To: Intugic clients and relationships

Re: Statecraft and the Three Horsemen

"Our earth is degenerate in these latter days;
bribery and corruption are common; children no longer obey their parents;
every man wants to write a book, and the end of the world is evidently approaching."
—attributed to an ancient Assyrian tablet, 2800 BCE

"At particular times a great deal of stupid people have a great deal of stupid money…
At intervals…the money of these people - the blind capital, as we call it, of the country -
is particularly large and craving; it seeks for someone to devour it, and there is a 'plethora';
it finds someone, and there is 'speculation'; it is devoured, and there is 'panic'"
—Walter Bagehot, 1856

"Germany and Eastern Europe were not receiving enough help from the capitalist system
to stand the expense of remaining capitalist…and all the time while they wobbled and wavered,
Russia was beckoning to them to come over to her system"
— Liaquat Ahamed (Lords of Finance), reference year: 1931

"A remarkable consensus has developed…that there's a new "red line" for policy: a 2 percent rate
of increase in some carefully designed consumer price index is acceptable, even desirable, and at the same
time provides a limit. I puzzle about the rationale. A 2 percent target, or limit, was not in my textbooks years
ago. I know of no theoretical justification. It's difficult to be both a target and a limit at the same time."
— Paul A Volcker

"The speechwriters had ordered up millions of Whip Inflation Now [WIN] buttons, samples of which
they handed out to us in the room. It was surreal. I was the only economist present, and I said to myself,
This is unbelievable stupidity. What am I doing here?...There is no inherent anchor in a fiat-money regime.
What constitutes its 'normal' inflation rate is a function solely of a country's culture and history"
— Alan Greenspan

"I tried to explain at every opportunity, the fundamental reason that interest rates were low was
that a weak economy can't generate healthy returns on savings and investments."
— Ben Bernanke, Nobel Laureate

"I agree… that stocks go up over the long term. The problem is, we've become a little complacent about
what does "long term" mean. If you bought the Dow in 1929 you got back to even in 1954…the Dow was in
1966 where it was in 1982 It's my central forecast -- the Dow won't be much higher in 10 years than it is today"
— Stanley Druckenmiller (Sep 28, 2022)

"In this vein, if we picture Covid-19 on the white horse that "went forth conquering",
Ukraine on the red horse that took away "peace from the earth" and Inflation on the black horse…
selling only "a measure of wheat" but demanding an exorbitant penny for it, the analogy is terrifying."
(Page 20, below)

A lot of water under the bridge

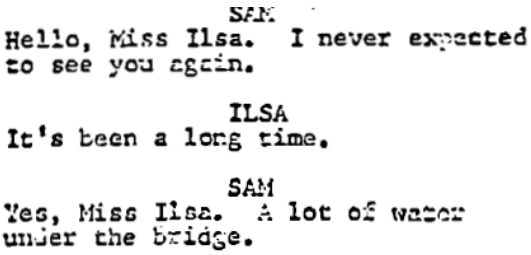
I closed my last long-memo of Feb 2020, with:

"Overall, in current times:

- *With populism on the rise, it's prudent to focus more on wealth preservation than wealth expansion*
- *With de-globalisation picking pace, it's prudent to exit global supply chains enter national supply chains*
- *With global fiat monetary system at risk, it is prudent to hold investment assets and not financing assets*
- *With rule-based (passive) investing on the rise, withdrawal of liquidity will trigger the rise of Active*

It is hard to say as to what we will see first - a crack in Geopolitics, or accelerated adoption of socialism, or collapse of the monetary system. In such an uncertain environment, owning risk assets based on valuation (as against value) would require one to be - proverbially - dancing closer to the door. In such a dance, (of which I am not a proponent) the challenge lies in forecasting which door will be open when the music stops."

It has been around three years since then, and the trinity of Covid-19, Ukraine and Inflation has provided the motivation for this next long memo, invoking memories of this classic exchange from a 1942 motion picture:



SAM
Hello, Miss Ilsa. I never expected to see you again.

ILSA
It's been a long time.

SAM
Yes, Miss Ilsa. A lot of water under the bridge.

An inverted signal-noise ratio

Usually, the challenge of the modern interconnected information-abundant world is to select the tiny specks of signal from the vast ocean of noise that gets generated, increasingly by algorithms than by humans, and increasingly designed more to grab attention and less to hold it. A neat little trick that has worked in the past is inversion – if something looks super-interesting from a distance, avoid it like a plague (or a virus), and overall, one would do well, with one's time and attention.

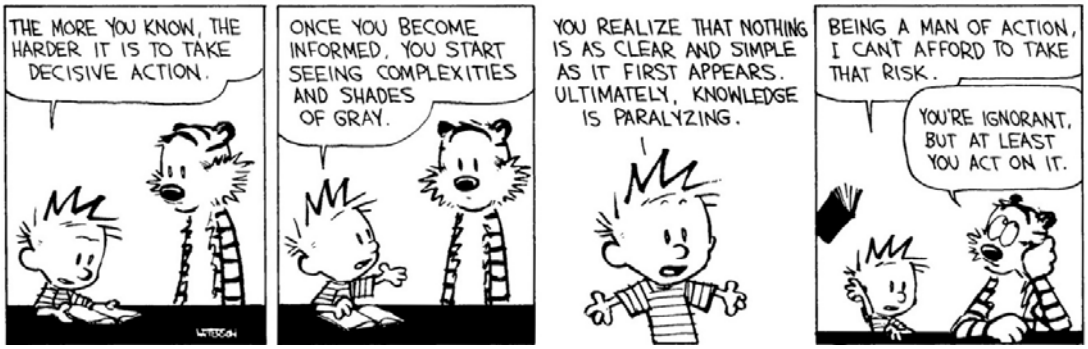
However, over the last few years, especially the year just gone by, in a sort of a trend reversal, the signal/noise ratio has risen materially, and now one faces an unprecedented challenge of processing the plethora of signal that is out there. Analytically, that for sure is a good problem to have, notwithstanding its sorry real-world consequences.

