: easy to get into, hard to get out of.

Meanwhile, navigating political risk is an increasingly thin



11 Peterson Institute for International Economics (Jul 2021)
12 USCC Annual Report to Congress 2021
13 Stock Market MBA (15 Dec 2021)

line for foreign firms operating in China, as the treatment of tennis star Peng Shuai, the hostage diplomacy of the two Canadian Michaels and Disney's removal of 'offensive' Simpsons material from its Hong Kong service attest. Hard choices are coming for businesses, not just investors.

Further bifurcation of capital markets is therefore inevitable. To channel Trotsky: you may not be interested in capital war, but capital war will be increasingly interested in you. The transition to a multi-polar world order, dominated by the new Cold War, is about to get choppier.

HOT AND BOTHERED

While the political climate heads for a deep freeze, the planet is heating up. Unfortunately, history indicates that climatic disruption typically catalyses or supercharges upheaval rather than mollifying it.

Consider the seventeenth century, with its familiar resonances: plague (bubonic then, covid-19 now); religious fundamentalism (post-Reformation fallout versus secular political religions); empires (the same contiguous entities, plus the US now); authorities struggling to manage the fallout of a tech-driven data explosion (printing press and pamphlets versus the internet and social media); rapid shifts in military technology; increasingly centralised fiscally active governments.

And climate change. Extreme weather caused by the Little Ice Age – an extended period of global cooling – devastated crops and made populations more susceptible to disease. This exacerbated political, economic and cultural sources of disorder. The result? In the words of historian Geoffrey Parker, a 'global crisis' of innumerable civil and international wars stretching from the cataclysmic Thirty Years War in Europe (1618-1648) through the collapse of China's Ming dynasty (1644) and into the 1680s.[14]

In the pre-industrial world, weather mattered more. Most regions depended on a single crop. If the harvest failed, there was little fat on the bone to protect against the volatility ahead. Real economy margins were thin by default, not choice. By contrast, we enjoy great plenty, delivered by an industrial economy optimised for historically favourable conditions. Once again, real world margins are thin – there's little reaction wood – but this time by complacent design.

Those margins will have to be fattened, because the physical effects of greater climate volatility and resource depletion are already being felt. Take water: droughts are curtailing mining operations and driving crop failure leading to commodity volatility – and so are floods. China, home to a fifth of humanity but around 6% of the earth's fresh water, is especially vulnerable. Its damming of the Tibetan headwaters of South and East Asia's great river systems, on which its neighbours depend, is just one catalyst for looming environmental conflict.

14 Parker (2013), Global Crisis: War, Climate and Catastrophe in the Seventeenth Century

> "The resulting 'Net Zero' agenda will itself increase upheaval for years to come, compounding the effects of geopolitical and natural risk."

So climate, too, is raising the political temperature everywhere, demanding greater physical resilience. Fatter real-world margins mean thinner financial ones.

Until physical resilience is improved, geopolitical and environmental risks will drive higher economic and inflation volatility as supply chains come under pressure.

(IM)BALANCE OF POWER

Rising physical pressure from climate change is one growing source of volatility; mankind's response to it another entirely. All economic activity is transformed energy, and the policy consensus now holds that burning fossil fuels to source that energy is responsible for increased natural risk.

Yet the resulting 'Net Zero' agenda will itself increase upheaval for years to come, compounding the effects of geopolitical and natural risk.

As carbon budgets (estimates of 'safe' levels of emissions) get tighter and carbon prices higher, the chances that energy companies are sitting atop reserves which cannot be extracted or infrastructure that becomes redundant increase sharply. To boot, the pythonic forces of environmental, social and governance (ESG) investment mandates are constricting capital flows to the same businesses. Both strongly discourage investment in fossil fuel supplies – at least among listed Western firms. Unsurprisingly, investment in both old and new hydrocarbon supply has slumped.

But there's a problem: the world is still overwhelmingly dependent on fossil fuels – about 80% dependent, in fact.[15] Energy consumption is heavily linked to GDP and population: both are growing. Investment in increasingly price-competitive renewables is charging ahead, but is unlikely to be enough to prevent significant mismatches between demand for and supply of energy, leading to price spikes. In 2021, we saw evidence of this building succession crisis between old and new energy systems, with surging fuel costs from Europe to Asia.

POWER POLITICS

Last year also offered a glimpse of how the energy transition will increase political pressure. The Biden White House pushed a green climate agenda while begging the Organization of the Petroleum Exporting Countries (OPEC) to ramp up oil production. Its Augustinian 'Lord, make us carbon chaste, but not yet' recognises the politically lethal effects of high energy prices – with a disproportionate impact on the middle and working classes.

In some ways, the covid-19 era has been notable for a lack of political upheaval, with Trump the primary victim. (My guess: fiscal largesse and technological soma are responsible for this calm.) But rolling energy crises will probably wreak political havoc for many incumbents in the energy succession era. 'The lifestyle you ordered is out of stock' isn't a great campaign slogan.

For states dependent on hydrocarbon exports, the energy transition is more existential over the long term, threatening

15 BP (2021), Statistical Review of World Energy

to create a rash of failed states in already unstable regions.

For now, however, with Western energy giants running down their fossil fuel operations, petrostates stand to profit from both higher prices and greater market share.

Even as their longer-term prospects fade, the transition is thus likely to reinforce petrostates' influence in the short to medium term, strengthening the hands of Russia, Saudi Arabia and Iran in seeking to reshape regional orders.

Simultaneously, control of the supply of the metals required to underpin the energy transition will become far more important. But, while demand for them is set to soar, the supply of copper, cobalt, lithium, rare earths and so on will face mounting ESG headwinds, given mining's physical footprint. Moreover, deposits of these critical minerals are far more geographically concentrated than for oil, adding a new roster of states to the roll call of potential global disruptors. And all this on top of the schism which will result from the regulatory walls built around the West via carbon border adjustment mechanisms (see The Great Acceleration ruffer.co.uk/great-acceleration).

PROFIT AND PERIL

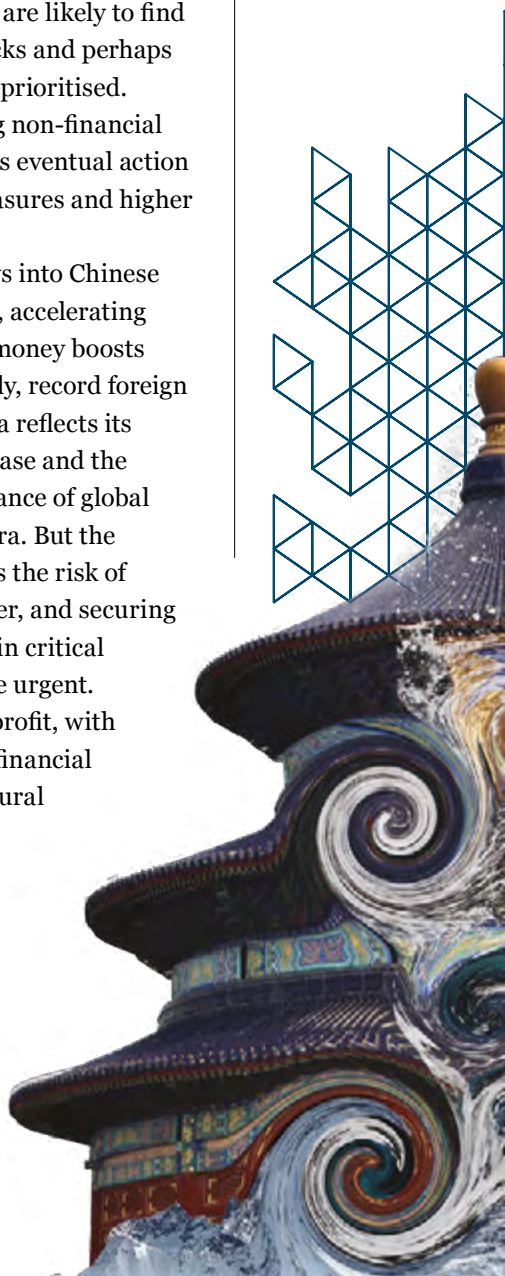
Financial markets represent investors' competitive visions of an inherently uncertain future. Biosphere 2 may be in Oracle, but you don't need to be a Delphic Sibyl to discern some features of the road ahead. In geopolitics, the environment and energy markets, long-term volatility is picking up, and it's eminently investable.

Growing disorder from Russia's Ukraine border to the Taiwan Straits will reward investments in security: space and cyber; AI; autonomous systems; defences against drones; nuclear modernisation. Beyond the immediate threat posed by further covid-19 disruption, tail risks around China are multiplying, from economic re-engineering and eCNY to Taiwan. All these are now 'live' issues, with the yuan set to be a key barometer of China's economic health.

Political risk in China is here to stay, but priority sectors for the CCP will have greater protection. Chinese savings are likely to find their way into domestic stocks and perhaps gold, too, as real estate is deprioritised. Beijing's focus on rebuilding non-financial forms of capital foreshadows eventual action in the West as antitrust measures and higher taxes move closer.

But foreign portfolio flows into Chinese assets are likely to continue, accelerating capital conflict as Western money boosts Beijing's ambitions. Similarly, record foreign direct investment into China reflects its unrivalled manufacturing base and the remarkably robust performance of global supply chains in the covid era. But the accelerating Cold War raises the risk of greater schism in world order, and securing non-Chinese supply chains in critical industries will become more urgent. Japan looks well-placed to profit, with its deep capital stock, little financial engineering and strong cultural and intellectual capital.

Mass ageing in China and elsewhere suggests that population bust, not boom, will define the century. Health and social care, pharmaceuticals, leisure spending and automation are growth



industries. Age-related pressure on public finances will encourage the growth of the state, and money-financing. China's attempts to pivot to a consumption-based growth model will export volatility – and probably inflation – but it could ultimately create a new growth engine, as could the greening of the global economy.

Climate change and the energy transition will drive bigger shocks in commodity markets, accelerating transition plans. That's good news for strategic metals, their miners and energy storage, while the need for secure, reliable baseload power is likely to see nuclear given another chance: bullish for uranium. But the politicisation of capital will also offer profitable opportunities to invest in the uninvestable. Vice, in the shape of integrated energy companies with high cash flows and growing renewables divisions, could pay handsomely.

Sitting at the crossroads of geopolitical, environmental, demographic and energy transitions is additive manufacturing (3D printing). Since humans began using tools, our manufacturing has involved taking natural resources and subtracting material to create what we want. Now, we can build from the ground up, with minimal waste. Better yet, we can build complex products locally and remove costly human labour. Cleaner, cheaper, more secure.

Above all, active management and thoughtful tail-hedging will be essential to maintain resilience in this era of greater volatility.

NEMESIS

In classical mythology, Nemesis was the goddess who meted out retribution to those who had demonstrated hubris before the gods. Recent decades of peace and stability fostered hubris. Now, Nemesis is starting to make her house calls.

For the complacent West, Nemesis now appears as domestic fragmentation and Xi's China – both repudiating Western 'End of History' delusions.

For the complacent East, Nemesis is arriving demographically via the one child policy and politically via one man rule. Both are incubating succession crises and Beijing could go for broke as time starts to run against it.

For markets, the lack of real-world turbulence in recent decades has seen financial capital grow unnaturally fast. But this has been at the expense of resilience, from the natural world to national security; from the social contract to China-centric supply chains. Now, the winds are picking up.

The road ahead will be defined not only by greater volatility, but also by the need to restore resilience by rebuilding non-financial forms of capital. Institutions, ideas and portfolios conditioned by a generation of windless calm are on borrowed time. But those rich in reaction wood and the capacity for renewal will find the winds at their back. ●

A grand plan for the land

After almost four decades working in financial markets, Harry Buscall retired from Ruffer in 2020 to embark on a new adventure with his son Dominic at his family farm, Ken Hill in Norfolk. Using a combination of rewilding, regenerative farming and traditional conservation practices, the team at Ken Hill have devised an innovative approach to sustainable land management.

Rory McIvor caught up with Harry, to find out more about his approach to the UK's land use conundrum.

What are you trying to achieve?

We hope to embed a new approach which allows us to thrive economically whilst meeting the challenges of climate change, biodiversity decline and the need for sustainable food production.

At Ken Hill, rather than look at the risks under our nose we have tried to identify the major trends which will dominate the debate in the years and decades to come.

So we're considering issues like carbon storage, water shortage, soil erosion and land as a provider of public goods.

To put it in terms with which Ruffer clients will be well acquainted, our hope is that this approach will build a genuinely diversified portfolio of natural assets enabling long-term compound growth for generations to come.

British farming appears to be at a critical juncture, what's the situation on the ground?

There is significant polarisation in the debate amongst farmers and landowners on how best to manage land and the environment. The UK policy setting for farming, the environment, and rural wellbeing is at its most dynamic for decades.

The economics of farming for most averaged-sized holdings has been turned on its head by Brexit, which brought an end to payments made via the EU's Common Agricultural Policy (CAP). The CAP payments essentially masked a lot of loss-making farming businesses – the curtain has now been pulled back.

CAP payments are being replaced by UK government schemes more oriented to good environmental management – although the detail and quantum of the payments are yet to be fully laid out.

This is a watershed moment for many farms. The need to innovate – sterilised by CAP for many years – has now been unleashed and so there's a lot of change taking place across British agriculture.

And that's before tackling the issue of climate change...

After the energy sector, agriculture is the UK's second biggest emitter of greenhouse gases – accounting for some 11% of total emissions.[1] So, there is a major problem, but there's also a solution.

1 Department for Environment Food & Rural Affairs, Agri-climate report 2021

> “Our hope is that this approach will build a genuinely diversified portfolio of natural assets enabling long-term compound growth for generations to come.”

Regenerative farming is a simple means of capturing atmospheric carbon dioxide. Essentially, by growing plants that move that carbon from the air into the soil. This offers farmers a golden opportunity to transition from being carbon emitters to carbon sequesterers, which could also have considerable economic value in the future.

We are also amid a worsening biodiversity crisis, and that’s where the marriage of rewilding and regenerative farming really comes to the fore as these two techniques allow nature to thrive and revive.

That's the context, Harry, so what's the plan?

Responding to these changes in the macro environment for UK land managers, we launched the Wild Ken Hill project.

There were two main motivations. Firstly, to address the worsening biodiversity and climate crises in a more radical fashion – the existing national approach is clearly not working. Secondly, to futureproof our operations from Brexit and other commercial challenges.

Guided by these principles, we decided on our land usage by classifying it along two simple dimensions: its potential agricultural productivity, and the existing level of other benefits it provides. This is mostly conservation interest but extends to carbon sinks and other areas of public value that may be maintained through traditional conservation techniques.

And we've developed a three-pronged strategy: regenerative farming, rewilding and traditional conservation.

How does regenerative farming differ from conventional methods?

Regenerative farming is the aspect of our approach I am most excited by. My son Dominic, who returned to Ken Hill after spending his twenties as a management consultant in London, oversees the strategy. He and Estate Director, Nick Padwick (2009 UK farmer of the year, no less) have pioneered some truly cutting-edge ideas.

It's a great joy to be working with the next generation for whom threats to British land are not theoretical problems to be

intellectualised or contemplated from a distance. But real issues which require deeds, not words, to address.

The climate challenge informs much of what we are trying to achieve with regenerative farming. Regenerative agriculture focuses on strengthening the health and vitality of farm soil. There are some terrifying factoids doing the rounds, for example, British soils only have another 60 harvests left in them. That isn't true, but without question, looking after our soil is a top priority.

The theory is relatively simple: we do not plough or cultivate fields and aim to keep a root in the ground throughout the year whilst adding to soil fertility through composting and introducing animals to our farming system. This allows nature to take its course, and as soil health improves chemical input requirements reduce dramatically and crop yields may actually increase as soils become more resilient against extreme weather and less vulnerable to pathogens.

There hasn't been a great deal of research into regenerative farming and the data is limited. Gabe Brown's *Dirt to Soil* is considered something of a bible in the realm of regenerative farming – well worth reading if soil's your thing.

It remains early days for our regenerative farming project, but we're encouraged by the benefits we are seeing. A dramatic fall in the use of chemical inputs and no soil cultivation means that the cost of our farming has fallen significantly – by much more than the moderate decline in crop yields – and farming profitability is increasing significantly.

Rising profits, rocketing biodiversity and more carbon storage – those are three big ticks.

Rewilding is much in vogue, not least because Jeremy Clarkson has begun the process at his farm in the Cotswolds, but what does it mean?

You're quite right, and his Amazon Prime Video series *Clarkson's Farm* has done a great service in highlighting the trials and tribulations of British farmers. I'm not sure I'd go so far as to call it an inspiration (I'm yet to purchase a Lamborghini tractor) but it has widened awareness regarding the debate about how we manage the British countryside.

Rewilding means different things to different people – it has developed an

unhelpful religious connotation – but fundamentally it's about natural processes. We think of it as a low intervention, low cost, natural process-focused variant of conservation. It's a land management approach for areas which have neither adequate levels of agricultural productivity, nor currently provide other biodiversity or climate benefits to society. This contrasts with the active management approach of traditional conservation. The aim is to repair natural processes and let them do the work.

Rewilding is not without controversy – is it a luxury most farmers cannot afford?

That's certainly the kneejerk reaction, which is more often wrong. Our decision to rewild land at Ken Hill isn't fanciful or romantic.

Ultimately, it was a hard-nosed choice. Yes, better for the environment by increasing carbon storage, but also more profitable when factoring in available government schemes. But it would be a mistake to think of rewilding in isolation. The balanced approach of regenerative agriculture, rewilding and traditional conservation helps to mediate the all-too-often polarised debate on rewilding by demonstrating these land choices can readily (and profitably) co-exist. Rewilding is not only compatible with modern populated English landscapes, it also enhances them.

And I understand you are the proud host of Norfolk's only beavers...

Our beavers are some of the most popular residents of Ken Hill, but their reintroduction was not without its challenges. The most successful rewilding incorporates both flora and fauna. However, it isn't simply a case of creating the right habitat and expecting once-native species to return of their own accord. The extinction of certain species and the extent of human presence in the countryside necessitate a more practical approach, with small interventions to kick start these natural processes. To that end, we've also reintroduced native cattle, a herd of Exmoor ponies and Tamworth pigs.

Beavers are what's known as a 'keystone' species. Through the building of dams and consequent wetting they create and maintain habitats where an abundance of life can flourish. They've also had a taste of the limelight, featuring heavily during the filming of BBC's *Springwatch* at Ken Hill.

We've launched a series of nature tours to allow people access to the site to come and see for themselves – again, as part of our

> “Our decision to rewild land at Ken Hill isn’t fanciful or romantic.”

efforts in reimagining land for its potential as a public good.

Where do traditional conservation practices fit into the strategy?

Traditional conservation tends to be employed where intervention is required to support existing or potential sites of high nature value. For example, in 2019 we created a new set of earth works to increase the water level on 500 acres of freshwater marshes by about a foot.

Since the completion of the project, we have been actively managing the water levels and grazing patterns to support the breeding

of target species, such as lapwing, redshank and avocet.

Last summer, the habitat improvement brought about by this intervention allowed us to participate in a nationally significant curlew 'headstarting' project. Over the past 40 years the curlew has suffered dramatic declines in population in Britain. And in 2018 just six curlew chicks fledged across all southern England. The project involves collecting curlew eggs (which previously would have been destroyed) from RAF airfields where the nesting birds threaten aircraft safety. They are incubated, hatched, reared, and then moved to a release site at Ken Hill where they spend a few weeks habituating to their environment before being released into the wild.

What does the future hold for British farmland?

The public's attitude toward nature is changing. The pandemic has redefined our relationship with nature and the way we work and live. We recognise more than ever that access to green space is a key component of our wellbeing. Lockdown has also highlighted the feasibility and benefits of remote working, often flexibly from the countryside. And we expect many of these attitudes to continue through the post-coronavirus era. This places an even greater responsibility upon us to manage land for the public good.

Reimagining the future of our land – with its numerous and complex vested interests – is a tremendous challenge. For many farmers, ourselves included, change is daunting. But as I hope we're demonstrating at Ken Hill, there is also an abundance of opportunity. ●

> "The pandemic has redefined our relationship with nature and the way we work and live."