From an investment standpoint alone, one hears of important signalling factors such as:

demographic decline,	de-globalisation,	Ukraine war,
semiconductor war,	decline of rules based order,	strongman politics,
pink wave in LATAM,	rise of stakeholder capitalism,	US dollar strength,
ESG and climate change,	COVID impact on productivity,	rising inflation,
Financial markets liquidity,	QE vs QT,	rising interest rates,
energy crisis,	bond market drawdowns,	OPEC defiance of the west,
volatile commodity prices,	stagnant gold prices,	EM & India markets strength,
threat of nuclear engagement,	currency wars,	food crisis,

fertilizer crisis,	US student debt jubilee,	return of Trump,
end of empire,	hyperinflation,	stagflation,
peak-debt,	peak-energy,	sovereign debt crisis,
Japan's monetary policy	FTX bankruptcy & crypto crash,	and more…

Which brings to mind the following strip from Bill Watterson:



© Bill Watterson

While it is relatively simple to pick a small handful of the above, and think about their causes and effects on a standalone basis, the difficulty lies is in putting it **all** together into a proper framework, to be able to make sense of it all. "Putting it all together" is an important endeavour, as without it, every unexpected outcome can be explained away by post-facto prose (usually beginning with "but, you see..."), rather than ipso-facto probabilities.

A 10,000 ft view (the 500 year cycle)

At a very high level, when signal levels go up the way they have this past year, and not in an isolated arena but widely across political, social and economic spheres, it usually indicates a confluence of turning points of a number of cycles.

Cycles are important. Cycles might be all that there is to our existence - from 100,000 year weather cycles, to several thousand year religious cycles, to several hundred year geopolitical cycles of human empires, to 50 year socio-economic cycles of growth and distribution, to 10-year economic cycles of expansion and contraction.

While the weather cycle in terms of climate change remains front and centre in present times under the ESG construct, the human empire cycle might also be nearing a turning point. While headlines have started emerging about onset of a new cold war between the US and China, if one takes a slightly broader view, then **the struggle to frame laws that will govern the world for the next several decades (which is loosely labelled as an empire) may be more than a struggle between two nations, and actually be an age-old see-saw of power balance between the geographic East and West**.

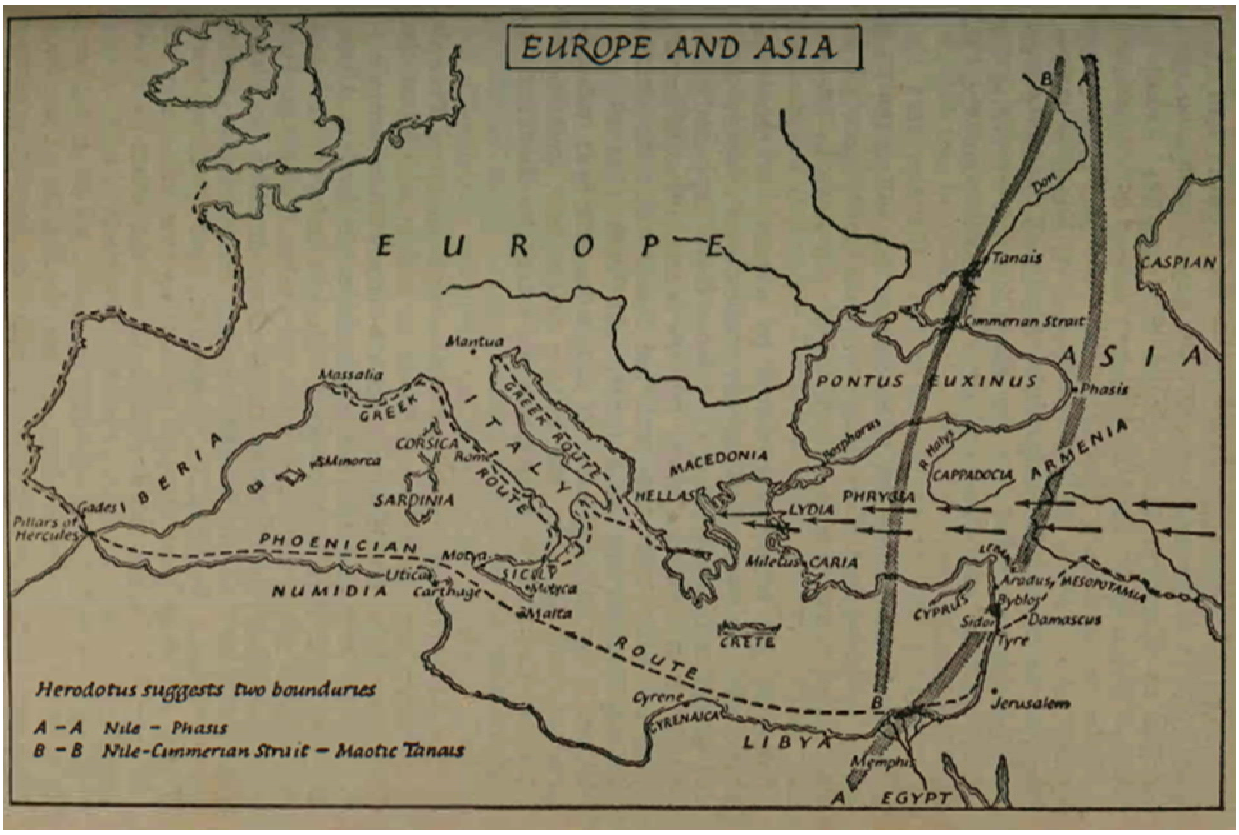
M Northcote Parkinson in his 1960s book *East and West,* goes back all the way to ancient Sumer, Assyria and Egypt of 3500 BCE to trace the cycle of human empire between East and West and finds that:

> *Almost throughout recorded history there have been conflict and rivalry between East and West… there have been alternating phases of Oriental and Western ascendancy. Periods of high civilization are found to have lasted from one to two thousand years…*

…whatever their life span, whatever the height or splendour of their flowering, all civilizations known to us have ended in decadence… the energy dies away, the arts become sterile, policy becomes timid, and the outposts are abandoned…

…And it is this decay which creates the vacuum into which another and more virile civilization is drawn… the trade routes which link the two civilizations are the pipeline along which the invasion is drawn…

…The civilizations with which we are concerned originate in roughly the same area, but have diverged sufficiently to give us our concepts of East and West, based broadly upon Asia and Europe…



© East and West, by M Northcote Parkinson

The map above represents Herodotus' view (440 BCE) on two possible ways to draw a geographical boundary between Asia (named after the wife of Prometheus) and Europe (after Europa, the Phoenician king's daughter), by splitting Asia Minor largely down the middle, even though Herodotus wondered:

…Another thing that puzzles me is why these distinct names should have been given to what is really a single land-mass-and women's names at that…

Parkinson's basic premise is that the last 4000 years have seen power shift back and forth between the "East" and the "West" in 500 year cycles, broadly speaking. He goes back to 3500 BCE when urban life first emerged in Mesopotamia (the cradle of civilisation) led by Sumerians, and looks at the ancient Assyria, Sumer, Akkad, Egypt and Babylonian empires which held the flag for the Eastern power for almost 2000 years, centered in Asia Minor. Then, starting from about 1200 BCE, which was the setting of The Iliad and The Odyssey, the West expanded into and dominated over the East. The Eastern resistance came from the Persian Empire led by Darius and Cyrus from about 700 BCE. The West rose again, led by Alexander (the Great) who defeated the Persians and built perhaps the largest empire the world had ever seen. The Eastern resistance came under the leadership of

Chandragupta Maurya and his grandson Ashoka (the Great) but their great empire withered away after their embrace of peace over war and the death of Ashoka. Rome was ascendant then and was an empire for almost 500 years until Vandals sacked Carthage in 439 ACE. Next came the age of the Arabs, marked by the birth of Prophet Md in 570 ACE, and the 565-1095 ACE period of Arab domination is generally considered the Dark Ages for Europe. Then came the European crusades (from 1069 ACE which marked the beginning of the rise of the West, though the Eastern flag was still held high by Genghis Khan (1206 ACE) and by the time Granada fell in 1492 ACE, the west was fully ascendant with thalassic empires allegiant to the church led by the seafarers from the Iberian Peninsula pursuing colonialization and conquest for the next 500 years, which brings us to present day.

Seen from the lens of the 500-year power shift cycle between the East and the West, given that the last shift was marked around 1492 ACE with the fall of Granada and the peaking of Renaissance in early 1500s ACE in Europe, the present day tensions, symbolically epicentered in Ukraine, are a candidate trigger for an acceleration of a geographic power struggle given how quickly and resolutely they have escalated to bring a majority of the global GDP into the conflict.

What is being labelled as a conflict between good and evil for the continued sovereignty of Ukraine has expanded into a conflict between the Western powers (US, UK, EU, Japan, others) and the Eastern Powers (Russia and its trading partners), as to who will determine the rules by which the world will be governed for the next several decades. While the present day rules, set by the US, and enshrined in the Washington Consensus, are seemingly at risk, the US has been here before, at least twice - against Russia during the cold war and against Japan during the 1960s and 70s - and emerged victorious both times. Hence while the cycle beckons a shift, the force of last 100 years of history resists it, and hence the outcome / conclusion is anything but forgone.

The point is that the war in Ukraine, could be symbolic of a much broader power struggle than simply a multi-decade rearrangement of regional power balance among nations. The investment implications are profound, to say the least. This requires us to think in terms of multi-generational wealth and purchasing power preservation, as against only in decadal terms, as is currently the (stated) norm.

A 1000 ft view (the 50 year cycle)

In the last few months, several financial market indicators have begun recording 40 year highs/lows, perhaps indicating an upcoming turn in the ongoing growth cycle that began roughly around 1981. While I referred to this as "*populism on the rise*" and "*accelerated adoption of socialism*" in my Feb 2020 memo, the early winds of this had started rising even earlier, as noted in my Jun 2018 memo:

> *"Overall, 35 years of very low real wage growth and job losses (being blamed in immigration) have profoundly changed the cultural, economic, educational and emotional construct of societies in US and Europe and these changes are now reflecting in political change that champions redistribution over growth, nationalism over integration and nation over world…*
>
> *…What is happening in the Political arena in the US, UK, Hungary, Poland, Turkey, Italy and fringes of Austria, Germany (especially Bavaria), Spain, Netherlands and France…is a symptom of societal changes seeking to reverse the global integration of trade, capital and labour because the solutions to deal with the inequality created by such global integration have not worked.*
>
> *Historically, whenever inequality has become very large, it has got solved either by revolution (Rome, 500 ACE) or regulation (Greece, 500 ACE) (confiscation of private wealth by way of inflation, taxes, annexation, etc)…*