KEN HILL sits within the North Norfolk Area of Outstanding Natural Beauty, overlooking the Wash on the ear of England. For more, see wildkenhill.co.uk

The Great Restoration

CLEANING UP CARBON

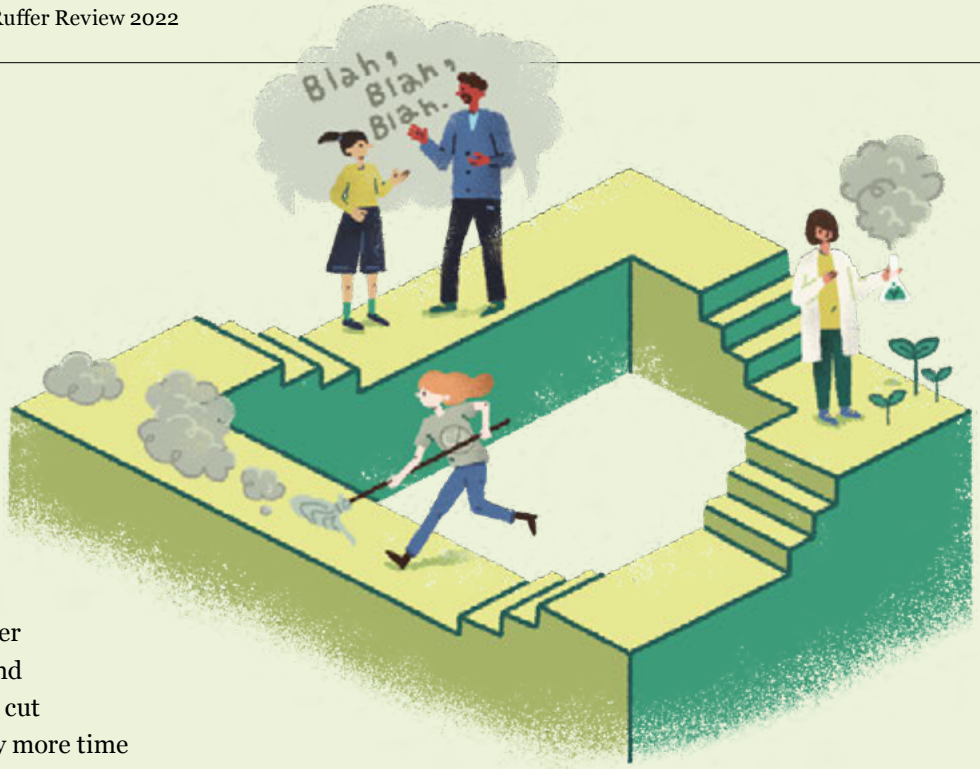
TIM KRUGER IS A LEADING AUTHORITY ON REMOVING CARBON DIOXIDE FROM THE ATMOSPHERE. He shares his time between the University of Oxford and a cleantech startup, Origen. Tim runs a programme at the Oxford Martin School which assesses the range of proposed techniques for removing greenhouse gases from the atmosphere to determine which, if any of them, could be deployed at meaningful scale without creating countervailing side-effects. Origen is developing a technology, based on the lime cycle, to remove carbon dioxide from the air. You can find out more at **origencarbonsolutions.com**

TIM KRUGER
Founder at Origen and Oxford Martin Fellow

ONCE UPON A TIME THE CLIMATE WAS STABLE. For the past 8,000 years we have benefited from a period of climate calm. That stability enabled the development of agriculture, settled living and civilisation. It was foundational to the modern world.

Those foundations are now being shaken. Throughout those eight millennia temperatures might have jiggled about slightly, but they were always within a tight band deviating, at most, by about half a degree from the average. We are now busting out of that range – temperatures are up by a whole degree in the past century and there's every expectation that they will rise much further.

Some people are unperturbed by global warming – what difference does a degree



or two make? A warmer world might even sound like an opportunity to cut heating bills and enjoy more time on the beach each summer. However, we need to think of our planet's temperature as we would our own. A degree rise on the thermometer is discomfort, two degrees is a raging fever, three is potentially fatal.

We need to calm the fever. The good news is we know how to. The bad news is we may choose not to. Curing climate change is not beyond the wit of man, but it may be beyond our will.

REDUCE AND REMOVE

Decades of climate negotiations have served us equal helpings of hope and cynicism. For glass-half-fullers, the very fact that the divergent interests of the planet's nations have been aligned in climate-calming ambition is little short of a miracle, while glass-half-emptiers can point to the stark gap between saccharine statements of intent and the dearth of action.

For all the criticism that recent climate talks were, in the words of Greta Thunberg, "blah, blah, blah", there were two substantive outcomes. Firstly, the global commitment to 'phase down' coal heralds the end of the fossil energy era – and not just for coal – oil and gas too are going the way of the dinosaurs. And secondly, Net Zero is going to happen – over 90% of the global economy is now committed to that goal.[1]

Those two outcomes talk to both halves of the walnut of what it will take to cure climate change. Reduce and remove. The first priority is to reduce – cutting emissions – but we will also need to remove colossal quantities of carbon dioxide from the air in the decades ahead.

This points to two inevitable megatrends. One relates to the transition from our existing, fossil energy-based society to one powered by renewables. The other relates to Greenhouse Gas Removal, the nascent field of proposed techniques for removing carbon dioxide from the air and squirrelling it away permanently, deep underground.

The rise in global temperatures depends on cumulative emissions. Stopping the rise in temperatures will require not just a decrease in emissions, but a complete halt.

1. Net Zero Tracker

> “Curing climate change is not beyond the wit of man, but it may be beyond our will.”

To prevent temperatures continuing to rise it will be necessary to achieve Net Zero – reducing emissions and then counteracting any remaining emissions with equivalent removals.

If we manage to cut emissions along the lines projected in the climate models (a massive ‘if’ – it would require an outbreak of competence and commitment hitherto unwitnessed in the history of humanity) we would still need to remove about a trillion tonnes of carbon dioxide from the atmosphere over the next 80 years. Think of it as a new waste management industry, on a stupendously large scale.

Can we achieve removals at the scale and pace required? I believe we can. This is not the place to delve into the range of possible approaches and their various benefits and side-effects.[2] Suffice to say there is unlikely to be a single technique that will do it on its own – no silver bullet, but perhaps a portfolio of techniques which together could form the silver buckshot required to stop climate change in its tracks.

THE EARTHSHOT CHALLENGE

In late 2021, to galvanise the development of removal technologies, the United States Department of Energy announced a new Earthshot challenge which seeks to emulate Kennedy’s famous Moonshot in ambition and scope. They have set a target to reduce the cost of removing carbon dioxide from the atmosphere to $100 per tonne by 2030.[3] Many think this is a pipedream.

Having worked in this field long before it was fashionable as both an academic and as an entrepreneur, I believe this is eminently achievable.[4] What hasn’t been considered nearly deeply enough are the consequences of actually achieving this goal.

What would be the implications if we could safely, robustly and scalably remove carbon dioxide from the atmosphere at $100 per tonne? [5] Achieving the Earthshot challenge would have profound consequences – and some surprising ones too.

I believe having the ability to remove carbon dioxide from the air at scale would establish a carbon price that is rational, moral and global. It would also open the possibility of going beyond Net Zero. And it has the potential to transform petro-economies into climate champions.

A RATIONAL PRICE FOR CARBON

While economists have long called for a global carbon price to address climate change, the means by which to implement this mechanism have been elusive.

But if we developed techniques that could remove CO2 from the air at say, $100 per tonne, then this is what the price of carbon would become.

Carbon dioxide is a pollutant: it results in damage to society by causing climate change. Currently, the principle of ‘the polluter pays’ is not enforced; the costs of pollution are not being borne by the polluter and the ‘permits to pollute’ are less than the cost of the damage caused. This is a de facto subsidy of carbon dioxide producers.

2 CDR Primer
3 Office of Fossil Energy and Carbon Management
4 Origen Carbon Solutions
5 In this instance: ‘safe’: socially and politically acceptable; ‘robust’: results in long-term storage of CO2 away from the atmosphere; ‘scalable’: can be deployed at a scale to counteract all of humanity’s emissions

The pricing of carbon dioxide is often referred to as a carbon tax. But it isn't a tax – rather, it's a reduction to a subsidy. With carbon dioxide producers not paying the cost of the pollution they are causing, they are in effect being subsidised by society – a transfer of wealth from society to polluters.

A MORAL PRICE FOR CARBON

The emergence of techniques that can remove CO_2 from the air will determine the correct carbon price and create a moral obligation to use such techniques. The sin is not emitting carbon dioxide into the atmosphere – the sin is failing to clean it up. In the absence of the means to clean up the mess, a polluter can justify their inaction by saying "I can't clean it up". Once such techniques exist, they can only say "I don't want to clean it up" – a very different moral position.

While regulatory change may be slow – legislators will be lobbied ferociously by those industries that would buckle under the pressure of having to internalise the externalities they inflict upon society – judicial action may bring about changes far quicker. Jurists applying remedial actions for the tort of climate change may require emitters to match each tonne of emissions with an equivalent amount of removal. If such action costs $100 per tonne and you, as an emitter, are not willing or able to bear such a cost then you would have to cease operating.

This may seem harsh, but only if we benchmark against current carbon pricing mechanisms that neither reflect the amount of harm done by emissions, nor recompense those harmed.

A GLOBAL PRICE FOR CARBON

Scalable techniques to remove carbon dioxide from the air could create a global carbon price. Doing so would overcome the issue of 'carbon leakage' – the moving of high-emitting industries to jurisdictions where the costs of the sins of emissions are less onerous. It is important to note,

however, that a universally applied carbon price would hit poorer countries harder than richer ones and so would likely be regressive in nature.[6]

A uniformly applied carbon price on emissions would take no account of historic emissions from countries that industrialised earlier. The fact that carbon dioxide persists in the atmosphere for so long means that the whole world is suffering the consequences of emissions from centuries ago. The fact that those emitters did not know that their actions would result in long-term harm does not absolve responsibility for that harm.

HISTORIC NET ZERO

Countries who started down the path to industrialisation later feel like latecomers to a five-course dinner. They arrive in time for dessert and then the other people in the group expect them to split the overall bill equally. A mechanism that acknowledges both current and historic emissions will be essential to achieve global agreement.[7]

Ultimately, achieving Net Zero will require that each emission is matched with a removal and for the carbon price to rise to the cost of removing CO2 from the air. But we need to strive not only for Net Zero on an ongoing basis, but also aim to achieve Historic Net Zero, scrubbing as much carbon dioxide out of the air as has been emitted since the Industrial Revolution. While we may protest at the costs that would fall on us due to the actions of our ancestors, it seems fair that those economies that benefited from earlier industrialisation should have to pay the appropriate share of the clean-up bill. Industrialised countries have inflicted a carbon hangover on the whole of humanity – it's time to pick up the tab.

TRANSFORMING PETRO-ECONOMIES INTO CLIMATE CHAMPIONS

For economies that rely on fossil energy this would all seem like pretty bad news, but it needn't be so. There may be a way in which those countries that are the repositories of the hydrocarbons which have the potential to wreck the climate could in fact become climate champions. They can use the energy buried beneath their land to become leaders in what will become a major new economic activity – the removal of carbon dioxide from the air. In fact, they could make more money being part of the solution to climate change than they currently earn causing it.

And this is where the countries rich in fossil energy can play a key role. To remove carbon dioxide from the air requires energy (that's a thermodynamic fact – not the kind of fact you want to argue with).[8] Countries with access to fossil energy also

6 World Bank. On average, wealthier countries tend to produce more economic output per unit of carbon dioxide emissions than less wealthy countries. For example, if countries were required to pay $100 per tonne of CO2 emitted, it would cost the US about 2% of its GDP, while it would cost China 5% of its GDP (which is far smaller on a per capita basis)

7 Oxford Martin School, University of Oxford

8 Lackner (2013), The thermodynamics of direct air capture

have a few other things in their favour: the correct geology (the formations that held hydrocarbons secure for millions of years can also be used to permanently store carbon dioxide captured from the air), expertise in large-scale engineering and access to capital.

Currently, burning natural gas results in emissions of carbon dioxide into the atmosphere, contributing to climate change. For every MMBTU of natural gas burnt about 50kg of carbon dioxide goes into the air. [9] It is possible to use that same MMBTU of natural gas to power a process that will result in 150kg of carbon dioxide being removed from the air.[10] In a world where the carbon price is $100 per tonne you would see an additional $5 per MMBTU going onto the price of the natural gas being burnt. Alternatively, the owner of that natural gas could earn revenue of $15 per MMBTU – and be applauded for countering climate change.

No doubt many environmentalists would be horrified at the idea that those countries who profited from actions which caused climate change could profit further from clearing up the mess that they made. But others would argue that if this is the price to pay for avoiding a greater harm, then that's what is required. Using fossil energy to counter climate change, whilst seemingly a paradox, could allow us to restore the atmosphere.

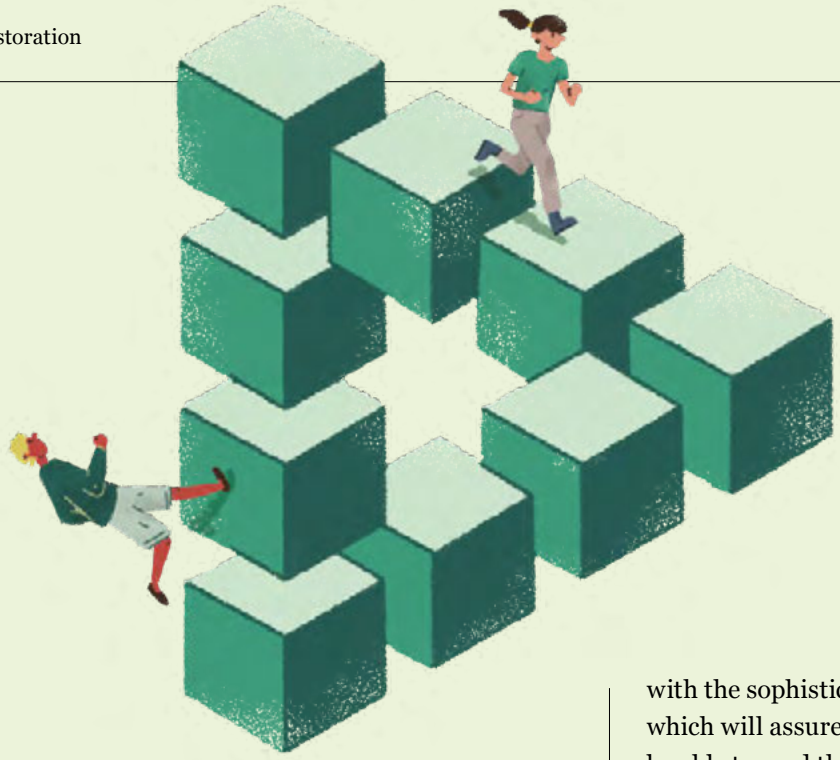
> "Our ambition must not be to change the world, but rather to keep it as it's meant to be – to go forward, we need to go back."

It could also break the logjam on climate negotiations. Climate change is an existential threat to all humanity, but action to counter climate change is itself an existential threat to the economies of countries that sell fossil energy. We need to imagine a world in which the owners of fossil energy are actually motivated to call for faster action to counter climate change.

The discomfort we feel at the messy compromises that we will need to make to clean up the mess of climate change is real and important. We all have our agendas: coal miners whose livelihoods depend on being deaf to climate science; those on the left who see the climate crisis as the anvil upon which to break capitalism (and who view any action which doesn't advance that goal as unacceptable); and the vast swathes of the uninterested who really can't

9 MMBTU: a million British Thermal Units, the unit most used in the gas industry, or 1.055GJ or about 0.172 barrels of oil equivalent

10 Full disclosure – the process I have in mind here, is the one that my company is developing



understand what all the fuss is about and demand that their lives are as undisrupted and untaxed as possible.

Climate change is what is known as a 'wicked problem' – 'wicked' in the sense that it is resistant to resolution, rather than evil.[11] The range of agendas and worldviews that characterise humanity suggest that there is unlikely to be a single solution which everyone will support. Demonstrating that we can remove carbon dioxide from the air in ways that are scalable and cheap will not miraculously lead to global harmony, but it could take the heat out of the arguments – and indeed out of the climate itself.

THE GREAT RESTORATION

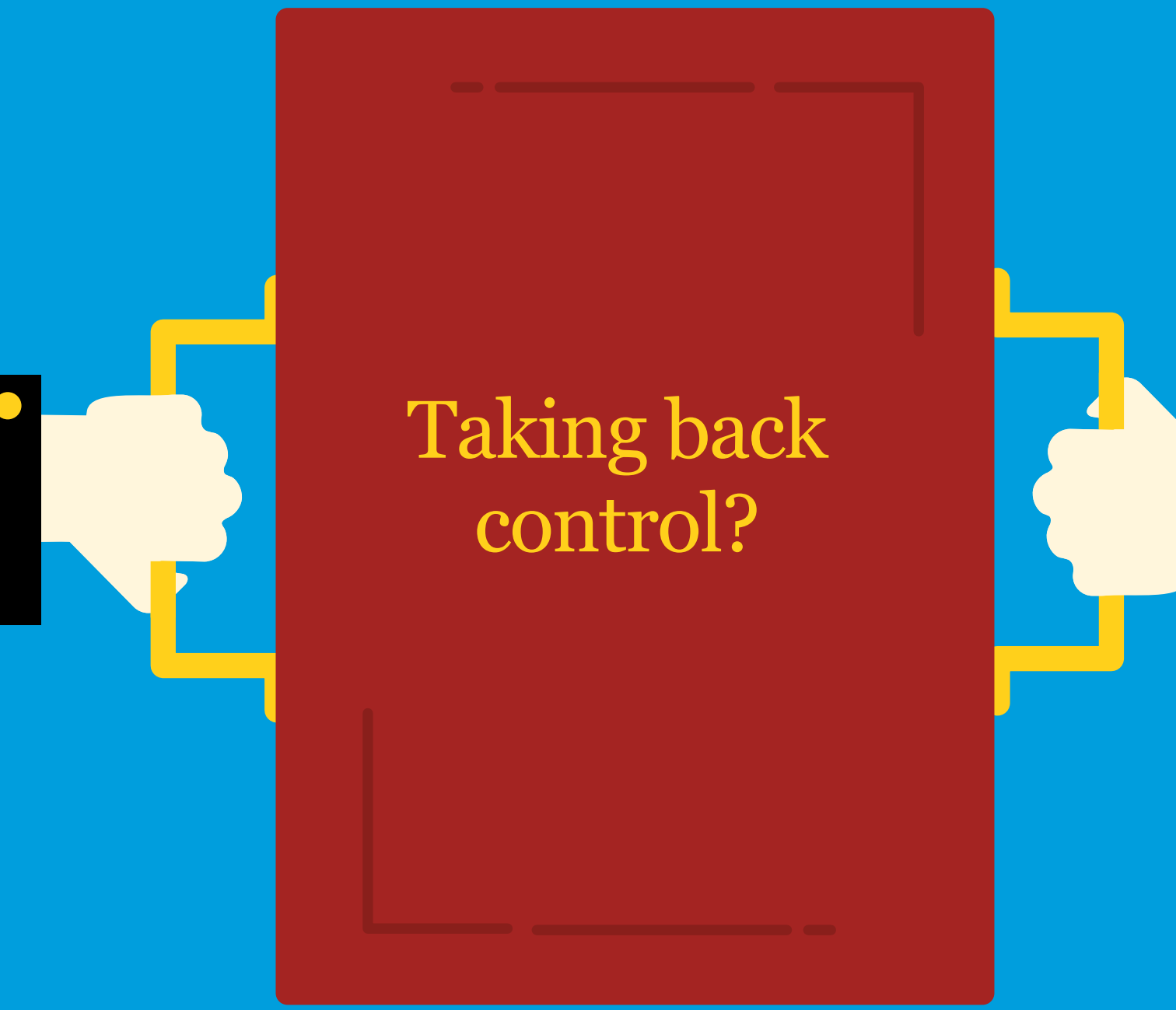
The millennia of stable climate since the last Ice Age is known to geologists as the Holocene. As geological eras go, it is a short one, but it is already drawing to a close. It is being superseded by a new age – the Anthropocene – where the influence of one species of ape is leaving an indelible mark on the planet. A billion years hence a species with the sophistication of our own (but which will assuredly not be our own) will be able to read the runes of the emergence of industrial *homo sapiens* etched in the rocks. This display of geological graffiti is not something of which to be proud.

We need to harness the ingenuity that has got us this far to undo the harm, to scrub the stain of the Anthropocene. Our ambition must not be to change the world, but rather to keep it as it's meant to be – to go forward, we need to go back. Such is the damage that we have inflicted it will require a multi-generational endeavour to de-disturb our planet's systems.

This 'Great Restoration' will require us to return the composition of the atmosphere back to one compatible with a stable climate and healthy oceans. We need to remember a lesson we learnt in kindergarten – if you make a mess, you have to clean it up. But restoring the planet will cost money – a few percent of global GDP on an ongoing basis – and we seem reluctant to pay.

Humanity has the capacity to cure climate change – the question is not so much "can we?" as "will we?" Our actions now will determine whether or not future generations are able to live happily ever after.

11 Rittel, Webber (1973), Dilemmas in a general theory of planning


Taking back
control?

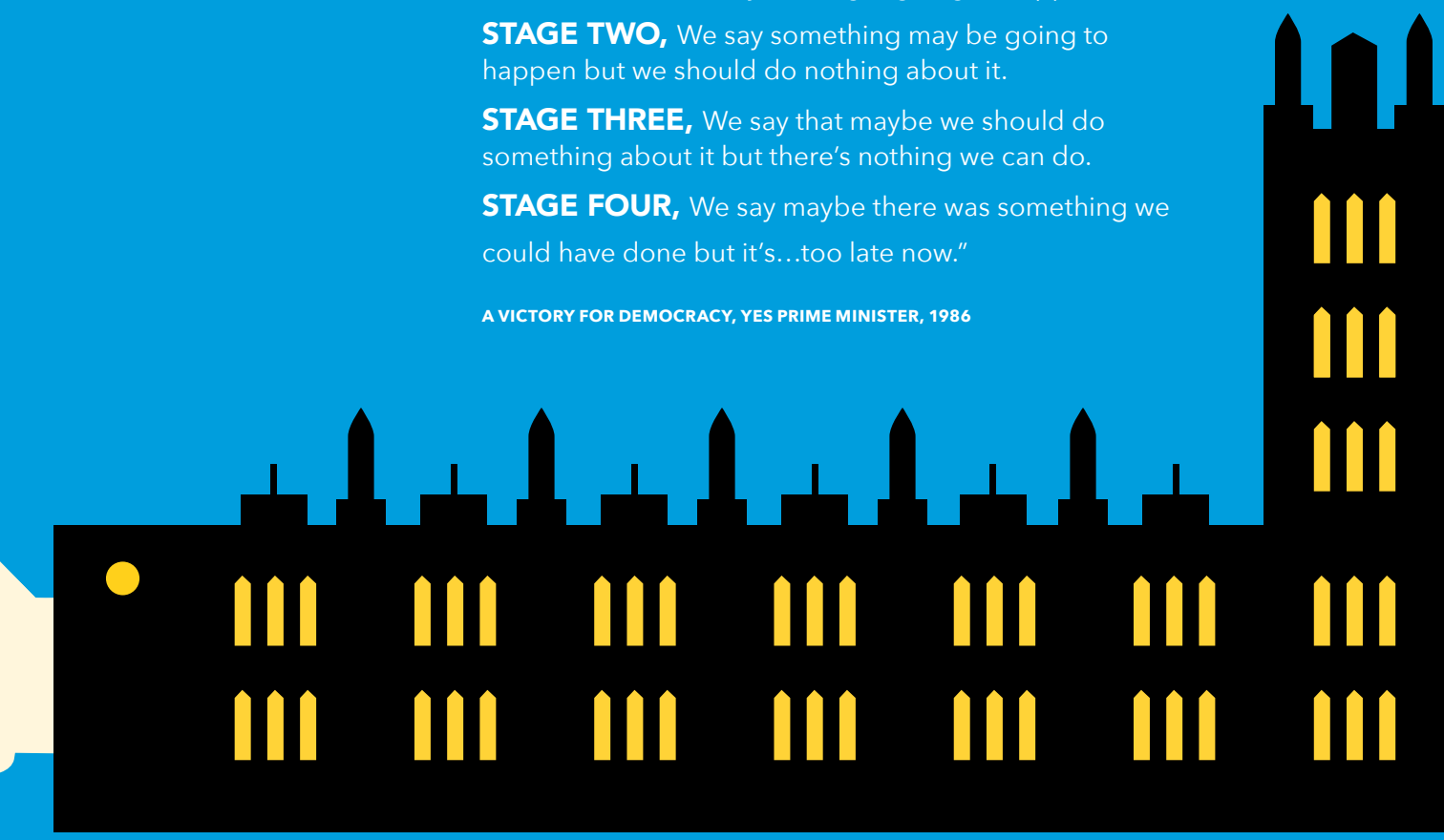
STAGE ONE, We say nothing is going to happen.

STAGE TWO, We say something may be going to happen but we should do nothing about it.

STAGE THREE, We say that maybe we should do something about it but there's nothing we can do.

STAGE FOUR, We say maybe there was something we could have done but it's…too late now."

A VICTORY FOR DEMOCRACY, YES PRIME MINISTER, 1986



DEMISE OF THE DEFLATION MACHINE

When Anthony Jay and Jonathan Lynn scripted their masterpiece, *Yes, Minister,* in the late 1970s, the world was on the cusp of radical change. The 'Deflation Machine' was being born. Deng Xiaoping, having outmanoeuvred Mao Zedong's preferred successor, began the process of reforming China's moribund economy. In the West, liberal, free-market ideals were gaining traction, ideals that underpinned the subsequent regime of rapid, disinflationary global growth.

JAMIE DANNHAUSER
Economist

But this regime – propelled by economically desirable, yet politically intolerable, hyper-financialised supply chains – contained the seeds of its own demise. Its inherent contradictions were as much economic – higher inequality within economies was needed to reduce inequality between them – as they were political: a multilateral liberal world order required political power to be drained from national governments and their respective electorates.

A global financial crisis and pandemic-induced economic heart attack later, this regime is in its dying days. No one knows exactly what will follow, but the broad outline of the prospective paradigm is becoming clear. At its core will be 'strategic rivalry' between the US and China, respectively the fading and rising hegemonic powers of the twenty-first century.[1] Domestically, politics will become less internationalist, tolerant and laissez-faire and more nationalist, parochial and interventionist. 'Who are we?' and 'what share of the pie will we get?' are the questions that will dominate political discourse during the phase ahead of us, just as maximising growth of the national pie took centre stage in the one we are just leaving.

Our destination is a regime hostile to stable, non-inflationary growth. Globally, inflation is likely to be higher and more volatile. Inflation risk, an absent adversary throughout the careers of most investors today, will need to be priced once again. If a lack of inflation risk is the defining characteristic of today's financial markets, its return will have profound consequences for prospective asset returns and cross-asset dynamics.

"'Who are we?' and 'what share of the pie will we get?' are the questions that will dominate political discourse during the phase ahead of us."

1 Mearsheimer (2021), The Inevitable Rivalry: America, China and the Tragedy of Great Power Politics

INFLATION RISK – THE ABSENT ADVERSARY

Where we are heading was the focus of my article in last year's Ruffer Review. Its central premise was that the demise of the existing strong growth/low inflation regime started long before the pandemic. The events of the past two years are best viewed as accelerants of malign shifts in the global economy's structural underpinnings. The pandemic matters not because it changes where we might end up (or why) but because it provides clarity on when we might arrive.

But left unsaid was what the journey might look like. Constructing a portfolio solely with the destination in mind without an eye on the potholes in the road is foolhardy. Somewhat counter-intuitively, the journey is more uncertain than the destination. The core argument is, paradoxically, that the return of inflation risk might first lead us into a deflationary ditch – a painful outcome for any portfolio positioned solely for an inflationary future.

The logic is as follows: moderate inflation and depressed nominal risk-free interest rates are perceived as permanent features of the economic landscape and have become hardwired into investor behaviour.[2] Allocations to risky and illiquid assets have responded accordingly, driven higher by the combination of low volatility and non-existent returns on 'safe' assets. This shift in portfolio structure has accelerated dramatically as nominal risk-free interest rates have fallen to zero.[3]

If, or more likely when, central banks start to respond to persistent inflation by pushing short-term interest rates closer to historic norms, the reversal of these flows into illiquid corners of the market will occur in a non-linear and disruptive fashion. The withdrawal of policy stimulus is likely to include an end to large scale asset purchases (and later active balance sheet shrinkage), the closure of emergency liquidity facilities and explicit guidance about a higher (conditional) path for policy interest rates.

This will expose the illusory and ephemeral nature of liquidity in the post-2008 financial ecosystem, what our CIO Henry Maxey has dubbed its 'avalanche prone nature'. If it is right that flows, rather than fundamentals, anchor asset prices in our financial system sanitised by quantitative easing (QE), the drawdown in risky assets could be dramatic.

THE FINANCIAL MARKET TAIL WAGS THE REAL ECONOMY DOG

What the real economy needs today (higher interest rates) is something financial markets can't stomach. But if the financial ecosystem has become so intolerant of policy 'normalisation', isn't there a fundamental paradox, given the financialised and debt-laden nature of the economic system? (Figure 1)

The emergence of genuine inflationary dangers are anticipated to produce a policy response that, by triggering financial disruption, snuffs out the very thing that worried investors (and central bankers) in the first place. This would seem to confirm the belief that anchors today's financial markets – the belief that the global economic system is inherently disinflationary.[4]

This view is appealing and widely held, especially in the policymaking community. But it is likely to be wrong, for it ignores some crucial factors: politics and the social

2 Cole (2017), Volatility and the alchemy of risk, Artemis Capital
3 Lian & Ma (2018), Low interest rates and investor behaviour: a behavioural perspective, Federal Reserve Bank of Boston
4 Borio & Disyatat (2014), Low interest rates and secular stagnation: is debt a missing link?, VoxEU

Figure 1
US domestic non-financial sector debt, 1860-2020

forces that shape the economic paradigm.

Financial conditions dance to the tune of central bankers. The more policymakers argue inflation will subside quickly and painlessly, the less likely it is to evolve that way. Why? Because perceptions of prospective inflationary dangers shape the message central bankers transmit into financial markets. If central bankers signal that they don't believe much policy tightening will be needed, financial conditions will respond accordingly by barely tightening at all. The growth impulse from loose credit standards will remain considerable, and flows into illiquid corners of the financial ecosystem will remain substantial. At the core of this dynamic sits the reaction function.

THE PARADOX OF DEBT-INDUCED INFLATION

When economists talk of the reaction function, they have in mind something mechanistic – a simple rule that links economic outcomes to policy decisions. Uncertainty is purely economic (eg how far unemployment is from its non-inflationary steady state level). Yet, neither central bankers nor fiscal policymakers operate in a political vacuum. The reaction function is as much a description of how policymakers react to economic conditions, as it is a window into the political and social forces that constrain their behaviour. The 'run it hot' strategy formally adopted by the US Federal Reserve (the Fed) in 2020 is as much a reaction to the post 2008 political aftershock as it is an exercise in intellectual housekeeping.

Source: Federal Reserve Board, Census Bureau, Ruffer calculations

> “A global financial crisis and pandemic-induced economic heart attack later, this regime is in its dying days.”

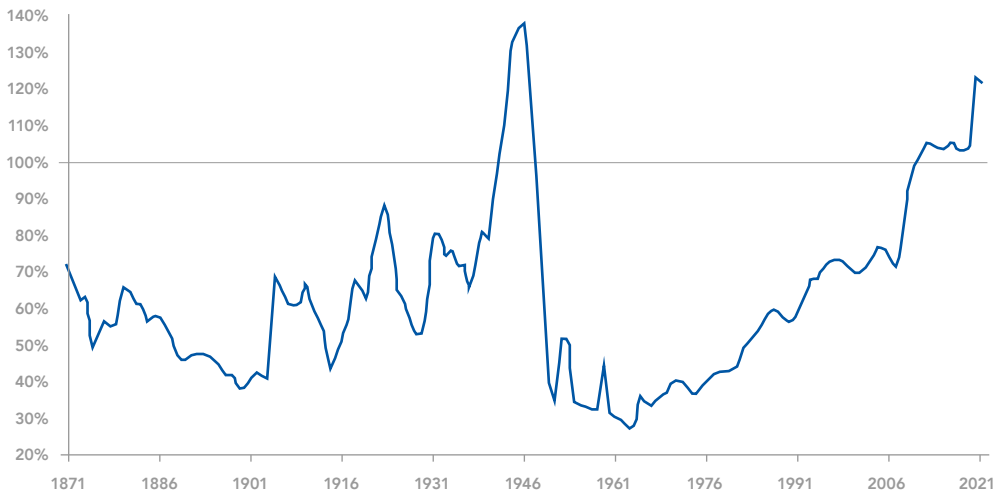
For many, the idea that we are entering a new regime of high inflation, given excessive private and public sector debts, is outlandish. Surely debt overhangs are deflationary.

We don’t think so. In fact, unsustainable debt burdens (in the sense of being unmanageable at historically normal levels of interest rates) are necessary for the coming regime change.

The long tail of vulnerable borrowers, including many governments (Figure 2), has fundamentally reshaped how policymakers react to economic shocks. Our debt-heavy, hyper-financialised economy can cope with neither another financial shock nor a material rise in (real) interest rates. Central bankers internalised this long ago. Our political system, meanwhile, is in no shape to accommodate more economic hardship on Main Street. A bout of (unexpected) inflation may now be the only politically acceptable route out of the rabbit hole down which two decades of loose monetary policy and credit excesses have taken us.

Figure 2

Advanced economies’ government debt to GDP ratio, %



Source: IMF (to 1970), OECD (1970-2000), IMF WEO (from 2001)

KNOWN DESTINATION, UNCERTAIN JOURNEY...

This is the view from 30,000 feet. But in the present, prospects for global growth remain decent. The US economy is strengthening, emerging economies are catching up with their vaccine rollouts and China's property-led slowdown probably reached its nadir at the end of 2021. So, for now, the threats to Main Street are contained.

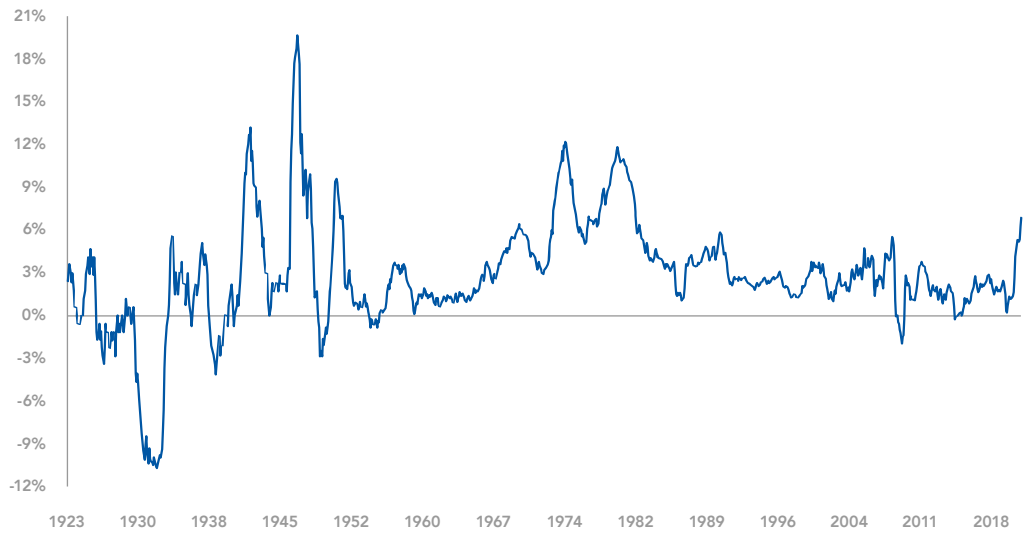
We remain convinced that a phase of more persistent and malign inflationary pressures has begun, but the possible paths ahead remain unclear. One involves a direct route to our inflationary destination; the other meanders first, through financial disruption and (apparent) deflationary dangers. We have, therefore, built a portfolio robust to both 'left-tail' and 'right-tail' outcomes.

A market comprising richly priced assets – justified by structurally low risk-free discount rates – is fragile. In the next one or two years, it may unravel because either 'left tail' threats to earnings, liquidity-fuelled markets and the economy materialise; or 'right tail' dangers to the nominal risk-free discount rate become a reality.

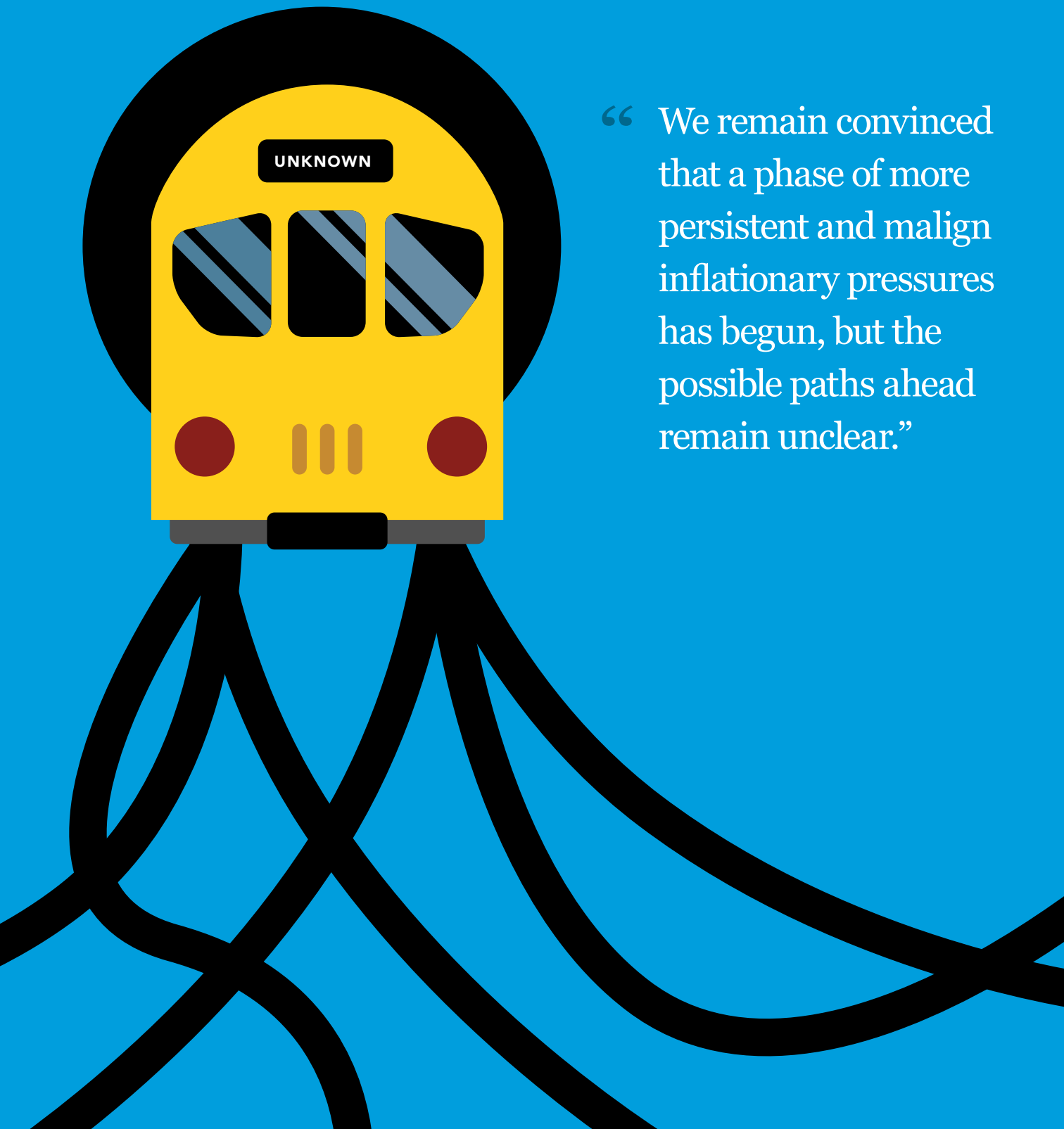
One could imagine a scenario in which inflation does dissipate. Demand may be weakened by a rapidly fading fiscal impulse; or bottlenecks may resolve themselves more quickly than anticipated; or maybe a highly transmissible vaccine-resistant variant forces the global economy back into lockdown. We know how policy would evolve in these scenarios – and how portfolios ought to be constructed, but these outcomes appear unlikely. If inflation in advanced economies persists above the 2% parapet, possibly starting to rise again in the latter part of 2022 (after a mechanistic drop in the middle of the year) central banks will have to decide between two unpalatable courses of action. Do they stick with their

Figure 3

US headline CPI inflation rate, 12m % change



Source: US Bureau of Labor Statistics



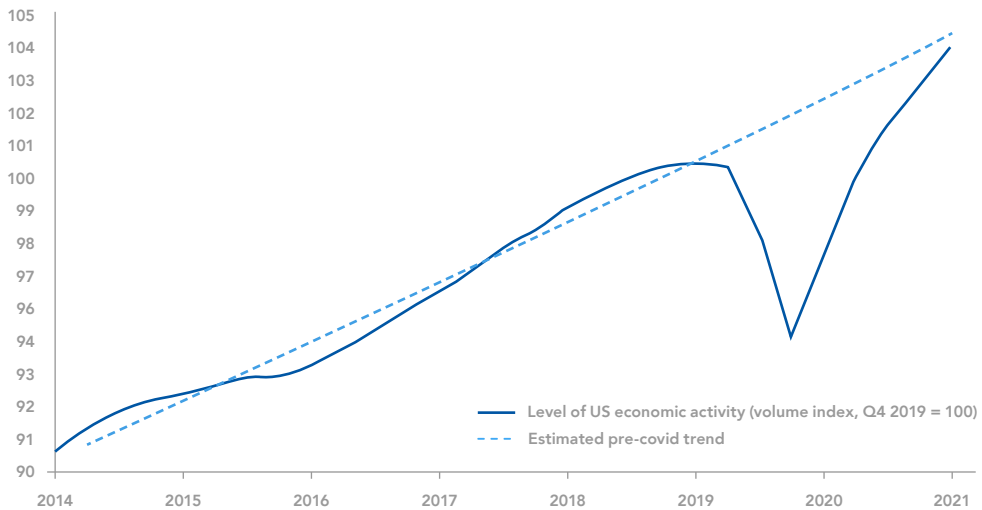
“We remain convinced that a phase of more persistent and malign inflationary pressures has begun, but the possible paths ahead remain unclear.”

run-it-hot strategy out of concern for financial stability and a broad and inclusive labour market recovery? Or do they revert to a more traditional policy approach, getting 'ahead of the curve', but running the risk of a policy-induced recession and the accompanying political fallout?

In the first of these scenarios, we could enter the high and volatile inflation regime in one fell swoop. Higher inflation would become ingrained in wage and price setting behaviour, fundamentally compromising the inflation-targeting regime. Initially, this scenario might provide succour to financial markets, buoyed by depressed real risk-free interest rates and strong (nominal) earnings growth. But conditions would eventually sour, as real resource constraints create a more 'stagflationary' feel of slower growth and stubborn inflation –in caricature, a more prolonged post-covid-19 bull market but at the expense of a more violent repricing, when inflation risk stares Mr Market in the face.