> *...historically, end of globalization waves have led to wars, widespread changes in dominant forms of government, evolution of new economic schools of thought, and transfers of wealth from old dominant groups (first empires, then nations and now multi-national companies) to new ones over a longer period of time. In these times of transition, that can well last 60 – 70 years, across two generations of productive human lives, wealth preservation has historically been more important than wealth expansion.*
>
> *History has shown that the most reliable forms of multi-generational wealth preservation over the last 500 odd years have been real estate, gold and art. Contractual instruments in general, and securities of any and all forms in particular (equities, debt, bonds) have not been great protectors of wealth.*
>
> *The end of Global Trade is not cast in stone – the future is never 100% clear. However the risks posed by a possible end to Global Trade are real and near, and should not be ignored, especially when it comes to purchasing long term, illiquid, securities, and thinking about portfolio allocation to "inflation-and-redistributive-regulation-adjusted" allocation between wealth expansion vs wealth preservation.*

What were mere possibilities in 2018, turned into probabilities in 2020, and are now being baked into expectations as we enter 2023 and the 50 year economic cycle alternating between growth and distribution seems to be nearing a turning point after its nearly 40 year run that began around 1981 with Reagan and Thatcher at helm in the US and the UK respectively.

And it seems that the next 40-50 years will be marked by shifts in:

1.	Nature of Liberalism	from production-led **private sector**	to	distribution-led **govt sector**
2.	Nature of Capitalism	from shareholder **(financial) primacy**	to	stakeholder **(labour) primacy**
3.	Nature of Globalism	from optimisation-led **globalisation**	to	certainty-led **regionalisation**

While a shift in any one of the above is profound enough, a shift in all the three, at the same time, is ground-breaking. We are markedly moving from a private-sector led era of financial optimisation to a govt led era of redistribution of societal capital to seek a more equal society.

The growth and productive gains captured by the economically meritorious few, over the last 40 years, would now need to be shared with the socially neo-meritorious many, over the next 40-50 years, either peacefully through changing constitutional law (regulation), or violently through invoking social law (revolution).

Importantly, as focus shifts from growth to distribution, owners of financial capital have to accordingly shift their mind-set from return on capital to preservation of purchasing power of their accumulated capital. While pockets of expectations have begun forming around this, it is not visible in the consensus view, yet.

From here on, we look at things primarily in the context of the United States. The extraordinary situation that the world finds itself in, today, will significantly impact all countries, including India, depending upon how things unfold in the United States.

As the principal driver of sovereign decision-making across key powers of the world shifts from economics to geopolitics, the consequent winds that will sweep into India will have a far higher impact on setting asset prices here, than local micro, macro or political conditions, in my view. This memo, hence, is about India, by being about America.

A 10 ft view – The three horsemen *(with the hope that the fourth never shows up)*

By the end of World War II (WWII) in 1945, the go-go years of the 1920s seemed a distant memory in America, and the world at large entered a period of reconstruction and egalitarianism, a period that prioritised distribution over growth. This lasted for roughly 35 years and by early 1980s, Reagan and Thatcher had resurrected the growth flag to begin a new cycle that sought to rekindle the 1920s spirit by busting the hold of labour on means and outcomes of production, and driving financial capitalism led growth and productivity resurrection.

The 1980s and 90s were a period of not only pushing on operating efficiency but also levering up both the productive assets and consuming households, given the relatively low level of leverage all around. The 1970s inflation had been slayed, interest rates had started their downward journey and this was the era of leveraged buyouts, and when that term acquired some taint, it started being referred to as private equity.

This golden era was also where the US acquired true supremacy, with the Japanese economic threat managed via the 1982 plaza accord, the USSR's geopolitical threat managed by its 1991 disintegration into Russia and its satellites, and at the beginning of the new millennium, China joined the WTO, bringing its large and low-cost labour pool to the table, setting the stage for another decade of cost disinflation, productivity enhancement and hyper growth in lifestyle and consumption in the developed world in general and the US in particular.

For 40 odd years, from 1981 to 2021, interest rates in the developed world, led by the US, trended down, from ~20% in the early 1980s (US Fed funds rate) to zero only a few quarters back, resulting in perhaps the best and the greatest economic environment seen in several generations (with a backdrop of generally low military conflicts in the world) and symbolised by a 40-year bull market in both bonds and equities.

While 40 year cycles are not linear, and are marked by shorter cycles within them, every time there was a downtrend – S&L of '89, LTCM of '98, Asian Tigers of '97, Tech Bust of '00, GFC of '08, Covid of '20 - the US Fed and other central banks, in co-ordination, managed to paper over the losses, expand credit and restart the next cycle to keep the upward trajectory in place.

But GFC was different. When things started to wobble, amidst the 2007-09 great financial crisis (GFC), while the US Fed led a supernormal monetary stimulus, it was China that became the global engine of growth through its supernormal fiscal stimulus. China went on a massive capex spree with a philosophy of "build and they will come". In this fourth decade, spanning 2009-2019, china's consumption of raw materials went through the roof, resulting in some astounding statistics, for example, it was reported that "China used more cement between 2011 and 2013 than the U.S. used in the entire 20th Century".

Towards the end of 2019, things reached another turning point with the arrival of the three horsemen which have come to define the strained situation we find ourselves in, today:

- COVID-19 in early 2020,
- Inflation in early 2021, and
- Ukraine war in early 2022

COVID-19

The world seemed to be humming business-as-usual in Nov 2019, when the first cases of Covid-19 started being reported, and redacted, in China. Until then, the headline concerns were lack of recession signals in the US (which emerge roughly once a decade), possible paths for normalisation of ultra-lose monetary policy in developed nations, and the rise of strongman politics in some less-developed nations.

Health and life crisis aside, Covid-19 was a large-scale economic trigger that landed the US and the EU in the **"twin-deficit + high debt" corner**, and in many ways resembled an **"EM style shock to DM style balance sheets"**.