In the second, central bankers engineer a very different – higher and steeper – path for real risk-free interest rates. These moves might ensure a soft landing, with asset prices deflating just enough to restrain emergent inflationary momentum, without a recession. But history suggests such an outcome is highly improbable. Policy tightening cycles almost always end in recessions. Given how rapidly inflation accelerated in 2021, and how close to full employment some economies are (notably the US, Figure 4), this won't be a gentle tap on the brake. This might just reveal how avalanche-prone asset markets really are.

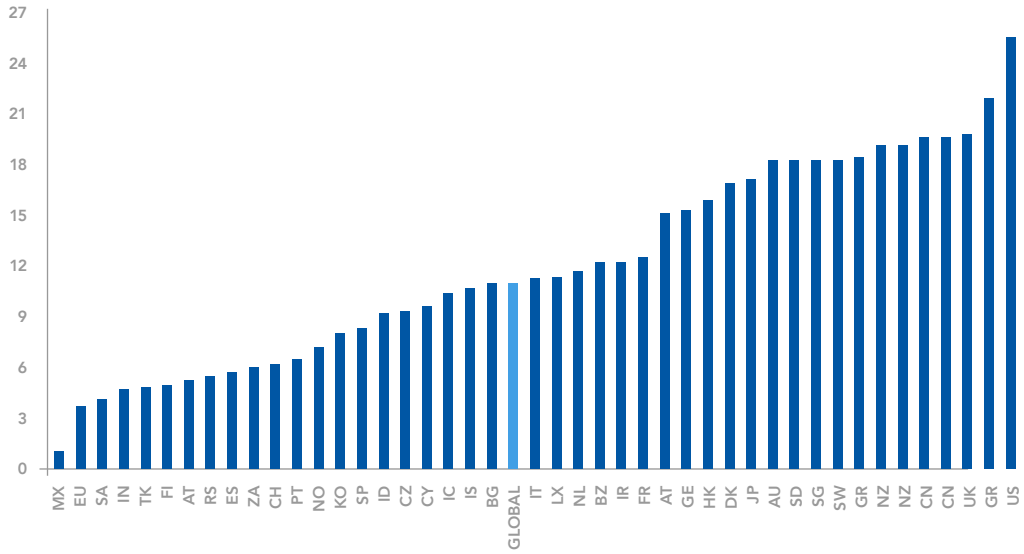
Figure 4
Aggregate US economic activity



Source: Philadelphia Fed GDPlus, Ruffer calculations

Figure 5

Discretionary fiscal stimulus by country in 2020-2021, % of GDP



Source: IMF Fiscal Monitor Database, data as at 31 October 2021

TRAPPED DOWN THE MONETARY RABBIT HOLE?

It is tempting, but in our view wrong, to believe if we are diverted down the path of financial disruption by aggressive central bank tightening in 2022 and 2023, we will not arrive at our inflationary destination but instead at the 'secular stagnation' status quo ante. As the argument goes, deliberate policy action and the disappearance of pandemic-related bottlenecks will quash inflationary momentum, revealing the economic system's true technology-driven disinflationary tendencies.

Parking the question of how disinflationary information and communications technology (ICT) advances will be in the next few years – a less clear cut position than many think – there are then three reasons to be sceptical that the 'financial disruption' scenario really leads us to a different destination.

The first is nothing more than an observation of how far down the rabbit hole policymakers find themselves: despite a massive pandemic-induced spike in inflation and the fastest rebound out of recession in post war history, to date we have seen only a paltry reduction in policy stimulus, itself the most aggressive and wide-ranging stimulus programme in peacetime history (Figure 5).

Even under the pre-covid-19 run-it-hot strategy, when inflation risks were far less threatening, the Fed felt the need to shrink its balance sheet (by $20-40 billion per month) and lift the Federal Funds Rate to 2.5% as the US economy approached full employment. Returning even to these policy settings is likely to take years, not months.

But if this policy stance won't be reached any time soon, two issues naturally arise. On the one hand, one might challenge the plausibility of the 'financial disruption'

scenario itself. If this is all the Fed can muster, will financial conditions really tighten sufficiently to avoid the first scenario, namely a swift transition to a regime of ingrained high and volatile inflation?

On the other, if the financial ecosystem has become so addicted to cheap money that even this sedate pace of monetary withdrawal triggers financial disruption, then far less of the cumulative stimulus injected into the system will get removed post-pandemic than was the case after the 2008/2009 crisis. So, when they fret about the looming damage to Main Street, central bankers will find their armoury even more depleted than was the case in early 2020. Whether made explicit or not, 'helicopter money' will then be the only tool available. At which point the notion of central bank independence, upon which the dying regime rests so heavily, will become a charade.

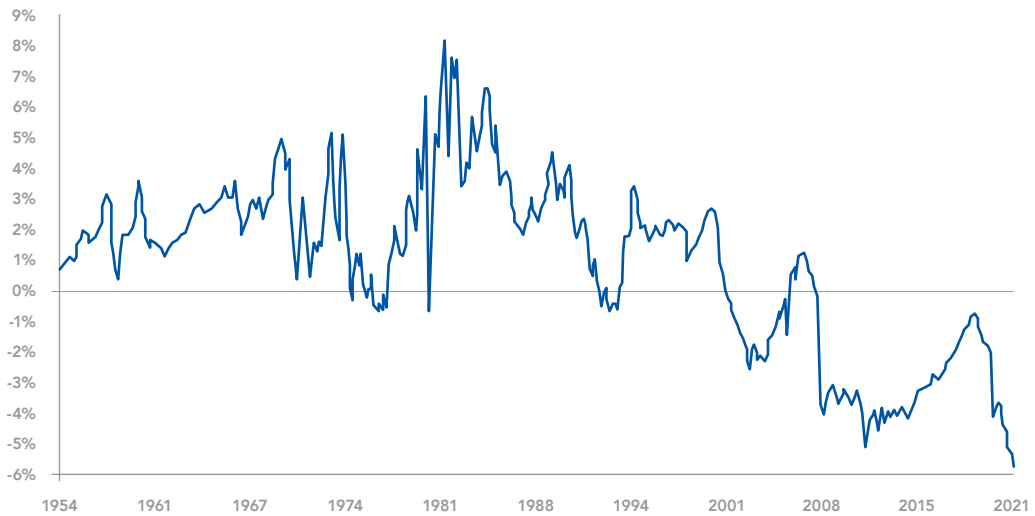
THE 'DONUT EFFECT' AND OTHER POST-PANDEMIC SHIFTS

The second reason to question whether the 'financial disruption' scenario really ends in the deflationary ditch relates to the economic legacy of the pandemic. People are buying different things in different ways, working in different places, using different modes of transport and living in different locations. As the virus becomes endemic, some of these behavioural changes will reverse, but many will not.

Much commentary has focused on the shift in spending towards goods and away from high contact consumer services but of all the changed behaviours wrought by the pandemic this is the one most likely to normalise, as the health threat subsides. Will Western society really eat at home more and dine out less frequently over the medium to long term?

Figure 6

US real risk-free short-maturity interest rate, %



Source: US Federal Reserve, Conference Board, NY Fed, University of Michigan, 12m constant maturity US Treasury yield less survey-based estimate of one-year ahead inflation rate

> “Whichever behavioural shifts dominate in the pandemic’s wake, economies will need to reallocate resources on a meaningful scale.”

Far less has been written about the long-term consequences of the move to hybrid work, a shift with profound implications for existing locational patterns of spending and activity. The hollowing out of dense urban centres, dubbed the ‘donut effect’, could mean wrenching changes to where workers, physical capital, and real estate (so-called ‘factors of production’) need to be located.[5]

Whichever behavioural shifts dominate in the pandemic’s wake, economies will need to reallocate resources on a meaningful scale (a slow and socially disruptive process) to match changed preferences and patterns of spending (a much quicker adjustment). The resulting supply side disruption will make calibrating any future policy response to financially driven economic weakness that much trickier.

Parallels with the recession of 1970 and the subsequent policy blunder will be obvious to those familiar with their economic history. Misjudging the ingrained nature of the late 1960s inflation, the related supply side degradation, and the de-anchoring of inflation expectations, the Fed refilled the punchbowl aggressively in 1970, lowering the Federal Funds Rate by over 400 basis points in real terms. Inflation fell back in the aftermath of the downturn, but not far enough. It remained stuck above 3%, until the rapid acceleration in prices in late 1973.[6]

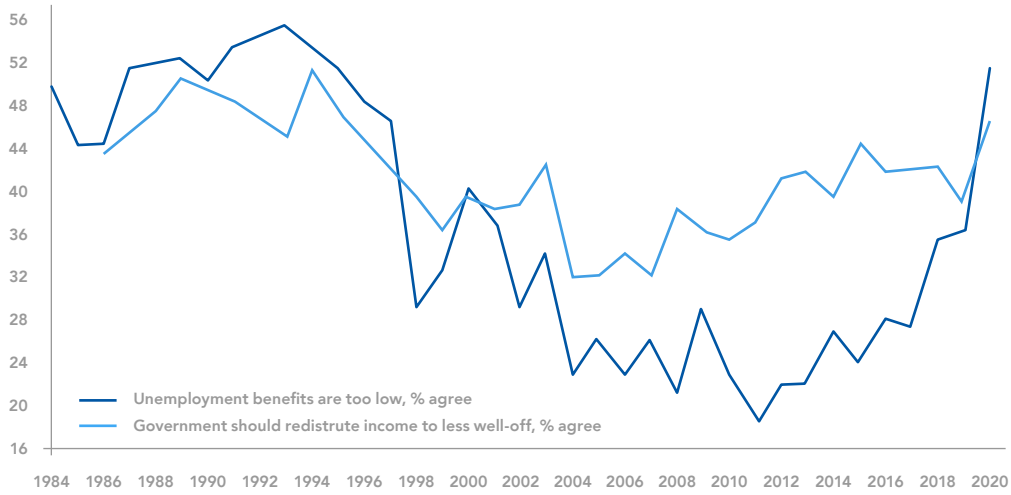
THE RETURN OF THE BIG STATE

The third reason is the most convincing to us. Traumatised by the experience of 2008/2009, the political elite will no longer tolerate economic suffering on Main Street. The way policymakers respond to economic disturbances has changed. This change partly reflects a political response to shifting voter beliefs (Figure 7), partly an intellectual climate more supportive of aggressive and proactive stimulus, in particular fiscal support, and partly more limited policy space. Policy stimulus is now bolder, better co-ordinated, more all-encompassing and, most importantly, more rapid.

5 Ramani & Bloom (2021), The donut effect of COVID-19 on cities, NBER Working Paper No. 28876

6 FRED, St Louis Federal Reserve, Bureau of Labor Statistics

Figure 7
The UK public's attitudes to major economic policy questions



Source: British Social Attitudes, bsa.natcen.ac.uk

If there was any remaining doubt that the reaction function has changed dramatically since the 2008/2009 crisis, the pandemic has removed it. What better example of this than the violent downturn, then rebound, in asset markets in spring 2020 amidst the most catastrophic economic collapse in recorded history. The economic and epidemiological news was dire, but the promise of unlimited policy support validated investors' prior beliefs about the 'policy put' that stood behind financial markets. The next time financial markets put the frighteners on central bankers, those gambling in the casino might be even more confident that the required support will be forthcoming.

This hints at a deeper change in the dynamics of the economic system. Policy interventions in the years after the Lehman collapse focused on Wall Street, not Main Street. They were unsuccessful in lifting inflation, but as we look ahead, expectations of what policymakers are prepared to do and what they can achieve have shifted. The pandemic has revealed that sizeable and broad-based support for Main Street is now the default position.

As firms and households are now discovering, support for Main Street can lift inflation, where stimulus aimed at Wall Street cannot. Whether this is true in an econometric sense is neither here nor there. What matters is the perception that

> “Inflation risk, an absent adversary throughout the careers of most investors today, will need to be priced once again.”

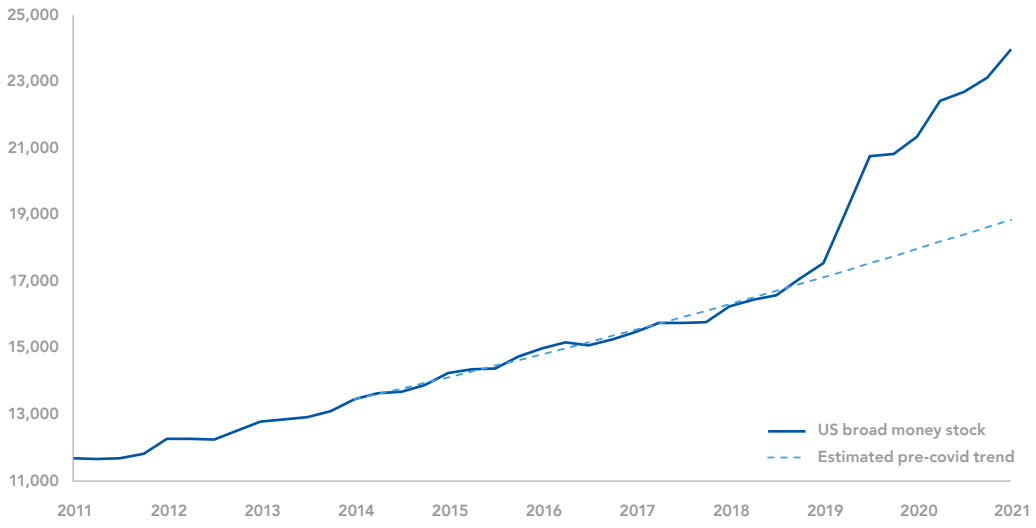
governments have now found a way to drive up inflation in the aftermath of a recession.

Once the avalanche has been triggered, and the policy response is forthcoming, the experience of the past two years should condition how investors expect inflation to behave in its wake. Will they remember the sluggish drawn-out recovery from 2008/2009 or the rapid, inflationary rebound from the pandemic, still fresh in their minds? Behavioural economists gave us the answer long ago.

This abrupt turn in policy – from monetary constriction to curb above-target inflation towards money-financed fiscal expansion to contain the fallout from financial distress – will take place when inflation is above target and much of the liquidity injected into private sector balance sheets is still untapped (Figure 8).

Figure 8

Estimated US excess liquidity created during the covid-19 pandemic, $bn



Source: Federal Reserve Board flow of funds accounts, Ruffer calculations

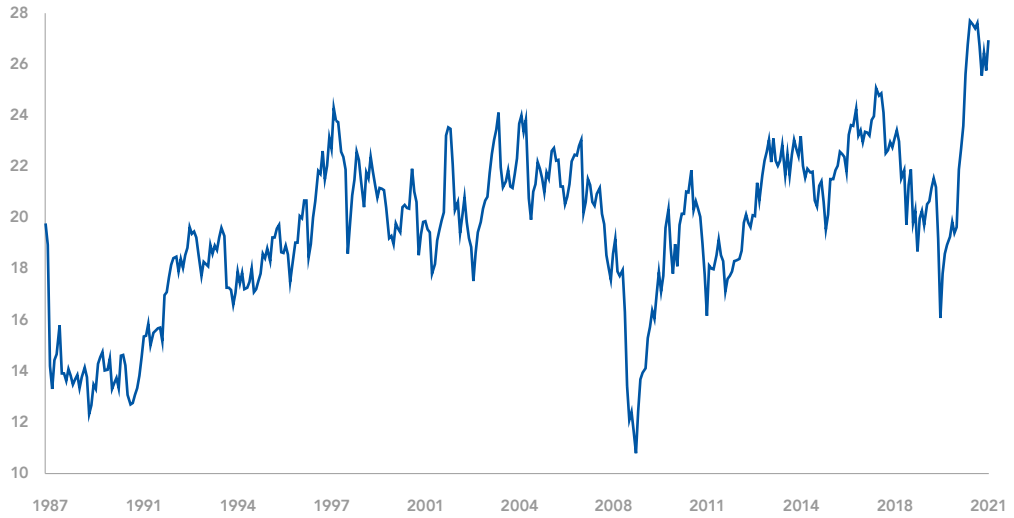
NOT A REPEAT OF THE 1970S, BUT DON'T LET IT FOOL YOU...

Financial disruption will be part of the transition to a new inflationary regime, not a harbinger of deflation. That seems paradoxical but it is not. Avalanche-prone markets are highly exposed to the coming central bank tightening cycle, even if it is a limited one. So too is our hyper-financialised economy, still at risk from an abrupt tightening of financial conditions. But because the political elite cannot afford another economic shock, lest the populist threat becomes a reality, they will react swiftly and aggressively at the first sign of trouble. Unbeknown to them, though, the economic system is not what it used to be. They are still fighting yesterday's war, warding off the deflationary bogeyman, when his inflationary nemesis hides in the shadows.

It is important to stress the coming phase of high and volatile inflation need not look like the 1970s and probably won't. It often feels as if there are only two plausible outcomes from here: either the current inflation surge will dissipate rapidly, returning the economy to its pre-pandemic 'secular stagnation'; or the economy will morph into a ghastly replay of the mid-1970s. In practice, neither trajectory looks all that likely from here.

Figure 9

Price-earnings ratio of median US-listed companies



Source: FactSet, 2,500 firms by market capitalisation, trailing earnings

> “The more policymakers argue inflation will subside quickly and painlessly, the less likely it is to evolve that way.”

The supply side tailwinds that have held down inflation for so long are much diminished, if not reversing. Politics is febrile. The economic system has become more inflation prone. But it is also radically different from the unanchored, sclerotic system so stressed by the 1973 OPEC oil embargo.

There are three principal reasons why. First, the labour market is more flexible and unions less dominant, reducing the risk of powerful ‘second round effects’ (into wages) from an initial spike in prices. Second, goods sectors comprise a much smaller share of national output. Since goods prices tend to be more flexible than service sector prices, economies more dependent on goods activity are also more prone to bursts of high and volatile inflation. Third, digital technologies mean product markets are more flexible and competitive, reducing the oligopolistic

tendencies of the business sector.

The oil shock made the 1970s inflationary episode far worse than it might have been. Geopolitical shocks of this magnitude may be ahead of us, but there is no objective reason to believe so.

The destination towards which we are journeying is unlikely to match what we saw in the mid-1970s, either in scale or speed. And there is no guarantee that we will see a continuous ratcheting up of inflation, as happened from the late 1960s. We are as worried about inflation volatility as we are about a higher average level of inflation, but neither of these judgements should offer investors comfort because the starting point is more extreme in two critical ways.

First, the financial ecosystem has become primed for a world without inflation risk. Risk-free interest rates, the anchor of today's fiat system, are at multi-century lows.[7] Richly priced risky assets (Figure 9) are justified, primarily, on the basis that these depressed risk-free interest rates will endure. Similarly, mean-variance investing (via balanced '60-40' portfolios) dominates today's investment landscape, because government bonds are seen as a low volatility 'safe asset' that protects portfolios during equity market drawdowns.

How much longer can investors expect these characteristics to survive if inflation risk returns? Before the 1990s, bond and equity returns were positively correlated, bond

Figure 10
US real US Treasury bond return index, 1913-2021

7 Schmelzing (2020), Eight centuries of global real interest rates, R-G and the 'suprasecular' decline, 1311-2018, Bank of England Working Paper No. 845

Source: GFD, Refinitiv, BLS, Ruffer calculations

return volatility was structurally higher and inflation-adjusted returns were, on average, non-existent (Figure 10). And there was a good reason for bonds to have these attributes: even those issued by high-quality sovereigns were historically 'risky', not because of frequent formal defaults by governments but because investors had to weather inflationary disasters surprisingly often.

The second consideration is overtly political. The 1970s is today remembered as a period of political turmoil in the West. This was as much a consequence of the decade's economic disruption as it was a cause. At its beginning, wealth and income inequality were as low as they had ever been in recorded history. Meanwhile, the experience of most adults at the time was one of rapid gains in living standards after the hardships and sadness of World War II. Major economic and financial crises had been avoided for 25 years. Life was immeasurably better in 1970 than it had been in 1945.

By contrast, at the dawn of the 2020s, the backdrop is very different. The average household's real income has been stagnant (or worse) for over a decade in most Western societies – and since the 1980s in the case of the US. Wealth and income inequality are both much higher than five decades ago. There is a deep sense of resentment within Western societies that the elite has stolen power, identity and community away from the people.[8] The 'somewheres' have found their voice once again, electing populist leaders (Donald Trump, most obviously), but more importantly forcing the locus of political debate to shift away from liberal centrism to interventionist populism.[9]

Finally, in the geopolitical arena, a second Cold War is underway, with far more serious ramifications for the global economic system than the Russia-US conflict of the mid-twentieth century.

We are not building a portfolio with the expectation that average inflation, or its peak, will match that seen five decades ago. We are troubled by something historically far more mundane, of which most investors today have no experience. In the transition to this new regime, there is much we are still uncertain about. Crucially, how far will central bankers go to contain inflationary pressures? The answer to that question will determine what the scenery looks like on the way. ●

“There is a deep sense of resentment within Western societies that the elite has stolen power, identity and community away from the people.”

8 Goodwin & Eatwell (2018), National populism: the revolt against liberal democracy; or Mair (2013), Ruling the void: the hollowing out of Western democracy

9 Goodhart (2017), The road to somewhere: the populist revolt and the future of politics


DOT COM
HALF PRICE!

The art of bubble spotting

"I can calculate the movement of stars but not the madness of men."

SIR ISAAC NEWTON

ANYONE CAN BE TAKEN IN BY FINANCIAL BUBBLES; THAT'S WHY THEY'RE SO DANGEROUS. It's also why we at Ruffer believe that navigating bubbles – steering the ship safely past the Charybdis of irrational exuberance – is the most important duty we owe to our clients.

LAUREN FRENCH
Investment Director

SIR ISAAC NEWTON WAS ONE OF THE GREATEST SCIENTISTS IN HISTORY.

He was the Lucasian Professor of Mathematics at the University of Cambridge, President of the Royal Society and even Master of the Royal Mint. His scientific contributions ranged from optics to calculus, but he is best known for founding classical mechanics and for his law of universal gravitation. For all that, Newton lost his life savings in the South Sea Bubble of 1720.

If even the father of modern science couldn't spot when assets were defying financial gravity, what hope is there for any of us? Fortunately, as we shall see, bubble spotting is as much an art as it is a science, and we can learn many valuable lessons from the experiences of Newton and others down the centuries.

DEFINING A BUBBLE

Periods of inflated asset prices have always been a feature of markets. But it was not until December 1720 that Jonathan Swift, the author of *Gulliver's Travels*, coined the term 'bubble' in a poem dissecting the greed and delusion surrounding the South Sea Company. The metaphor stuck because it was apt: financial bubbles float free of market forces until they burst, and the consequences are messy.

If bubbles are periods when assets become overvalued, it may help to consider what gives an asset value. Typically, assets are valued for their rarity or their usefulness. Gavekal Research distinguishes between 'jewels' (rare assets) and 'tools' (useful ones).[1] Bubbles emerge when investors either misjudge the scarcity of an asset, such as tulips or gold, or overestimate the future cash flows from new productivity advances, such as the railway or the internet. Some assets, such as property, can be both rare and useful.

> "Men, it has been well said, think in herds; it will be seen that they go mad in herds, while they only recover their senses slowly, and one by one."
>
> **CHARLES MACKAY**

The modern definition of financial bubbles is hotly debated. Jeremy Grantham of asset manager GMO takes the scientific approach, asserting "bubbles are definable events when the price action is two standard deviations from a long-term trend".[2] Robert J Shiller, renowned for challenging the notion of rational markets, calls a bubble "an unsustainable increase in prices brought on by investors' buying behaviour rather than by genuine, fundamental information about value."[3]

However bubbles are defined, the problem has always been knowing when you are in one. In seeking to identify them, it helps that bubbles – like the human behaviours which drive them – tend to follow a set pattern, with several distinct phases. We think of those as: national pastime, new paradigm, feedback loops and frauds and scapegoating.

1 Gave (2016), Tools, Jewels and P/E Ratios
2 Fleckenstein and Sheehan (2008), Greenspan's Bubbles: The Age of Ignorance at the Federal Reserve
3 Shiller (2000), Irrational Exuberance

NATIONAL PASTIME

Every bubble attracts more and more new investors until it ultimately becomes a national pastime, with nobody wanting to miss out on the returns everyone else is making. When Joseph P Kennedy, a prominent banker of the Roaring 20s and father of JFK, was given a stock tip by the young New Yorker shining his shoes, he famously decided it was time to cash in his investments, thus deftly avoiding the 90% decline in stock prices which led to the Great Depression.

Not everyone has been equally skilful or fortunate. Charles MacKay was the author of *Extraordinary Popular Delusions and the Madness of Crowds* – an 1841 book on crowd psychology and bubbles. Yet even he was sucked into the Railway Mania of the 1840s, when the affluent middle class (created by the Industrial Revolution) crowded into investing in the new railway companies. He famously declared in a newspaper article that "there is no reason whatever to fear a crash", shortly before the bubble burst.

More recently, we have witnessed the rebirth of retail investing. The number of brokerage account openings has soared new investors have been lured into markets by easy-to-use apps, online forums, and dinner party bragging about profits from day-trading and cryptocurrencies. Some may be tempted to 'play the bubble' by investing in the beneficiaries of increased retail trading. But take care: the Uber driver who gives you a hot stock tip may just be the latest incarnation of Joe Kennedy's shoeshine boy.

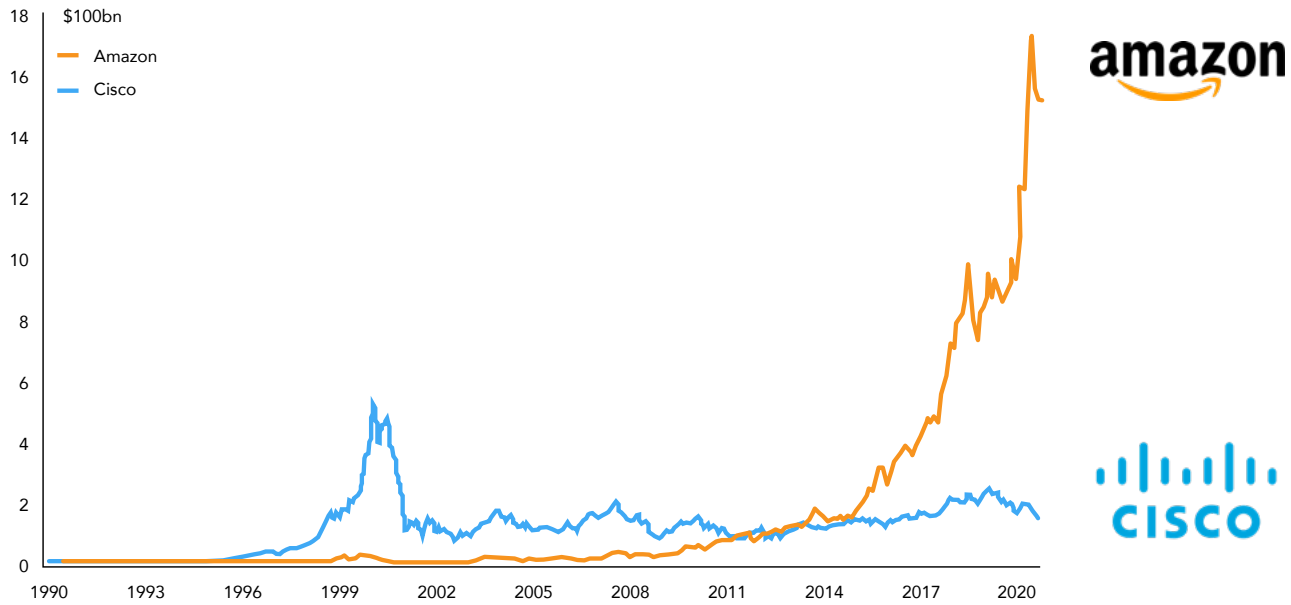
NEW PARADIGM

All bubbles are based on a new paradigm, which is used to justify high valuations. Some economic innovation, new market or technological advance emerges which, its proponents claim, will change the world for ever, opening up boundless possibilities. Often, there is substance to such claims – but not enough to justify the hyperbole.

For example, over the past two decades, the internet has transformed our lives and the ways businesses operate. But, during the dot.com bubble of the 1990s, stock prices became divorced from reality. The promise was real; it was just the timing and the eventual winners that were hard to predict.

In March 2000, Cisco was briefly the most valuable company in the world. This maker of internet switching gear was one of the expected winners from the build-out of the internet. The logic was that, if you couldn't predict which dot.com companies would be the winners, surely demand for the kit

MARKET VALUES OF CISCO AND AMAZON



itself – the picks and shovels to create the infrastructure – would continue to grow. As with other tool-based investment booms, high prices bring forth supply – whether of houses, railways or internet switches – which in the end outpaces demand.

At least Cisco survived. Many of the other hot stocks of the time didn't. But some – such as Amazon – are now among the world's most valued companies. Which goes to show that hunting among the debris of bubble fallouts can be fruitful.

FEEDBACK LOOPS

As investors make profits, more money is sucked in, allowing the bubble to feed itself, often exacerbated by credit and financial innovation. Ireland, in the run-up to the global financial crisis, was the most egregious example of the global property price boom

> “Hunting among the debris of bubble fallouts can be fruitful.”

Ssource: Datastream, data to 31 October 2020

of the 2000s. At their peak, house prices in Dublin exceeded even those in London.[4]

Financial innovations and slack lending standards in the banking sector (based on the perception that house prices only ever rose) aided the smooth flow of credit during the boom years. That came to a sudden stop when the subprime bubble burst; liquidity evaporated, the global economy slowed dramatically, and house prices crashed.

But this was nothing new. The Dutch Tulip Mania of 1636 was driven by perceived scarcity – it takes a long time for a tulip to grow, so rarer types (the jewels) with distant flowering dates attained the giddiest prices. At the bubble's peak, one bulb of the rarest tulips cost the same as a beautiful canal-side house in Amsterdam. This bubble was intensified by professional traders, who even created a formal futures market. People began buying tulips through leverage, using margined derivatives contracts. This encouraged the sale and resale of the notes themselves, rather than the bulbs.

The following spring, as new tulips sprouted, it became apparent that supply would soon outstrip demand. The crash was devastating, worsened by those who had bought bulbs on credit, hoping to repay their loans when they sold their bulbs for a profit. Holders of contracts were forced to sell at any price.

FRAUDS AND SCAPEGOATING

After a bubble bursts, frauds are laid bare, and scapegoats are needed so investors can claim they were led astray, rather than greedily chasing profits. Take Bernie Ebbers. As CEO of WorldCom, he embodied the dot.com era, but ended up in jail for fraud after one of the largest accounting scandals in history.

The bursting of the South Sea Bubble also provoked huge public outcry. A full

parliamentary enquiry revealed extensive fraud and many scapegoats were publicly shamed. The Chancellor of the Exchequer was even locked up in the Tower of London.

YE SHALL KNOW THEM BY THEIR FRUIT

Newton derived his law of gravity after seeing an apple fall from a tree. Likewise, you can only know for sure whether you have been in a bubble "when its bursting confirmed its existence".[5] Some last a matter of weeks, while others play out over many years. But, because bubbles are based on irrational behaviour rather than underlying

4 OECD average house price index data (2015)

5 US Federal Reserve

fundamentals, it is impossible to time either the inflation or the deflation of a bubble with any accuracy. The great American economist Irving Fisher announced "stock prices have reached what looks like a permanently high plateau" just nine days before the 1929 bull market came to a crashing halt. In contrast, Alan Greenspan made his famous "irrational exuberance" speech on the internet bubble in 1996, four years too early.[6]

> "The market can stay irrational longer than you can stay solvent."
>
> **JOHN MAYNARD KEYNES**

FOREVER BLOWING BUBBLES

Financial history holds important lessons for us today. Even if the common characteristics of past bubbles can help us to identify whether a bubble is inflating, we should not try to time its bursting. At Ruffer, we are careful not to take a single view of how the world might unfold. Given this cautious approach, we avoid fully running with the herd.

Throughout Ruffer's history, we have assiduously identified and avoided bubbles. The art is to judge when the probability of being in a bubble has risen and position portfolios accordingly. In April 1998, Jonathan Ruffer published 'One man's view of a mania', explaining why we were defensively positioned before the internet bust.[7] We turned similarly cautious in 2006,

6 US Federal Reserve
7 Ruffer (1998), Investment Review, One Man's View of a Mania

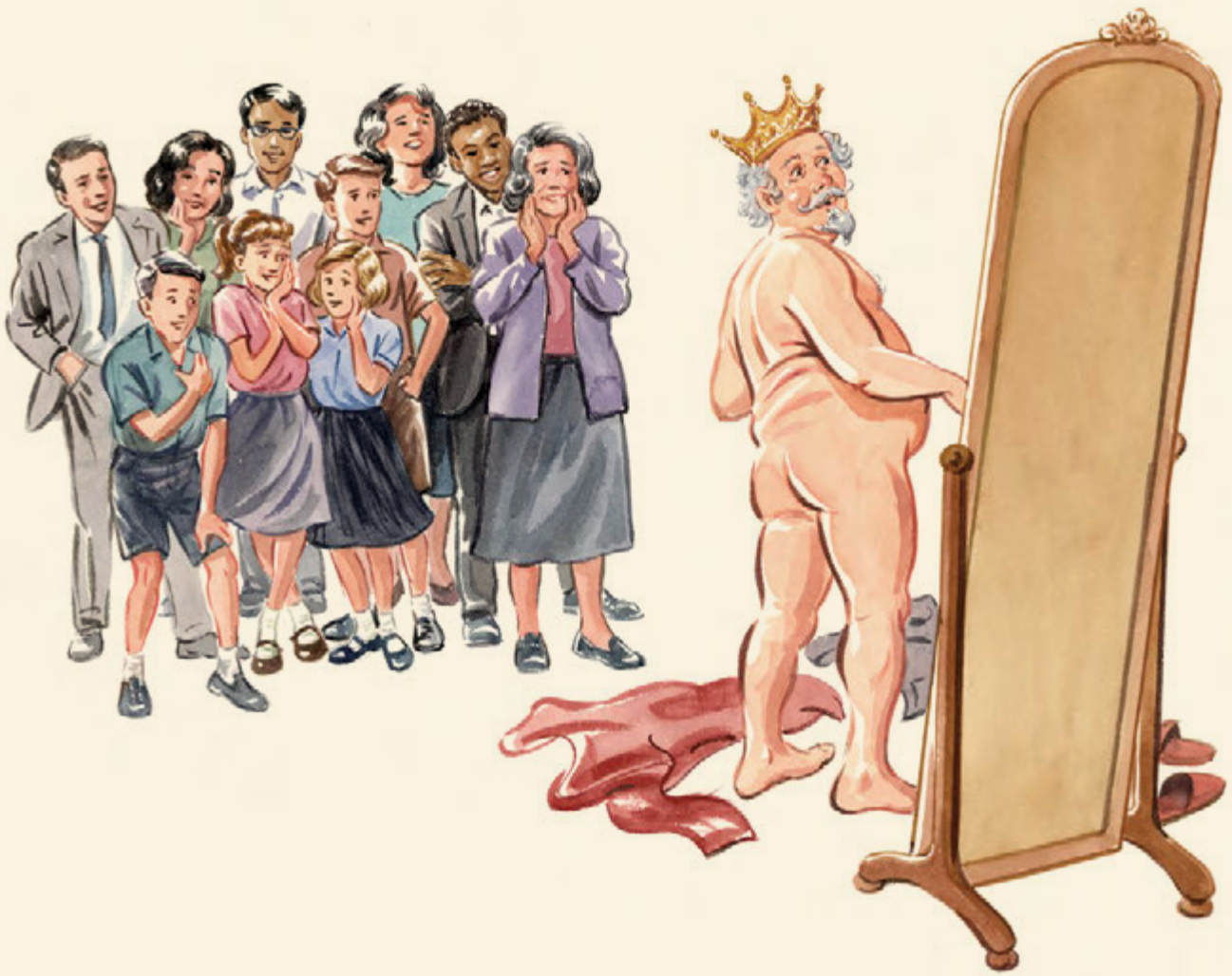
due to our concerns about imbalances in the financial system. Because of this caution, our performance often lags the market before these inflection points, which calls for the patience and trust of our clients.

We believe in holding a diverse portfolio of assets which should provide protection against the next bubble bursting, without having to know what exactly will happen, or when. The portfolio is unconstrained and flexible, so we can move quickly depending on what we see. ●

> “Eccentric as it may seem to be picnicking among the mountain rocks when the beach looks so inviting, if the tide turns, a number of beachcombers will have more than wet feet.”
>
> **JONATHAN RUFFER, 1998**

Thinking in narratives

WHY STORIES MATTER



CHARALEE HOELZL
Investment Manager

STORIES HAVE ALWAYS INFLUENCED HUMAN BEHAVIOUR: our decision-making is often driven more by a good tale than objective facts and data. But stories can defy reality only for so long. Eventually, people trust the evidence of their own eyes and realise that the emperor's new clothes are in fact his birthday suit. Such epiphanies can lead to abrupt regime change, which is why we believe investors should be aware of, and challenge, any prevailing market narrative before acting on it.

~ Chapter 1 ~

We think in terms of stories

As social beings, humans are preoccupied with our own and others' experiences. We think about these experiences in the form of stories, which reach into every part of our lives. Some are entertaining, such as jokes or heroic tales; others, such as theories or plans, are serious. We watch sports to witness stirring stories of victory and defeat. We are constantly bombarded by media stories, interrupted only by companies using narrative techniques to sell their products to us. Even when we sleep, stories appear to us in the form of dreams.

Why this ubiquity? It seems stories are hardwired into the way we make sense of the world. According to the neurological theory of narrative thought, our brains organise everyday sensations and experiences into a meaningful sequence of events, rather than a set of discrete perceptions. Our conception of time is therefore linear: the past influences our interpretation of the present and how it may shape the future. As Nassim Taleb says, narratives help us to make sense of the world so that it appears "less random than it actually is." [1]

1 Taleb (2007), The Black Swan: The Impact of the Highly Improbable

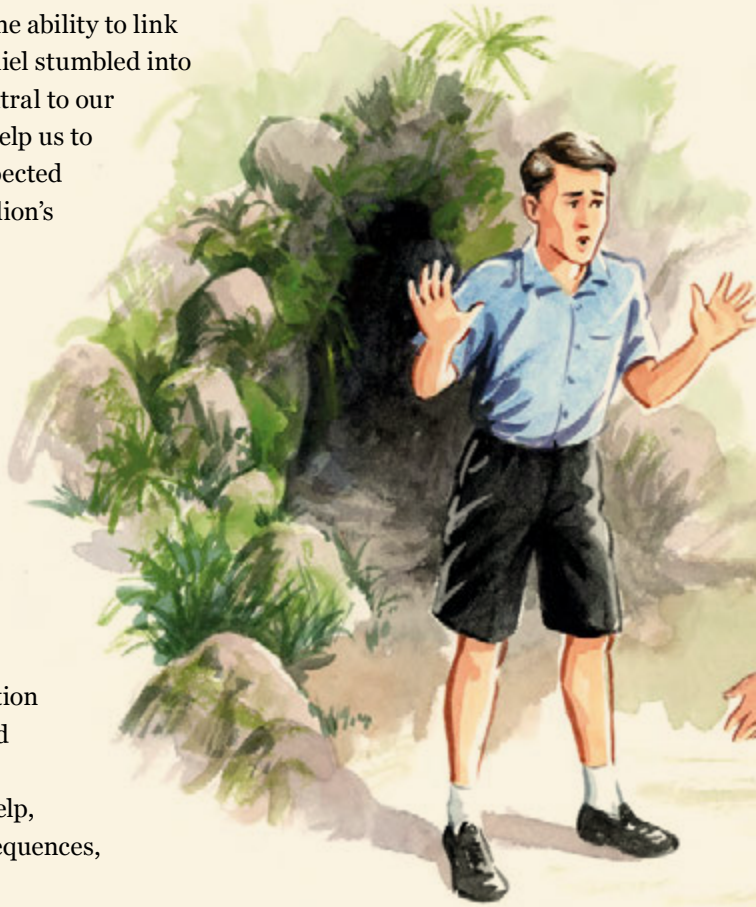
~ Chapter 2 ~

The power of narratives

Communication scholar Walter Fisher developed the theory of the narrative paradigm: we use stories because they are more persuasive than logical arguments and more memorable than facts.[2]

Studies have shown that, unlike other information, we process stories the same way we process first-hand experiences. This is because narratives invite us mentally to rehearse the actions within them. When you perform an action, the same regions of the brain are stimulated as when you read about that action.[3]

But there are other reasons our brains have evolved to think in terms of narratives. One is evolutionary value. The ability to link previous experience to the present (Daniel stumbled into a lion's den, and now he's injured) is central to our understanding of causality, which can help us to extrapolate what may reasonably be expected to occur in the future (stumbling into a lion's den will probably lead to injury). Thus we can avoid or mitigate risks or take advantage of opportunities that are not immediately obvious.



A second reason is that stories allow us to cut through complexity and uncertainty. Today, we consume more information than ever before. The average person processes as much as 34 gigabytes of information a day (the equivalent of over 100,000 words), and this is increasing by 5% each year.[4]

Because this vast amount of information is costly to obtain, store, manipulate and retrieve, we summarise and simplify it into stories. Whilst simplification can help, oversimplification can have costly consequences, not least in financial markets.

2 Fisher (1985), The Narrative Paradigm: In the Beginning
3 Speer, Reynolds, Swallow, Zacks (2009), Reading Stories Activates Neural Representations of Visual and Motor Experiences
4 Bohn and Short (2012), Measuring consumer information

~ Chapter 3 ~

When narratives become contagious

Nobel Laureate Robert Shiller has greatly advanced our understanding of the importance of narratives in economics. The telling of a good story links up various bits of information into a coherent whole and creates a reason to act in certain ways. Stories sway decisions to hire or fire, to buy or sell, to spend or save. These individual choices, writ large, move markets and drive the business cycle.

In finance, behaviour is driven by expectations of future returns, and expectations are often driven by stories, particularly during times of heightened uncertainty. The simpler a story – the more it extends and agrees with our preconceptions – the more persuasive it is. A good story embeds itself in investors' minds: the narrative becomes the expectation.

Narratives are powerful when enough people come to believe in them. Shiller draws an analogy with epidemics: "The most contagious economic narratives drive boom-and-bust cycles."[5] These narratives are generally oversimplified to the point where they are easily transmissible – and either wrong or at least exaggerated. And "when we believe a compelling story that turns out to be not true, we can end up holding assets worth far less than the story suggested."[6]

> "Narratives are powerful when enough people come to believe in them."