In essence, EMs expect high volatility in their interest and exchange rates, and hence maintain relatively modest debt levels (compared to DM levels) and reasonably abundant foreign currency reserves, to be able to manage bad times, especially after the foreign currency crises of the Asian Tigers in the late 1990s.

However, DMs expect low volatility and high stability on both interest and exchange rates, and hence are able to maintain high debt levels and low reserves of currencies of their trading partners.

Covid-19's resultant lockdowns, unavailability of workers at production sites or offices, disruption of input and finished product supply lines, unavailability of key health equipment, and the like, resulted in large declines in quarterly GDP across all major economies of the world. While the EM economies were used to handling such volatility, the roughly 7-8% decline in real output faced by the US economy, for example, was something that the ultra-large, super-optimised (after two decades of offshoring) and highly levered US economy was simply not set up to handle. Furthermore, the system had no slack – (a) household saving levels were extremely low and their incomes were pre-contracted to service EMI obligations leading to very high employment dependency, (b) corporates were over-levered especially after debt-funded equity buybacks and fragile given their high outsourcing levels and just-in-time supply chains, and (c) the government itself was stretched with high debt levels and high twin deficits.

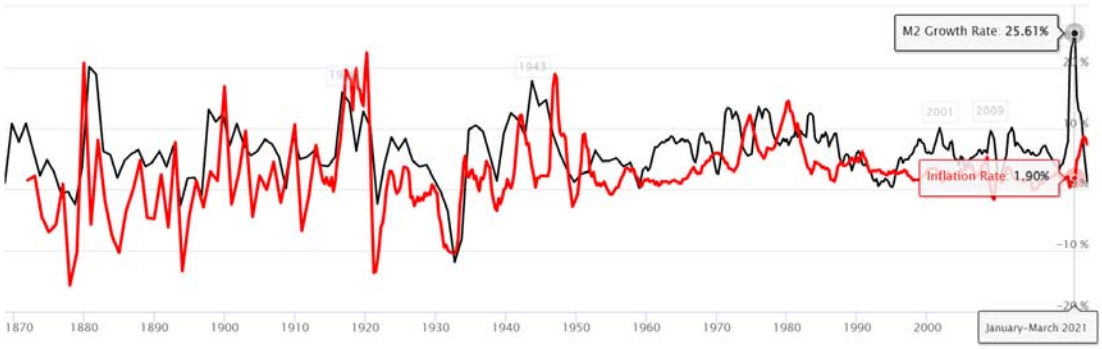
But the economy had to be saved, and therefore, the US government engaged in a massive micro-economic stimulus which included sending cheques to households and guaranteeing corporate borrowings in certain sectors, using money it neither did have, nor could afford (i.e. borrowing). But there are advantages if you own the reserve currency of the world ("our currency, your problem") - liquidity is aplenty despite your deteriorated balance sheet, and incidentally, cost happened to be close to zero.

But this flood of fiscal stimulus liquidity led to a plethora of problems, especially these two:

1. **Over-stimulus awakens the demand-side inflation genie:**

   Mathematically, a 7-8% GDP contraction required an equivalent amount of (a) cheques to be mailed & (b) corporate borrowings to be guaranteed, to even things out and avoid recession, unemployment, debt defaults, liquidations and capital destruction. But, the problem of uneven distribution kicks in. To ensure that the economically weakest households receive enough to be able to sustain livelihoods during that time, cheques worth 14-15% of GDP were mailed, resulting in a ~2x stimulus.

   As a result, the money supply in the economy zoomed up, with M2 growing ~40% over the two years of the pandemic (2020, 2021). M2 growth reflected in both household liquidity (cash, deposits, money markets) which rose by ~37% and corporate liquidity which grew by ~33% during the same two year period. What's more, M2 growth in Q1 2020 was the highest in 154 years (see chart below).



Source: https://www.longtermtrends.net/m2-money-supply-vs-inflation

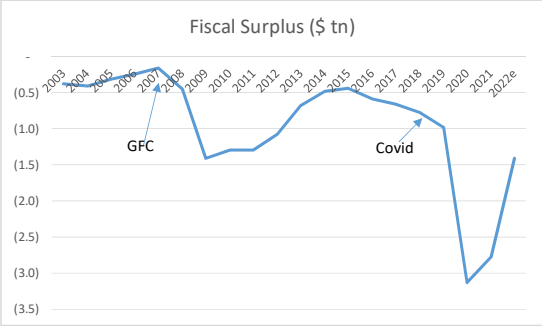
M2 levels matter a lot in an economy. Simplistically, M2 is the level of cash & credit in the economy. The more there is, the more it buys. If it buys consumption goods and services, we see rise in consumer prices. If it buys investment goods and services, we see rise in capital expenditure (supported by credit). And while cheques are no longer being mailed, bank credit has started expanding – rising by $1.5 tn in 2022 (vs $0.52 tn in 2021, v $0.47tn p.a. avg over last decade, and v $0.69 tn record-high in 2005). And all this in the year of unprecedented Fed rate hikes.

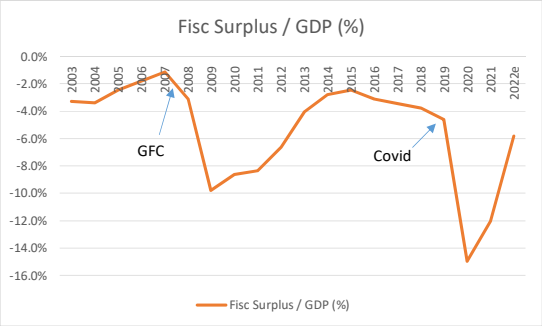
The French economist Cantillon would not have guessed it, but the early effects of the cheques were seen in the stock markets (Robinhood, GameStop, et al) and the later effects are now being seen in consumer price rise (CPI inflation) as the money works through the system over time. **Whereas M2 has risen 43% from Q3 '19 to Q3 '22, CPI i.e. prices have risen only 16% during this period**. Hence it will take some more time for excess M2 to flush through the system, across prices and production. Of course inflation has many parents and money supply is arguably just one of them. More on that later.