5 Shiller (2019), Narrative Economics: How Stories Go Viral & Drive Major Economics Events

6 Ritholtz (Jun 2021), The Big Picture ritholtz.com

~ Chapter 4~

Current narratives driving financial markets

TECHNOLOGY

Some of the most contagious narratives are new, more resistant variants of old ones. For example, the narrative that 'technology is taking over our lives' is just the most recent modification of the technological unemployment narrative that has been periodically scaring people since the Industrial Revolution.[7] The fear has always been of chronic unemployment as machines take people's jobs and produce too much output.

The rise of automation, artificial intelligence (AI) and machine learning have altered the narrative from muscle power being replaced by machines to the wider concern of computers substituting for the human brain. For individuals, this technology narrative creates a growing fear of irrelevance. When transmitted more widely, however, such concerns can affect the broader economy by reducing people's confidence to consume, invest and engage in entrepreneurship.

Multiple narratives can coexist, reinforcing or undercutting one another. Investors need to assess which will become the dominant narrative driving behaviour and ultimately markets. For example, the technology story is reinforced by the secular stagnation narrative. This theorises that growth and inflation will remain low indefinitely, because developed economies are plagued by an increasing propensity to save and a declining wish to invest. The narrative is powerful because it is grounded in our experience over recent decades.

Set against this is the counternarrative that the same technology could harbinger a 'fourth industrial revolution'. In this scenario, further technological innovation will support continued strong growth and earnings, thereby justifying higher market valuations.

7 Shiller (2019), Narrative Economics: How Stories Go Viral & Drive Major Economics Events

> “Multiple narratives can coexist, reinforcing or undercutting one another.”

CLIMATE POLICY

For decades, scientists have been warning that greenhouse gas emissions are warming our planet. But, as we have seen, narratives play a decisive role in motivating action, and the climate story was complex and discouraging. For one thing, the message emphasised the costs and burdens of climate policy: there would be “a trade-off between more economic output in the near term and the damage caused by global warming in the long term”.[8] In addition, policies to mitigate climate change faced a free-rider problem. Because we all share the earth’s atmosphere, a reduction in global emissions by one country or bloc would benefit everyone more or less equally. In short, “every country has an incentive to let others mitigate, and thereby reap the benefits without incurring the costs”.[9] This negative narrative failed to compel action.

Then a counternarrative emerged. Economist Nicholas Stern proclaimed the “transition to a zero-emissions and climate-resilient world provides the greatest economic, business, and commercial opportunity of our time.”[10] This new framing – of an optimistic, green transformation story – was based on the pace of technological innovation and disruption, which has substantially reduced the cost of producing renewable energy and storing it in batteries.

Strong narratives can drive market consensus and lead to crowded trades around major themes. Stern’s more upbeat message has not only encouraged people to act on climate change and other sustainability issues, it has also catalysed an ESG (environmental, social and governance) trade in markets. This trade has become prevalent not only because the story behind it is strong – the innovations in sustainable technologies and the promise of higher returns from investing in a better future – but also because the narrative resonates with so many different groups of investors. Whilst it is clearly of benefit that so much capital should flow into tackling climate change and other sustainability challenges, such crowded trades can eventually lead to disappointing financial returns for investors.

8 Derviş (Jun 2021), brookings.edu
9 Ibid
10 Stern (2021), G7 leadership for sustainable, resilient and inclusive economic recovery and growth

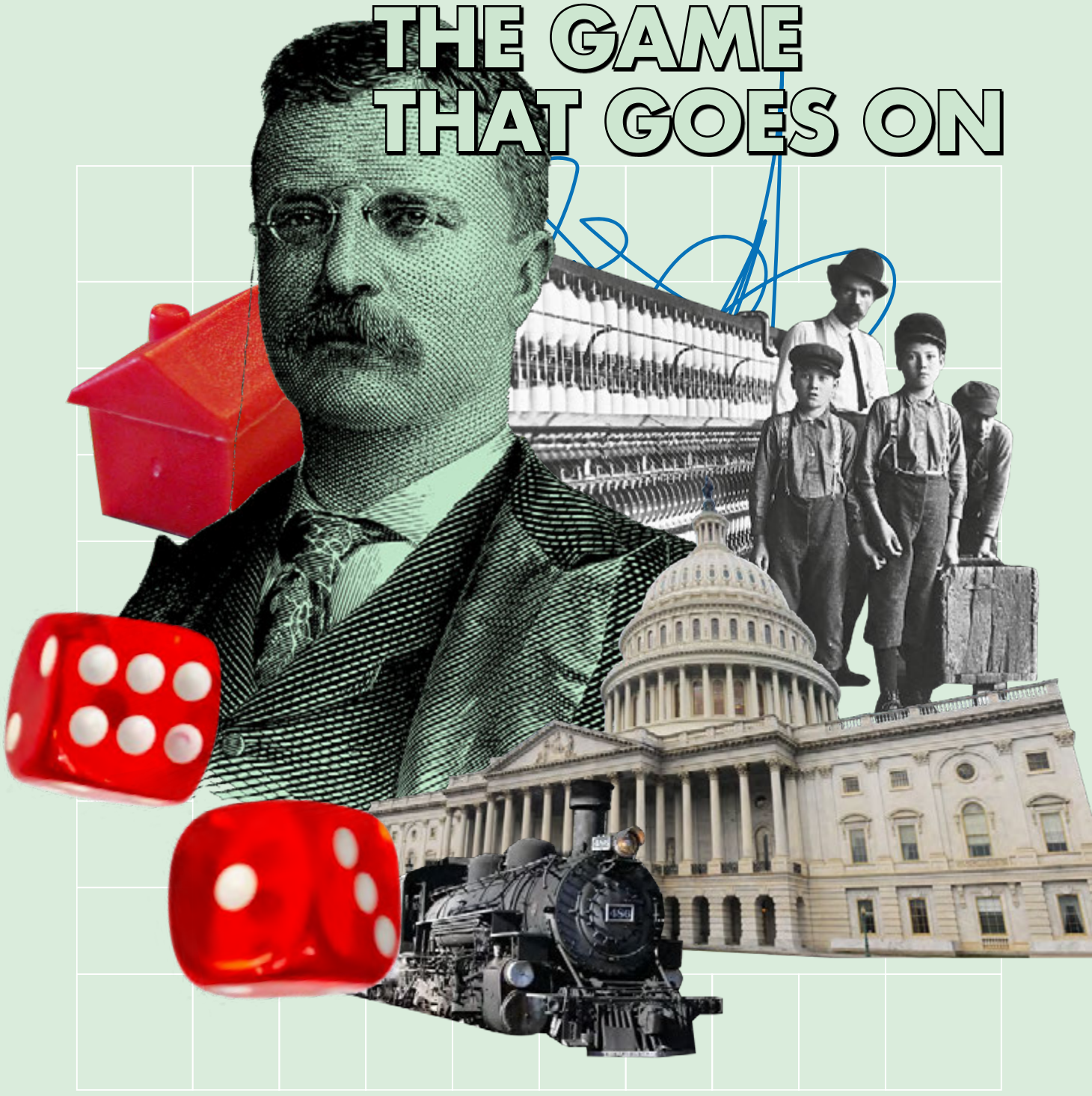
~ Chapter 5 ~

Sailing against the prevailing narrative

Stories help investors deal with uncertainty and imperfect knowledge. But contagious narratives which come to dominate can over-inflate expectations – and therefore prices – until a new one challenges and eventually replaces it. The technology and ESG narratives are compelling for several reasons, but they need to be justified by growth in revenues and earnings. The challenge for investors is to be aware of, and to challenge, the prevailing dominant narratives and to watch for any signs of impending regime change.

~ The End ~

THE GAME THAT GOES ON



THE 'CURSE OF BIGNESS' IS BACK: WEALTH AND POWER ARE ONCE MORE CONCENTRATED IN JUST A HANDFUL OF COMPANIES.[1]

President Theodore Roosevelt was hailed for dismantling the powerful monopolies which emerged from America's industrial revolution. Does his trustbusting provide a blueprint for what investors can expect from a revitalised antitrust movement on Capitol Hill?

LAETITIA EAST
Investment Director

ROLLING THE DICE

It rips through families, pitting brother against mother. It enrichens a lucky few whilst turning most into penniless jailbirds. And yet you'll gladly fetch it out of the cupboard each Christmas.

The game of Monopoly® was created by Charles Darrow. After losing his job selling domestic heaters during the Great Depression, Darrow translated the booms and busts of the US real estate market into the board game we know today. Monopoly® made him a millionaire, an incarnation of the American Dream.

Or so the story goes.

1 Brandeis (1934), The Curse of Bigness

THE OTHER SET OF RULES

But, like many great stories, it isn't exactly true.[2]

In 1904, Elizabeth Magie – a writer and women's rights advocate – filed a patent for The Landlord's Game. It was designed to promote the ideas of political economist Henry George. His seminal work, *Progress and Poverty*, argued for a single tax on the value of land and other antimonopoly reforms to reverse deepening social inequality.

Here's the twist. Magie created two sets of rules for The Landlord's Game. In one, the monopolist could crush opponents. In the other, wealth was spread more equally between players and the winner could claim only a marginal victory.

Darrow – as you know – adapted the first set of rules when creating Monopoly®.

THE SPIRIT OF THE AGE

The Landlord's Game was born at the height of the 'trustbusting' era in the early twentieth century, when the debate about monopoly power had come to dominate corporate America.

> "Monopolies seldom come about by accident."

Wealth and power were concentrated in the hands of a few successful businesses. So-called 'trusts' (the legal term for corporate groups exercising significant control over a specific product or industry) simultaneously propelled and engulfed the United States' economic growth. This was the conundrum that confronted policymakers – was monopoly the essential and inevitable end state of successful business? What of competition, or its absence? And how could the trusts be broken up whilst still championing growth?

It is a debate we recognise today. Big tech, big pharma and big banks find themselves in the crosshairs of an emboldened antitrust movement in Washington. So can any lessons be learnt from the trustbusters of yore?

2 Klobuchar (2021), Antitrust: Taking on Monopoly Power from the Gilded Age to the Digital Age

Antitrust laws – regulations that encourage competition by limiting a business's market power. This often involves ensuring mergers and acquisitions don't overly concentrate market power, as well as breaking up firms that have become monopolies.

TO THE VICTOR GO THE SPOILS

In the later nineteenth century, the US economy grew at a scintillating rate. Rapid industrialisation was accompanied by sophisticated financial innovation. Railroads steamed across state lines, barrels of oil rolled through the country and the shipping industry grew at a rate of knots.

Soon, winners emerged. Carnegie, Vanderbilt, Gould, Morgan, Rockefeller were the opportunists of the Gilded Age, a rollcall of robber barons – eponyms of the streets, train stations and concert halls of America.

Monopolies seldom come about by accident. The trusts dominated markets by keeping prices low when competitors appeared. They actively pursued monopoly power by vertical integration – combining the businesses that operate at different stages of production into one conglomerate.

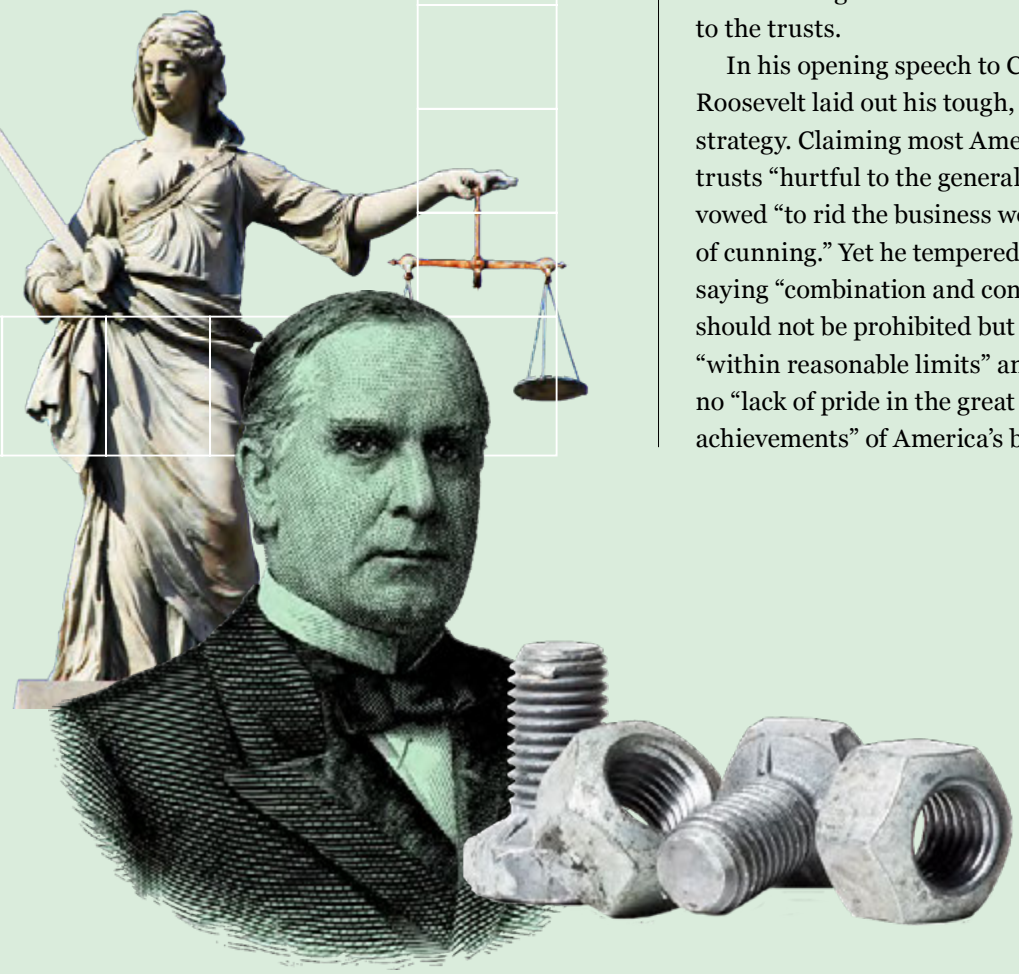
The trusts grew four times faster than more competitive sectors.[3] And yet the political will to curtail these corporate behemoths waxed and waned.

John D Rockefeller was initially lauded for improving industrial efficiency and lowering the price of kerosene. He merged over 100 oil refineries into his Standard Oil trust – which by 1901 controlled 91% of US oil production.[4] Between 1897 and 1901, more than 2,000 mergers took place in the United States.[5] No period in American history has witnessed a more significant consolidation of economic activity than this 'Great Merger Wave'.[6] A small number of trusts came to wield absolute control over the steel, meat packing, sugar refining and tobacco industries.

Come the turn of the century, the tentacles of the trusts enveloped the nation. Small business owners, factory workers and consumers began to buckle under the weight of the new great powers. Americans wanted someone to fight the trusts, and it was a fighter they got.

3 DiLorenzo (1985), The Origins of Antitrust: An Interest-Group Perspective
4 Ferguson (2021), Blind to History, Facebook is in the 'Trustbusters' Crosshairs
5 Constitutional Rights Foundation (2007), Progressives and the Era of Trustbusting
6 Baker, Frydman and Hilt (2018), Political Discretion and Antitrust Policy: Evidence from the Assassination of President McKinley

> “As labour conditions and inequality continued to worsen, the public bayed for monopolists’ blood.”



SPEAK SOFTLY AND CARRY A BIG STICK

In September 1901, President William McKinley was shot by a young steelworker, Leon Czolgosz. On the days of McKinley’s shooting and his death the following week, the Dow Jones Industrial Index suffered a combined fall of over 8%.[7] A stockmarket sell-off in response to an act of terror is no surprise. However, it was not simply the attack on democracy that caused investors’ concern. It was the anticipation of McKinley’s successor, Vice President Theodore Roosevelt, and the threat he posed to the status quo of corporate America.

If Roosevelt’s foreign policy was guided by speaking softly and carrying a big stick, the same might be said for his approach to the trusts.

In his opening speech to Congress, Teddy Roosevelt laid out his tough, but considered strategy. Claiming most Americans thought trusts “hurtful to the general welfare”, he vowed “to rid the business world of crimes of cunning.” Yet he tempered this message, saying “combination and concentration” should not be prohibited but controlled “within reasonable limits” and he had no “lack of pride in the great industrial achievements” of America’s big businesses.[8]

7 Factset
8 Roosevelt (1901), State of the Union Address
9 Brands (1997), TR: The Last Romantic
10 Federal Trade Commission
11 NYU Stern School of Business
12 Cornell Law School

SHOTS FIRED

The president came to office with a vigour rarely seen before, or since. Wall Street was wary of his proclivity for regulation. According to his biographer, HW Brands, few things were too minor for him to try to regulate. He changed the rules of American football, introduced martial arts classes at the Naval Academy and even changed the design of soon-to-be-minted coins.[9]

It didn't take Roosevelt long to turn his attention to the trusts. His weapon of choice was the 1890 Sherman Antitrust Act – existing legislation that had gathered dust on his predecessors' shelves. The Sherman Act was a "comprehensive charter of economic liberty aimed at preserving free and unfettered competition as the rule of trade."[10] It made it a felony to "monopolize any part of the trade or commerce among the several states."[11]

In 1902, Roosevelt filed a suit against the largest railroad trust in the country, JP Morgan's Northern Securities Company.[12] The lawsuit was successful, and the Supreme Court indicted the trust for "depriving the public of the advantages that flow from free competition." The court ordered the break-up of the conglomerate into independent competitive railroads. The trust was busted, and a precedent was set.

As labour conditions and inequality continued to worsen, the public bayed for monopolists' blood. Roosevelt was attuned to public sentiment, and his election to a second term in 1904 was the ultimate endorsement of his trustbusting agenda. He continued apace, filing suits against 43 major corporations throughout his presidency.[13]

MONOPOLIES AND THE MARKET

In 1907, the Dow Jones crashed, falling 38.1% from peak to trough.[14] The collapse owed, at least in part, to Roosevelt's continued investigation of John D Rockefeller's Standard Oil Company. Journalist Ida Tarbell had exposed the malpractices of Standard Oil,[15] and an Interstate Commerce Commission report confirmed the use of illegal methods to gain advantage over its competitors.[16] Investors panicked, blaming the president's antitrust policy. For some, Standard Oil had lubricated the engine of growth in the US economy. Prosperity relied on this monopoly and the low prices that came with it.

Roosevelt remained typically steadfast. He decried his accusers and pointed the finger at "certain malefactors of great wealth" who had provoked the panic to "discredit the policy of the government". The market collapse was caused not by his regulation of the trusts, but by "the speculative folly and the flagrant dishonesty of a few great men of wealth."[17]

13 Bittlingmayer (1993), The Stock Market and Early Antitrust Enforcement
14 Federal Reserve Bank of St Louis
15 Tarbell (1904), The History of the Standard Oil Company
16 US Library of Congress
17 Bittlingmayer (1996), Antitrust and Business Activity: The First Quarter Century

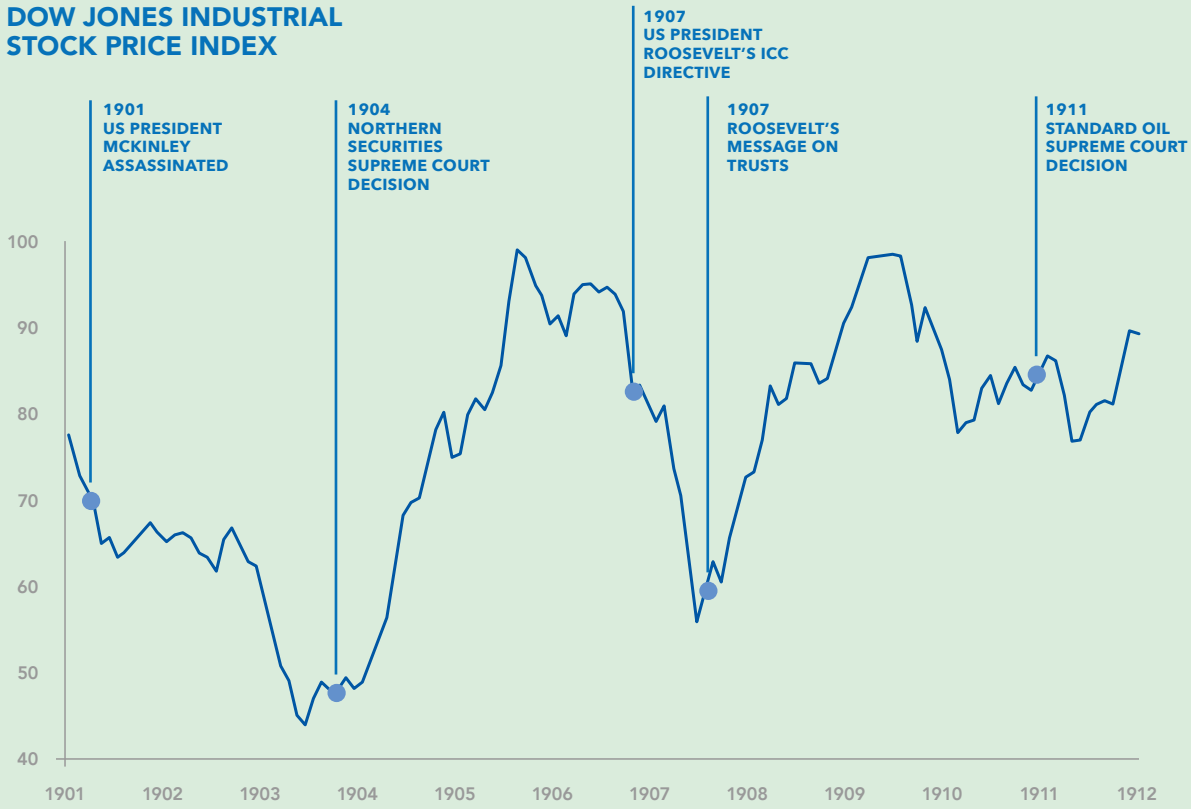


CHART SOURCE: FEDERAL RESERVE OF ST LOUIS, UNITED STATES, DOLLARS PER SHARE, MONTHLY, NOT SEASONALLY ADJUSTED

The Standard Oil case was one of several events that appear to have moved markets – illustrated in the chart above. Though it was not as simple as logic might suggest: more regulation equals stocks down, failed regulation equals stocks up. At times, the market was receptive to Roosevelt's antitrust rhetoric. Throughout his presidency he was creative, diplomatic and selective in dismantling monopoly power.

BIGGER, BETTER, BUSTER

Roosevelt is cheered for his role in breaking up the monopolies. It would be quite wrong, however, to see him as anti-big business or, indeed, markets. Rather, he acknowledged that "these big aggregations are an inevitable development of modern industrialism" but drew the line "against misconduct, not against wealth."[18] His trustbusting was pragmatic, based on the merits of individual cases, not ideology.

Matt Stoller, author of *Goliath: The 100-Year War Between Monopoly Power and Democracy*, points to Standard Oil as a case in point.[19] The business was extraordinarily profitable, but it had misallocated capital and centralised the oil industry inefficiently.

In 1911, the Supreme Court broke the trust up into 34 separate companies, which were forced to compete. This cohort included entities from which some of today's market leaders, Chevron and Exxon for example, trace their roots. Shareholders did exceptionally well – and Rockefeller's personal fortune quintupled.

18 Roosevelt (1902), State of the Union Address
19 Stoller (2019), Why US Businesses Want Trustbusting

Our tendency as investors is to seek out the innovators, the eventual market dominators. When we consider the US's leading companies today – Meta (formerly known as Facebook), Amazon, Alphabet, Tesla – perhaps we should question whether their insatiable appetite for acquisition and growth is still producing the greatest innovation or shareholder value.

WE THE PEOPLE

Antitrust has been only a minor part of US government policy for most of the past 40 years. That is changing. Lina Khan has launched an antitrust renaissance and now heads one of Washington's two primary antitrust enforcement arms, The Federal Trade Commission. Khan shares Roosevelt's intellectual rigour, hardiness and determination.

In 2017, her paper *Amazon's Antitrust Paradox* argued that the current framework in antitrust – specifically its pegging of competition to 'consumer welfare', defined as short-term price effects – is unequipped to capture the architecture of market power in the modern economy.[20]

Khan's vision for antitrust represents a shift in how Washington governs corporate America.

If there is a lesson from early twentieth century trustbusting, perhaps it is this: for antitrust regulation to be enforced, the public must wish it. Roosevelt was galvanised by voters' sentiment – a shared outrage against unfairness and exploitation. This feeling emerged despite the cheaper goods and the perception of progress imparted by the trusts.

Can we look past Amazon's unbeatable prices, or find new ways to communicate outside the 'Metaverse'?

If the answers to these questions change, investors should brace for a new wave of trustbusting and all the attendant challenges – and opportunities. ●

20 Khan (2017), Amazon's Antitrust Paradox, Yale Law Journal

Deserting discs

HOW THE MUSIC INDUSTRY SAVED ITS SOUL

MATTHEW WALTON

Investment Associate

Lucian Grainge walked into the boardroom and switched off the lights. His executives sat in the dark, blinking. He barked, "That is what is going to happen here if you guys don't start getting some records on the board" and left.

That was 2001 and the music industry was in crisis. Early internet adopters had figured out how to make music available, free, online (with varying degrees of legality). Record sales went into freefall and revenues in the United States plummeted by over 25% between 1999 and 2003.[1]

Music executives like Lucian Grainge needed to work out how to keep the lights on.

1 Recording Industry Association of America (RIAA)

The streaming revolution

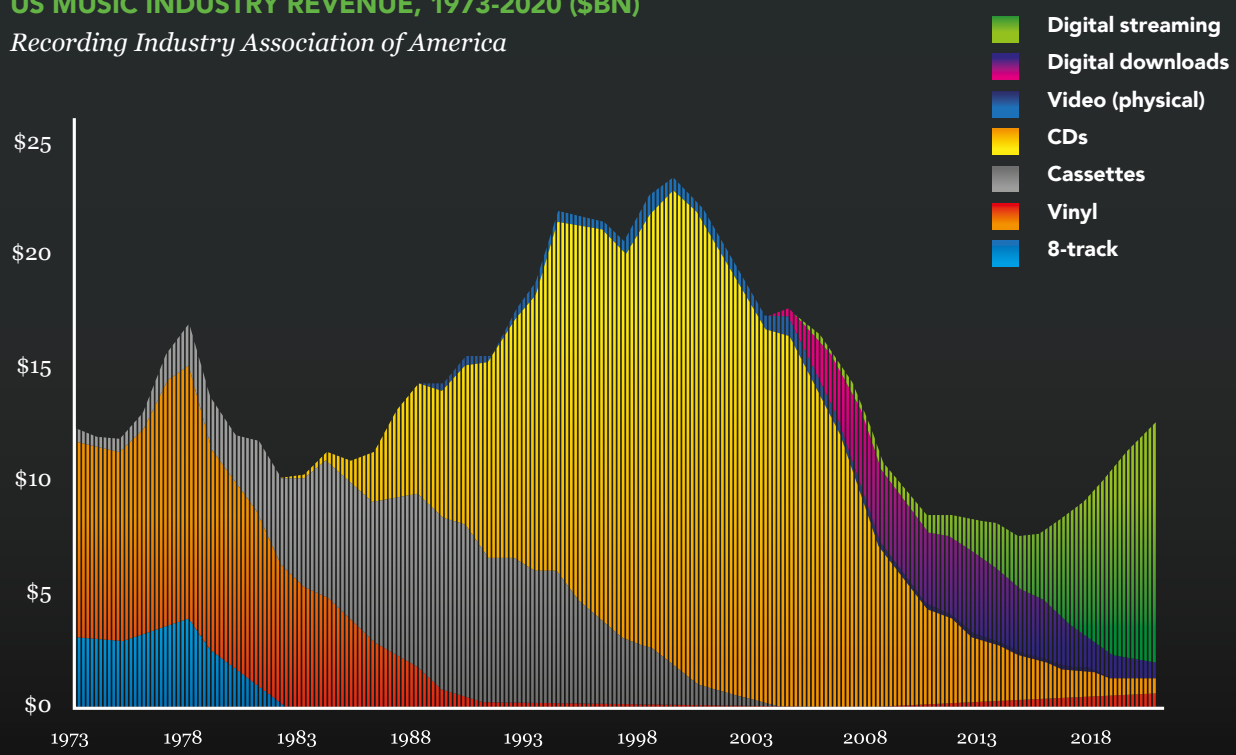
The saviour of the industry turned out to be a pirate. Daniel Ek, like lots of people, had begun to get his music for free through peer-to-peer file sharing services. CDs were expensive, and labels showed no signs of cutting prices. The middle of the market – quality sound at affordable prices – had been hollowed out.

So Ek created Spotify – a business which would revolutionise the music distribution market and eventually halt a 16 year trend of declining revenues.[2]

Success didn't happen overnight but today, for a monthly fee equal to the cost of a single album, Spotify customers can have access to almost every song that has ever existed.

US MUSIC INDUSTRY REVENUE, 1973-2020 ($BN)

Recording Industry Association of America



2 Ibid

Share it fairly

BUT DON'T TAKE A SLICE OF MY PIE[3]

Streaming services like Spotify have a problem. Their profit margins are skinny.

For every £1 it collects in revenue, Spotify pays out roughly 70p in royalties to the labels, artists and songwriters.[4]

That leaves 30p for Spotify to cover all other costs. This gross margin (as your portfolio manager might call it) is roughly one third the level of most subscription software businesses.[5]

3 Pink Floyd (1973), Money
4 According to best estimates, Spotify does not disclose the exact figure
5 Lead Edge Capital
6 Edison Research
7 RIAA

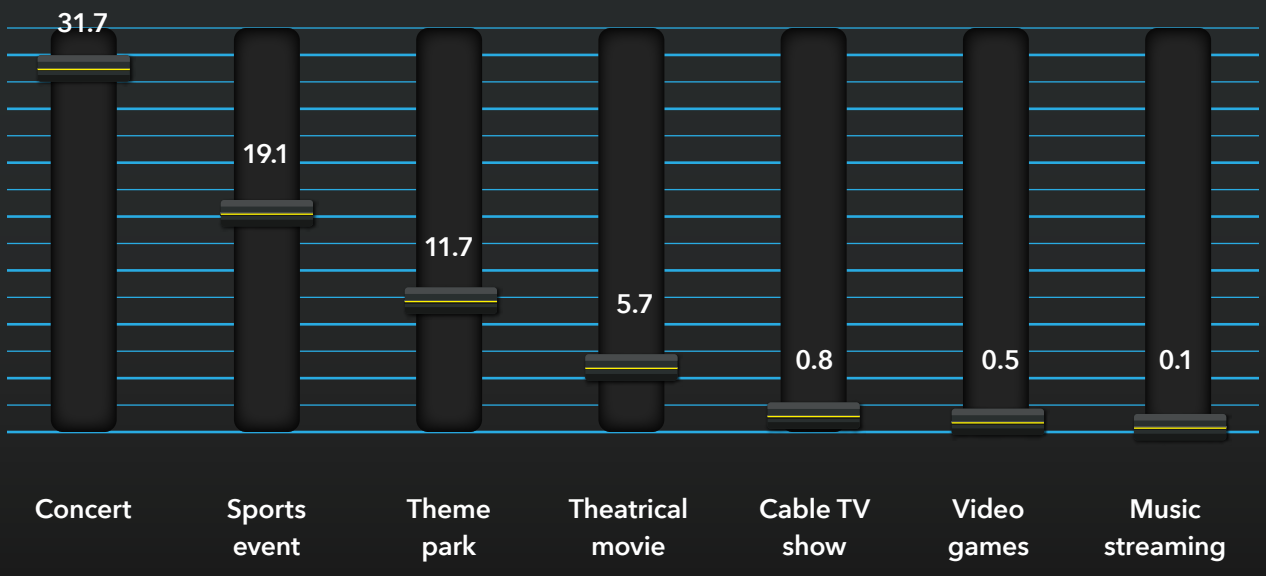
The battle for eyes and ears

We listen to more music now than ever before – the average American is exposed to more than four hours of audio per day.[6] And yet music revenues languish at around half the level they were in the late 1990s.[7]

The hourly cost of a music streaming subscription is a fraction of the cost for other forms of media.[8] And just a quarter of American households have a music streaming subscription today, compared with 75% which have a video streaming subscription.[9]

Competition is fierce in the attention economy and, in the words of Steve Cooper, CEO of Warner Music, a gap has emerged between the "monetisation of ears and the monetisation of eyeballs".[10]

COST PER HOUR OF ENTERTAINMENT ($)



8 JPMorgan, Pershing Square
9 RIAA, Statista
10 Warner Music, Q1 2021 earnings call

As good as gold or oil

Most people like the festive season. But few like it as much as Mariah Carey. Year after year, her 1994 hit *All I Want for Christmas is You* rakes in hundreds of thousands of pounds from streaming revenue.[11]

This raises a question investors are used to asking: 'how much should I pay now for say, £500,000 of income per year in perpetuity?' If they can put a price on an income stream, they can put a price on music royalties. That was the thinking of Merck Mercuriadis, the founder of Hipgnosis Songs.

Hipgnosis Songs is the UK's first investment company focused on buying songwriter royalties from their original creators. Mercuriadis believes this predictable and reliable income stream from royalties is 'as good as gold or oil'.

Rights and royalties

- Songwriter rights typically expire 70 years after the death of the last composer.[12]
- Half of all streams come from just 50 artists.[13]
- Two-thirds of streaming revenue comes from music over 18 months old, up from 55% in 2016.[14]

Hipgnosis Songs Fund[15]

- Owns eight of Spotify's 25 most played songs of all time
- Total raised to date: £2 billion; adds value to its songs by incorporating them into films, advertisements and video games – royalties from these are known as 'synchronisation fees'

11 Soundcharts, Ruffer calculations. £500k calculated based on $0.00318 per stream Spotify is reported to pay out, multiplied by the number of streams in December 2020
12 gov.uk/copyright/how-long-copyright-lasts
13 Colossus podcast, 27 October 2021, joincolossus.com

Cut off the label?

> “I don’t even know why I would want to be on a label in a few years, because I don’t think it’s going to work by labels and by distribution systems in the same way… music itself is going to become like running water or electricity.”
>
> **DAVID BOWIE, 2002**

Ziggy Stardust was half right.

Traditionally, music labels have handled the discovery, financing, marketing, production and distribution of artists’ work. This makes sense in a world where nine out of ten signed artists fail to make back the label’s initial advance.[16]

These functions have been made vastly easier by the internet: today an emerging musician can be discovered on YouTube, crowdfunded, market herself through social media and upload her content direct to streaming platforms free of charge.

And yet, they survive.

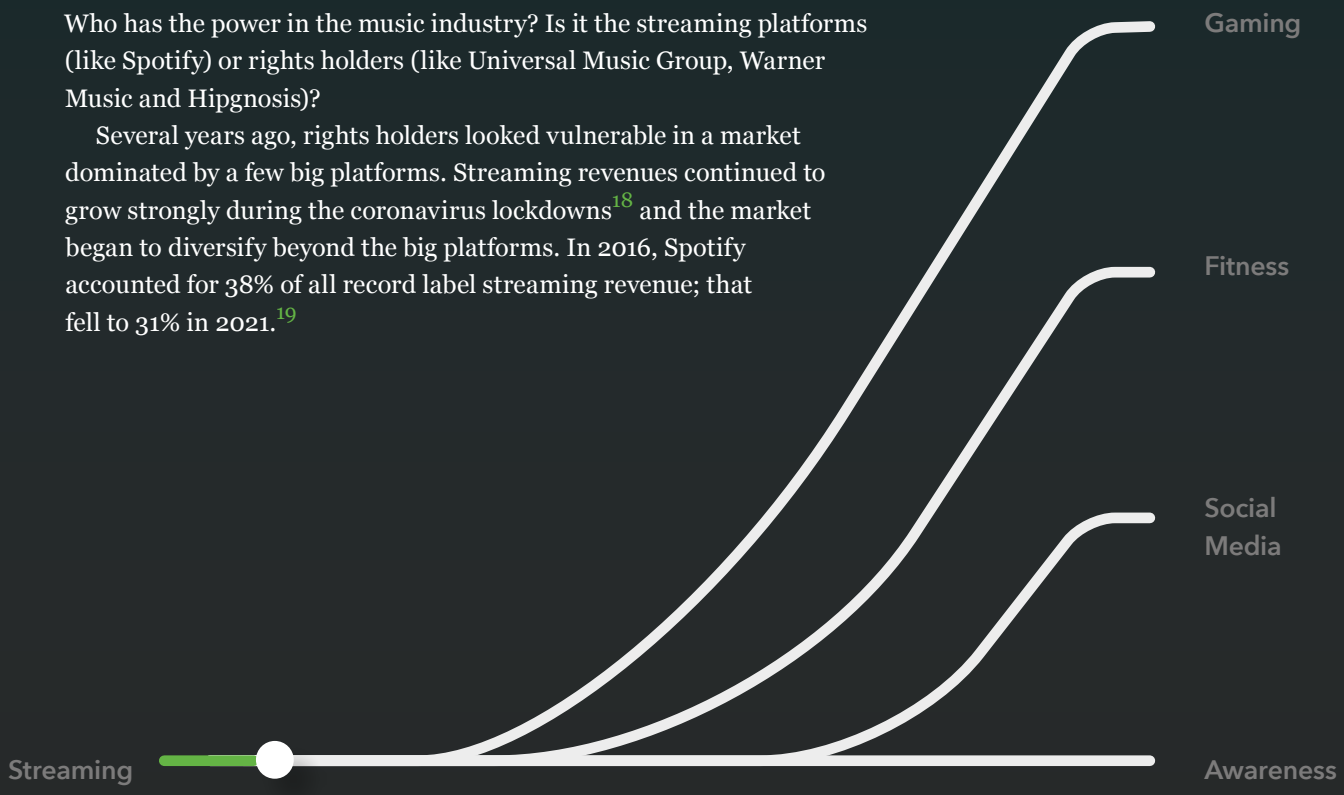
A new song is uploaded to Spotify every 1.4 seconds.[17] In a world of boundless variety, artists need help to stand out. Labels identify and carve out an audience and offer powerful networking opportunities to up-and-coming musicians.

14 Billboard/MRC Mid-year Report, US 2021
15 Hipgnosis Company Report, 2021
16 Colossus podcast, 27 October 2021, joincolossus.com
17 Spotify

Funnelling the stream

Who has the power in the music industry? Is it the streaming platforms (like Spotify) or rights holders (like Universal Music Group, Warner Music and Hipgnosis)?

Several years ago, rights holders looked vulnerable in a market dominated by a few big platforms. Streaming revenues continued to grow strongly during the coronavirus lockdowns[18] and the market began to diversify beyond the big platforms. In 2016, Spotify accounted for 38% of all record label streaming revenue; that fell to 31% in 2021.[19]



New opportunities also emerged in the form of gaming, fitness and social media. These have become lucrative additional sources of revenue for rights holders.[20]

Streaming is often only the beginning of a song's story – it brings awareness of an artist to as many consumers as possible. The larger the group of consumers caught in the top of the funnel, the larger the potential market for lucrative tour tickets, merchandise and brand collaborations.

18 MIDIA, Spotify Annual Report 2020
19 Ibid
20 Ibid

The rights to remain...

SONG RIGHTS MIGHT EVEN BE A SAVVY INVESTMENT IN A MORE INFLATIONARY WORLD.

An asset with significant pricing power that, unlike traditional physical inflation hedges like gold or oil, does not require substantial reinvestment each year to sustain its production.

The proposition gets better still. Thanks to streaming, record labels no longer have to pay manufacturing and distribution costs for physical copies of CDs or records.

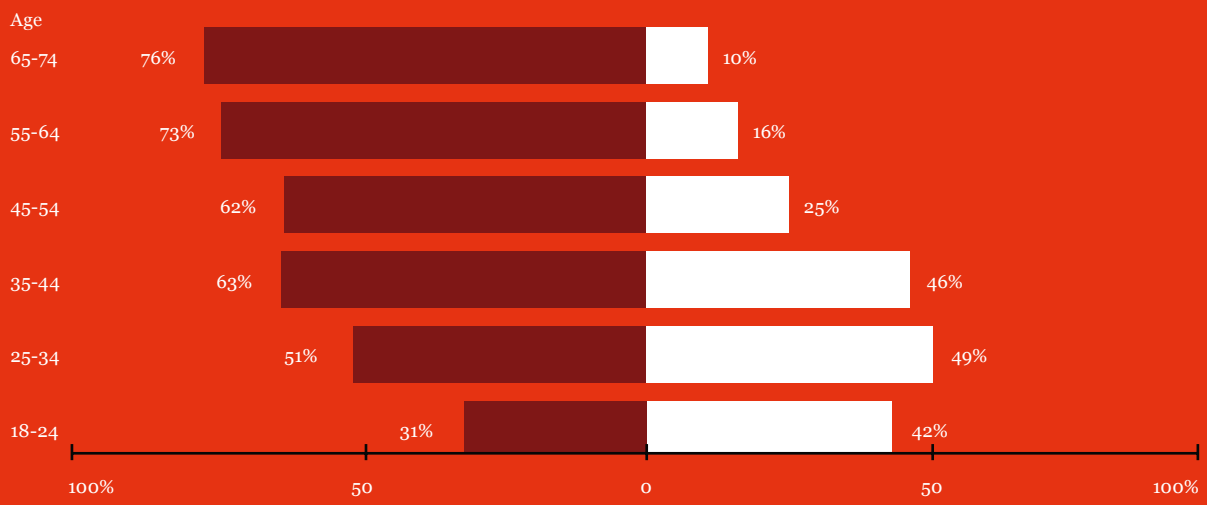
After almost two decades in the doldrums, the music industry is on the rise once more. In September 2021, Universal Music Group (UMG) listed on the public equity markets at a value of $50 billion.[21]

And Lucian Grainge? He is now Chief Executive of UMG – presiding over an industry in which the lights are burning bright.

21 Bloomberg

A new way to pay

PERCENTAGE OF ONLINE SHOPPERS WHO ARE CREDIT CARD OR BNPL USERS



> “As with other forms of easy credit, rising interest rates are unlikely to be good news for buy now pay later.”

THE PRIMACY OF PLASTIC CREDIT MAY BE COMING TO AN END. A gamut of buy now pay later (BNPL) startups has emerged, offering point-of-sale financing options for purchases from hoodies to home improvements.