2. **Stimulus (financed by borrowings) makes govt balance sheet extremely vulnerable**

The two charts below show the US govt fiscal (budget) surplus, both as an absolute value and as a % of GDP. Two things glare out, both on an absolute basis and in relation to GDP. One, the Covid-19-era fiscal deficit (due to stimulus spending) was far higher than the GFC-era deficit, almost by a magnitude of 2x. And two, the deficits after COVID-19 were far higher than those in the prior two decades.

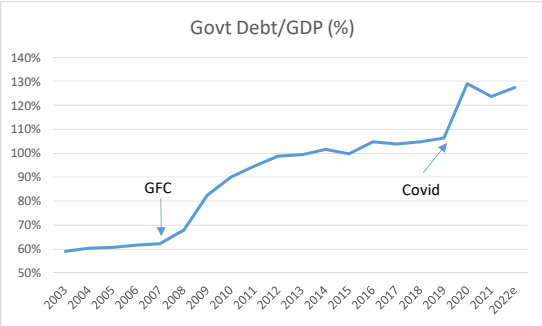
COVID-19, hence, delivered an unprecedented economic shock for almost two years to the already stretched budget of the US government (even without factoring in the increasing pace of moving large expense items off the balance sheet).

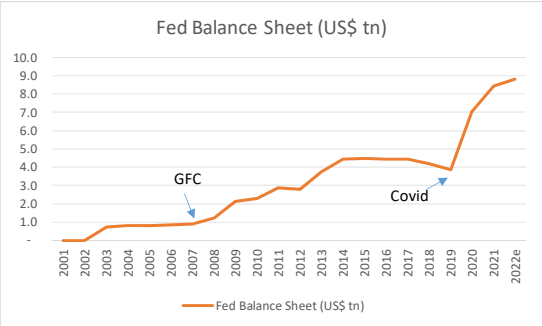




Source: US Government websites

The budget deficit was plugged by way of government borrowing. And as the chart below (left panel) shows, while both GFC and COVID-19 raised the govt debt / GDP by roughly 30% each, the difference was that COVID-19 tipped it over beyond the 100% mark. Furthermore, the post-COVID-19's 30% increase was on a higher base, thereby magnifying the nominal value of debt increase quite significantly.





Source: US Government websites

According to research by Dr Lacy Hunt of Hoisington Investment Management, while a raising factor of production, such as debt, leads to a rising GDP in the early days, after a certain point, any further increase in the factor leads to diminishing increase in GDP. As per Dr Hunt, in the US, GDP starts seriously diminishing once govt debt crosses 90-100% of GDP, and any marginal debt thereafter, especially if utilised for consumption (as against investment) will serve to perpetuate the already ongoing period of slow economic growth. Hence COVID-19 resulted in a crossing of the Rubicon, in some ways, for the govt debt levels.

But economic growth ineffectiveness aside, the additional govt debt issuance during the three post-COVID-19 years from Oct 2019 to Sep 2022 of US$ 8.2 tn, needed to find a home. And with private sector liquidity constrained by COVID-19 led risk aversion, the US Fed stepped in, and little more than doubled its balance sheet from $3.9 to $8.8 tn during the same period, of which $3.6 tn was additional government debt, as seen in the chart above (right panel).

Effectively, the additional debt taken to pay for the COVID-19 stimulus was a drag on each of govt finances, Fed finances and economic growth, which was the price paid to prevent liquidations among corporates and households.

Hence the US (and G7) finds itself in EM-like shoes – facing large magnitudes of twin deficits, facing highly elevated debt levels across the economy – govt, households and corporations, and facing extreme volatility in exchange rates (DXY, Bloomberg USD index) and interest rates (volatile slope of the yield curve), resulting in a low margin of safety w.r.t the overall stability of the system.

Ukraine

The conflict in Ukraine that began less than a year back, in Feb 2022, has quickly escalated into a global conflict. This was quite unexpected, in light of similar conflicts in the recent past involving Syria, Georgia, Crimea and Chechnya. The G7 response has triggered an acceleration in several major global issues around trade, security, food, fertilizers, energy, weapons, currency, shipping, and more.

While the commonly held perception holds Russia as a tyrant nation meddling into the affairs of a sovereign Ukraine, be that as it may, the political reality is far more complex, and political history far more divergent.

In consideration of the war itself, it is instructive to note that in the last several hundred years, not a decade has ever passed without the reigning power(s) of the time waging war (severally defined, including an intelligence-led quest for a regime change) on a sovereign nation, under the prevailing rules of inter-nation engagement at that given time.

And hence, in current times, the main issue is not the war itself, but that it **overtly** questions the legitimacy of the currently prevalent unipolar world order by being (a) an **unapproved** military exercise (as against an unapproved intelligence exercise), and (b) waged against a sovereign supported by the reigning unipolar power.

If we look at history, going back ~400 years, the rules of engagement that defined the world order (among Europeans, the principal world powers at that time) were enshrined in the treaty of Westphalia (1648) which led to the creation of Nation states (from erstwhile City States) and established the principles of state sovereignty, territorial integrity, non-intervention and norms of great-power conduct.

Before this, the European city states were imperialistic and always at war with each other. Hereafter started the era of a new kind of imperialism where instead of fighting one another, the newly formed European nation states started colonising the new world - first led by Spain and Portugal during the 1600 and 1700s, and then joined and eventually led by UK and France in 1800s until end of WWII.