BNPL has proved attractive to younger consumers, who steer away from onerous credit card applications, or struggle to qualify due to low credit ratings. Now they can purchase an item on credit with a few simple clicks, and frequently without any credit checks. Neatly integrated into the retailer websites, the BNPL option is both stress and interest-free.

More 18 to 24 year olds now use BNPL than credit cards. But it is not just a millennial fad: nearly half of people aged 35 to 44 use these services, and even one in ten over 65s. That is rapid adoption for a novel payment solution.

This could cause a significant shift in consumer trends if younger generations start to finance purchases of all sizes on credit. The UK’s Financial Conduct Authority is concerned, haunted by the way payday lenders catalysed the rapid growth of what turned out to be bad credit. Conventional banks are paying attention to the challengers too.

Another form of cheap credit has emerged in this world of next-to-zero interest rates. As with other forms of easy credit, rising interest rates are unlikely to be good news for BNPL.

ALEXANDER JOHNSTONE

Investment Associate

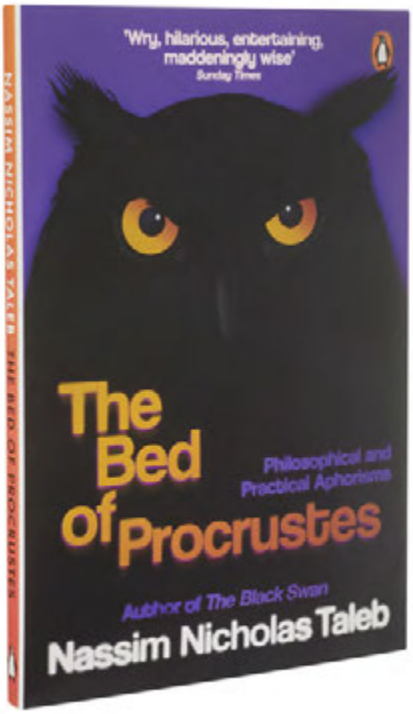
Source: Bain & Company survey, July 2021

Book Corner

Takes on three books, by three people at Ruffer. A mix of personal favourites and topical insight, with some utility for investors.

THE BED OF PROCRUSTES
Nassim Nicholas Taleb
PENGUIN RANDOM HOUSE, 2010

Seduction without nerdiness



APHORISMS, DONE WELL, CONVEY THE WISDOM OF THE PROVERB, WITH THE POWER OF POETRY. Similar in form to a tweet, the two should not, must not, be confused or conflated.

A tweet has always been an act of advertising, the eventual audience influencing the mind of the composer – sometimes faintly, often loudly. A tweet is inherently public; an aphorism is principally private.

The aphorism is the writer distilling his own thoughts, as his own first audience. The act of creation begins in the right hemisphere of the brain, the hemisphere of breadth and flexibility and open attention, the hemisphere that sees the whole, the totality, the world that is more than disparate elements. The left hemisphere – the speaking hemisphere, the domain of focus and utility – is then brought to bear. To capture the insight, and to convey it in words.

A tweet lives in the kingdom of billboards and wine labels and the curriculum vitae. The aphorism seeks the company of the sonata, to dance with the water around a bend in a stream. In that, the aphorism should be closer to art. And art is, as Nassim Taleb expresses it in The Bed of Procrustes, "a one-sided conversation with the unobserved".

BEYOND THE UNIFORM STANDARD

Taleb has one big theme running through his work – the limitations of human knowledge. He's interested in "the unobserved and the unobservables ... what lies on the other side of the veil of opacity". He is a thinker on risk and decision-making amid uncertainty, on foolishness, probability and luck.

The *Bed of Procrustes* is Taleb's collection of his own aphorisms. It forms part of a five-volume work he calls the *Incerto*, alongside *The Black Swan, Fooled by Randomness*, *Skin in the Game* and *Antifragile*. Those new to Taleb are encouraged to start with *Antifragile*; those who like what they encounter should find at least something of value in *The Bed of Procrustes*. (While those

who dislike Taleb the Caustic should read something else.)

Named after an innkeeper in an ancient Greek tale, *The Bed of Procrustes* challenges all who follow Procrustes in enforcing conformity to a uniform standard. The book's subjects range from the scandal of prediction to the many forms of love, from the vulgarity of employment to the republic of letters.

There is practical advice – "To understand how something works, figure out how to break it."

> "In Taleb's framing, more information means more delusions. It creates more false patterns that deceive us. There is more randomness to be fooled by."

There are shortcuts to live by – "I trust everyone except those who tell me they are trustworthy."

And there is the inversion of norms – "It is always good practice to apologise, except when you have done something wrong."

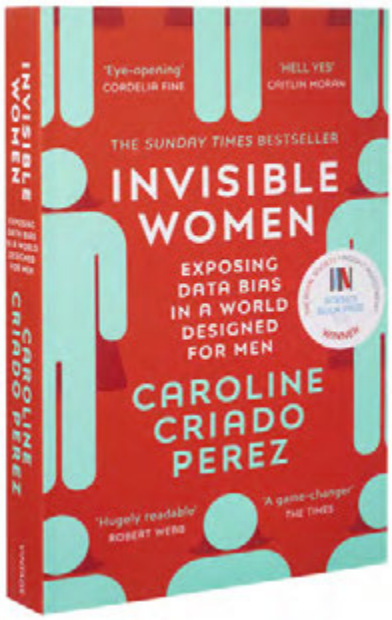
CHALLENGING CHERISHED BELIEFS

Investors are in the business of reducing and processing information – in a world of complexity, uncertainty and non-linear outcomes. Humans are not well wired to do this. And our wiring creates problems, problems that get worse in an era of abundant information. In Taleb's framing, more information means more delusions. It creates more false patterns that deceive us. There is more randomness to be fooled by.

As psychiatrist and scholar Iain McGilchrist puts it: "We'd rather deny obvious truths than let go of a cherished belief". And it's in challenging cherished beliefs – sometimes whacking at their foundations, sometimes pulling at their weak spots to lessen their grip – that *The Bed of Procrustes* is at its most useful.

The way usefulness is experienced will vary reader by reader. My cherished beliefs will differ from yours; you deny your obvious truths, while I deny mine. But we can both benefit from re-examining our own thinking. Probing our excessive certainties. And from acknowledging the places where we're bending messy realities to fit a little too neatly into Procrustes's bed.

CHRIS BACON
Chief Executive



INVISIBLE WOMEN
Caroline Criado-Perez
VINTAGE, PENGUIN RANDOM HOUSE, 2019

Blind to our blindness

WHY ARE WOMEN IN THE UNITED KINGDOM 50% MORE LIKELY TO BE MISDIAGNOSED AFTER A HEART ATTACK? Or 47% more likely to be seriously injured in road traffic accidents?[1]

By answering these questions, Caroline Criado-Perez reveals we live in a world designed for men – where data bias is the blueprint.

Criado-Perez urges us to consider how data is used or ignored and raises questions about the ubiquity of confirmation bias. For investors, understanding confirmation bias is especially important.

EVER SINCE THE GREEKS

There is no accusation of conspiracy. Rather, this is an account of embedded thinking. The author references Aristotle, to illustrate that it has always been this way. Aristotle's approach to ethics was observational, and the world around him was one of manual labour and subjugation of women. Hysteria is from the Greek root hystera, meaning uterus, and only women could become hysterical. This book is not a recycled or superficial condemnation of etymology; it sets out to foster an appreciation of how easily bias slips into our thoughts and assumptions.

Confirmation bias can be broken down into six forms

SEARCH	to only search for confirming evidence
PREFERENCE	to prefer evidence that supports our beliefs
INTERPRETATION	to interpret evidence in a way that supports our beliefs
FRAMING	to use mistaken beliefs to misunderstand what is happening in a situation
TESTING	to ignore opportunities to test our beliefs
DISCARDING	to explain away data that doesn't fit with our beliefs

1 The misdiagnosis of heart attacks is partly due to a bias in the symptoms medical professionals look for. Diagnoses often rely on the identification of pain in the chest and left arm. These are common in men and older women, whereas younger women will more often have breathlessness or stomach pains. These symptoms are considered atypical, which leads to under-appreciation of the risk. Crash test dummies are based on the fiftieth percentile male, meaning car safety measures are frequently ineffective in protecting women.

Objective reasoning is challenged by unconscious and subjective perceptions. Problem solving for new products, therefore, can often overlook women. Many of the examples in the book are down to people simply not having thought of something.

PAUSE FOR THOUGHT

There are three core themes: the female body, women's unpaid care burden and the terrifying topic of male violence against women. The book is divided into six main situations: daily life, the workplace, design, medical care, public life and how these issues are magnified during war and natural disasters. The pandemic helps focus the mind.

The reader is challenged to think about the consequences of failing to collect data about women and, indeed, failing to aggregate the data we already have by gender. Conclusions are not thrust upon us – we are instead invited to stop and think about what else might be going on. This pause for thought is an essential modus operandi for investors.

Even the enlightened can fail to see. Council officials from Karlskoga in Sweden were asked to conduct a comprehensive assessment of gender equality across their duties. One official joked that snow-clearing practices were at least one area the 'gender people' would keep their noses out of.

Not so. The audit of road clearing revealed a major flaw. It was based on the use of a car for commuting and thereby excluded data on women who walked to public transport.

By changing the council's approach to account for this, the number of women admitted to hospital decreased significantly. The 'gender people' were right to put their noses in, after all.

> "We can be blind to the obvious, and we are also blind to our blindness."
>
> Daniel Kahneman

THE DANGER OF DATA-LED DECISIONS

Invisible Women was published in 2019 and was followed by Alex Cobham's *The Uncounted*, which argued that even when data exists, it is often unreliable.

Exposing poor data quality is harder than exposing missing data. And algorithms tend to perpetuate the status quo. As companies increasingly use data to make evidence-based decisions, we must think carefully about the integrity of the data itself. Criado-Perez argues that having women present at the problem identification and design stages of decision-making ensures better questions are asked.

SO WHY, WITH ALL THIS DATA, HAS MORE NOT BEEN DONE TO FIX THE PROBLEM?

Several components are required to bring about meaningful change: we need pressure to change, a shared vision, a realistic plan of action and the means to measure it. But ultimately the engine of change is knowledge and willingness. After reading Criado-Perez you will have more knowledge of invisible women. The willingness to eradicate bias, however, depends on us.

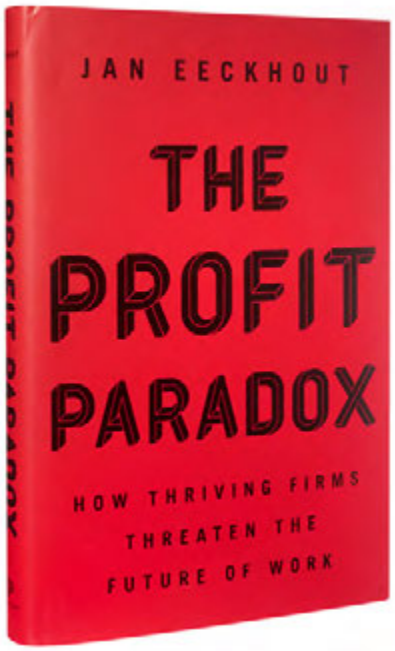
ALED SMITH
Deputy CIO

THE PROFIT PARADOX

Jan Eeckhout

PRINCETON UNIVERSITY PRESS, 2021

Remedies for an ailing economic system



JAN EECKHOUT IS A RESEARCH PROFESSOR; FORTUNATELY, HE DOESN'T WRITE LIKE ONE. Despite the serious subject matter of *The Profit Paradox* his style is engaging and conversational, and the book is light on its feet and commendably free of jargon.

The overarching theme is the abuse of market power and the implications for investors and society at large. Eeckhout's central argument is that the epochal surge in technology, combined with lax controls on industrial behaviour, has fostered a financial system that is pro-business but not pro-market. With merger and acquisition activity virtually unbridled and regulators serving the businesses they regulate more than the interests of the public, some firms – notably the technology behemoths – nowadays act as quasi-monopolies. As a result, their output is lower and their prices higher than economic models would suggest, fewer consumers can afford their products, and wages in general are lower than they would be in an economy with greater competition.

WINNERS ARE FEW

One obvious outcome of this oligopolistic behaviour is the surge in income and wage inequalities in Western economies over the last four decades, as well-documented by Thomas Picketty and others.[1] But Eeckhout highlights several other malign consequences which are less well known. For example, the United States now has fewer startups (businesses less than one year old) than it did 40 years ago,as nascent entrepreneurs have concluded the odds are stacked too heavily against them.[2]

For Eeckhout, the profit paradox is that success increasingly breeds success for a handful of participants, while the market economy fails to work for the vast majority. "The problem with competitions is that somebody wins them," as he approvingly quotes from George Orwell. In short, the technology giants hold all the cards, and their high returns go disproportionately to their owners rather than to their employees or society more broadly. He argues that a continuation of these trends would further undermine people's faith in capitalism as the best, or least bad, economic system.

1 Picketty (2013), Capital in the Twenty-First Century

2 US Census Bureau

> “Success increasingly breeds success for a handful of participants, while the market economy fails to work for the vast majority.”

Eeckhout is certainly no anti-capitalist. He devotes a whole chapter called ‘Plenty of Reasons to be Optimistic’ to the many benefits capitalism has brought, lifting millions worldwide out of poverty while widening access to adequate food and housing. And, he contends, no one wants to return to the pre-capitalist world of heavy and often dangerous manual work. In addition, capitalism has reduced inequality between nations (even as inequality has generally risen within countries).

REMEDIES TO HAND

To heal a system which he believes is sowing the seeds of its own destruction, Eeckhout prescribes four main remedies. Firstly, given the control of data is crucial, he recommends making data freely available as a public good. Secondly, he argues for greater interoperability across all platforms and devices, which would reduce businesses’ stranglehold on the value chain. Thirdly, he believes the patent system needs far-reaching reform, as it is too open to abuse and gaming and currently gives incumbents an undeservedly large share of the benefits. Finally, he calls for a major overhaul of the competition framework, so the partners in any proposed merger would have to prove that it would bring positive benefits, rather than simply doing no harm.

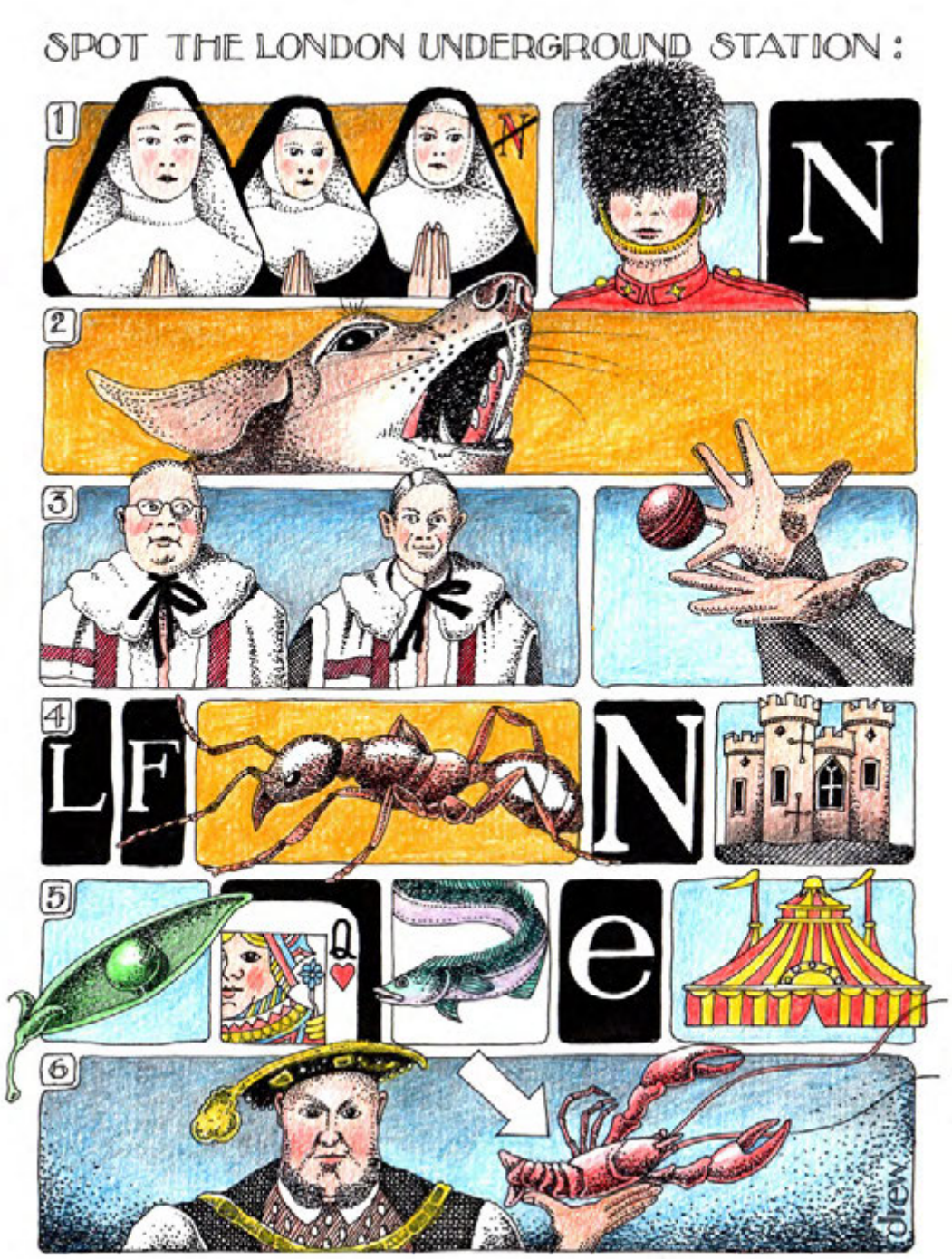
His list of remedies has some interesting omissions. For example, he makes no mention of raising taxes, presumably fearing that oligopolies would use their market power to pass them on to customers. Nor does he suggest breaking up the technology giants, preferring instead to press for greater competition.

AN APPETITE FOR CHANGE

This book leaves us with two main questions to ponder. Firstly, what are the chances that any or all of Eeckhout’s proposals will be enacted? Data becoming a public good feels a long shot, but his other proposals have considerable resonance with the zeitgeist. Certainly, it seems plausible that the criteria for judging mergers could be broadened. And the political appetite for a redrawing of the share of profits between capital and labour is growing worldwide. To hear a British Conservative Prime Minister berating industry for not paying its employees sufficiently is just one example of the abandonment of traditional party lines, presaging a change in regime.

Secondly, if these changes are enacted, what will that mean for investors? Many of the accepted norms of the last 40 years are currently coming under greater challenge and scrutiny. As we at Ruffer have written on several occasions, this change in regime is going to make investing much harder.

DAVID BALLANCE
Investment Director



Answers can be found inside the back cover.

Last word

MIRANDA BEST
Deputy CEO

JEFF BEZOS, AMAZON'S FOUNDER, often gets asked what he thinks is going to change over the next 10 years. Less often, in fact almost-never in his telling, is he asked – what's not going to change in the next 10 years?

It's that second question, the not-changing question, that Bezos thinks is the more important one. For Amazon's retail business, the not-changings include customers wanting low prices, fast delivery, good selection. In his own words: "It's impossible to imagine a future 10 years from now where a customer comes up and says, Jeff I love Amazon; I just wish the prices were a little higher."

The things-that-change often attract the headlines and the daily attention. But the not-changings matter at least as much, especially for the long term.

This year's Ruffer Review has plenty of both. The changings-underway include domestic politics and Great Power relations, a warming planet and a shifting energy mix, financial disruption and inflation volatility.

And the not-changings? Most are linked to human behaviour. There's the in-built tendency for people to get caught up in a story, then carried away in a bubble. There's the desire for success, and the addictive qualities of risk. And then there's the common temptation of indebted leaders through the ages – to eat away at their currency, and to keep on eating, until it's too late.

These human behaviours influence Ruffer's investment philosophy. More than that, they shape our whole approach to looking after clients. There's one main insight on which Ruffer was founded. People like making money – but they hate losing it more than they like making it. Our preoccupation (not-changing) is with keeping clients' capital safe. That's true across market cycles, and through changing investment regimes.

About Ruffer

Ruffer looks after investments for private clients, financial planners, institutions and charities, in the UK and internationally.

Our aim is to deliver positive returns, whatever happens in financial markets.

For more on what we do and how we do it, please visit ruffer.co.uk

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If you've found The Ruffer Review at least moderately interesting, or have a suggestion or two for the next edition, please drop us a line review@ruffer.co.uk

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Design by Sparks Studio sparks-studio.com. Cartoons by Robert Thompson robertthompsoncartoonist.com. Ken Hill photographs by Chris Frazer Smith chrisfrazersmith.com
Printed on 100% recycled paper. Fully recyclable.

Answers

SPOT THE DOG BREED – PAGE 3

1 BULL TERRIER
2 COCKER SPANIEL
3 RHODESIAN RIDGEBACK
4 SEALYHAM
5 BORDER COLLIE
6 GREAT DANE
7 PORTUGUESE WATER DOG

SPOT THE LONDON UNDERGROUND STATION - PAGE 123

1 COVENT GARDEN
2 BARKING
3 EARLS COURT
4 ELEPHANT AND CASTLE
5 PICCADILLY CIRCUS
6 KING'S CROSS STATION

"Monopolies seldom come about by accident."
Laetitia East PAGE 98