In addition to the intra-Europe peace of Westphalia, the other large development during this era was the creation of the Liberal order which governed the rules of engagement among the European powers as they went about colonising the new world.

This developed in two phases.

The first phase was led by the UK (1800s – World War I) and was around free trade, freedom of seas, imperialism and colonialism. It arose from the Napoleonic Wars, where the victorious powers (Austria, Prussia, Russia and the UK) congregated at the Congress of Vienna (1815) and established what came to be known as the Concert of Europe which set about a shared understanding about the governance of relations among the European nation states, and an agreement to avoid inter-country invasions or involvement in the internal affairs of another without its permission. The concert worked not on account of its perfection in meeting the needs of each state but because there existed a rough military balance of power among all states and each state had enough advantages emanating from the concert to try and disturb it. The concert lasted a century until World War I.

The second phase was led by the US, from WWII onwards to present day, and has been around democracy, open and free markets, rules based institution-governed order, and a universal declaration of Human Rights (which, interestingly, allowed infringement on sovereignty, thereby creating exception to Westphalia principles). These US-led constructs came to be known as the Washington Consensus wherein open & transparent markets along with minimal govt intervention were seen as the driver of economic growth. This US-led second phase consisted of two parallel orders.

One was the Cold War order that emerged from the relations between the US and the USSR wherein the two powers had a roughly balanced military strength across Asia, Europe and LATAM, each backed by a nuclear deterrence. The order was preserved by a mutual respect for each other's geographic sphere of influence, and by exhibiting restraint in expanding one's own sphere at the cost of the other's. This was an order where the two nations both co-operated and competed with each other under well-defined rules of engagement, with no mercantilist zero-sum mind-set.

The other was the Liberal Order that operated alongside the Cold War order. It applied principally to democracies who relied upon US dollar denominated free trade and rule of law to foster economic growth. Disputes and downturns were resolved under the aegis of multilateral institutions such as the UN, IMF, IBRD, GATT/WTO etc.

Today, both orders under the US-led phase have deteriorated.

While the cold war ended more than three decades ago, the order it created did not end in 1991. It has disentangled slowly, marked by reversal of several US-Russia nuclear arms treaties, Russia's use of force in Georgia in 2008, in Syria intermittently and in Ukraine since 2014, Russia's perceived interference in US elections process etc. But with the 2022 conflict in Ukraine, the cold war order has suddenly disintegrated in a step-down function given the pace and nature with which the US has escalated matters there. In response, while Russia has historically refrained from directly challenging NATO, the Russian President recently changed that by questioning the US' 'rules-based-order' in his speech and interaction with media thereafter in the recently concluded Valdai Club conference on 27 Oct 2022.

> *"They have repeatedly spoken about the serious, major shifts that have already happened and are happening in the world, about the risks associated with the degradation of global institutions, with the erosion of collective security principles, with the substitution of international law with so-called rules…In general, it is not clear who made them up, what these 'rules' are based on, what is the content of these 'rules'…Apparently, there is only an attempt to establish one rule: (which is) that the*

> *…(currently prevailing) global power…should be able to live without any rules at all, and they should be allowed to do whatever they want, get away with whatever they do…"*

Alongside this, the US-era Liberal order is also chipping away – authoritarianism is on the rise (even in places such as eastern Europe, Turkey and Philippines), global trade is declining with talks of regionalisation / de-globalisation, commodity trade in Asia is increasingly not being settled in US dollars and the relevance of the UN is perhaps at its lowest levels, since its founding. The EU's attention is divided by internal issues of Brexit, migration, sovereignty, and now the energy crisis. Overall, US primacy is being questioned by more and more countries, including even those as remote and externally dependent as the Marshall Islands.

Whether we take the context of the 500-year cycles where the power vacuum left by a declining region is filled by the ascendant region, or the 100-200 year cycles starting from the Westphalian times where power transitioned from the Arabs to the Iberians in early 1500s, and then to the Anglo Saxons from the English Isles, and then to the Americans who led the so-called free world that existed outside the iron curtain, the recent and ongoing decline in the twin pillars of the US-centric world order is not only starting to leave a gap in the global power dynamic, but also is encouraging nations of all types – powerful and fringe – to take a shot at being power-brokers for the next phase of a global empire. Several astute observers of history and geopolitics, such as Mackinder, Brzezinski and Kissinger, have pointed to the worrisome consequences of gaps / vacuum in geopolitical power structures.

The conflict in Ukraine then, is not as much about energy, or respect for sovereignty, or NATO, or the US dollar, in the first place, as while each of these are important, they are also tactical (relatively speaking) in the geopolitical scheme of things. Ukraine, and the massive military and economic assistance being provided to it by the G7, at significant economic costs and populace hardship (especially in Europe), is symbolic of a risk in regime shift for the US, and in an attempt to preserve the status quo, the interconnected and interdependent US world order, that had established and guaranteed relative peace in this world since the end of WWII is starting to untangle, and with it, assurances and assumptions that nations and peoples had considered lines in stone, are merely lines in sand now.

The conflict in Ukraine has triggered a struggle to control and secure the basis on which our world works:

1. Means of production – Energy & other Commodities
2. Storage of purchasing power – Reserve asset & Reserve currency
3. Trade – security of supply lines, access to markets
4. Technology – open commercial access
5. Survival – Food, Fertilizers, Climate

Inflation

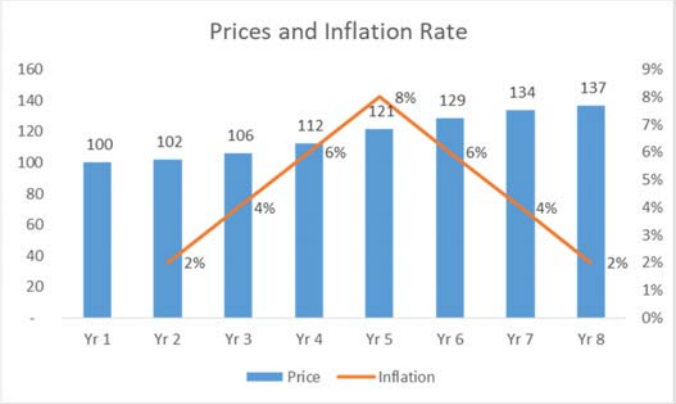
Simplistically put, if a bunch of *stuff* (physical, virtual, whatever) costs $100 today and the same bunch of *stuff* costs $103, an year down the line, then the price of *that bunch of stuff* has risen by 3% in a year and this 3% is called the rate of inflation of that bunch of *stuff* as *observed in the past* one year.

In such a case:

- Every unique bunch of *stuff* will have a unique inflation rate attached to it
  (eg: two apples and an orange will inflate at a different rate from one apple and two oranges)
- The inflation rate may either be a historically observed rate (as above) or a future expected rate
- Some rates may not be observable, and need estimation (e.g. implied rent in owner resident houses).

One such bunch of *stuff* goes with the name of "Consumer Price Index" and its associated inflation rate as "CPI inflation". There are various variants of this measure too, and as one can imagine, the more headline a measurement becomes, the more its constitution gets driven as much by political reality, as by economic reality. Even so, the CPI inflation rate itself is broken up into two parts – core (excluding food and energy, whose variations can be large and temporary) and non-core (comprises food and energy only).

To carry the numerical example forward, when inflation rate comes down, at the face of it, 'everyone' heaves a sigh of relief at things 'going back to normal'. It is mathematically obvious though, that some things are not 'going back'.



Consider the chart above. The y-o-y inflation rate starts from 2%, rises to 8% and then falls back to 2%. But the prices never fall, and end up settling 37% up from where they started, vs 15% up, had inflation remained steady at 2% p.a. during this time.

But what determines prices in an economy, their rate of change (inflation) and whether that rate of change is steady (stable inflation) or unsteady (rising/falling inflation)? Notwithstanding what economists and commentators would have us believe, the short answer is: "**It's unclear**".

Thinking from first principles, Price of anything is always relative to something else. It cannot be absolute. Example, Price of a pen cannot simply be stated as "five", as the immediate question would be, "5 what – dollars, yen, rupees?" Price, then, is a value of 1 unit of something against xx units of something else (usually a currency). This makes vice-versa also true - if price of 1 barrel of oil is $100, then **price of $1 is 0.01 barrels of oil**. Furthermore, Oil, for example would have multiple prices attached to it – 100 vis-à-vis dollars, 0.5 (say) vis-à-vis grams of gold, and so on.

Understood this way, changes in Price, could intuitively be thought of as driven by short term forces of demand and supply (liquidity) and long term forces relating to fundamentals (intrinsic values), as applicable to both *stuff* and money (cash, credit, collateral).

Prices have been a touchy subject for hundreds of years and governments have generally sought price stability since forever. Over the last 250 odd years, the theory of price (and hence, the drivers of price stability) has gone through several changes, and yet eludes a majority view, let alone a consensus view.

> In 1776, Adam Smith led the Classical School which prevailed for almost 100 years with various contributors including Malthus, Say, Ricardo, Mill and Marx, each differing from the other, in some material way. But agreed that Prices are determined by a margin over the cost of production and that in the long run supply is inelastic and hence a rise in prices (i.e. inflation) is driven purely by a rise in money supply.

In about 1871, the Neoclassical school came about, with Marshall, Walras, Pareto, Menger, Wicksell and Fisher among the key economic thinkers of this era, and differed from the Classical thinking in proposing that Prices are determined by Marginal Utility (and not cost of production), and cleared by demand-supply curves (and hence long term supply is not inelastic). It was thought that markets are self-correcting if one allows prices to correct, thereby emphasising the market mechanism to be sole determinant of price. Growth in money supply, *not just in itself but in relation to growth of the economy* was considered the key determinant of prices and their inflation

In the 1930s, the great depression set in, Prices were allowed to adjust, but unemployment kept rising, thereby calling time on the Neoclassicals. Keynes in 1936 wrote *The General Theory* and postulated that the Classical and Neoclassical theories only dealt with micro-economics and proposed a 'general' theory to account for the macro-economic factors in the economic analysis. Keynes said that Govt, and not just Free Markets, must play a role in managing a modern economy and that markets cannot be the sole determinant of price as the business cycle can create permanent unemployment / inflation which may not fix by itself, and would need government intervention. As per Keynes, the government needed to curb spending and raise taxation as a way to curb inflation, and hence, as per him, it was interest rates and not money supply that was the key determinant of inflation

(The reality and interpretations around who-said-what in the history of macroeconomics are hotly debated, contested and much nuanced, and our few paragraphs of history of what has been debated over thousands of pages of text-books and blogs is hence much abstracted).

Keynes' general theory held sway until the late 1960s, and propagated a mind-set that correlated money with interest rates. This was new and not in sync with several hundred years of economic theory, starting from times of at least Hume and Adam Smith. Under traditional thinking, interest rates were driven by the balance between investment demand and savings supply in the economy, intermediated by banks. But under Keynesian tradition, investments created their own savings through the money multiplier, and hence interest rates could be liberated from the savings-investments dynamic and be driven and represented by the 'liquidity preference' dynamic.

This worked well post-depression during the 40s, 50s and early 60s, but when the US dollar was taken off the gold standard in the late 60s, things changed dramatically on the inflation front.

> During 1879 – 1933, the US dollar was pegged to and exchangeable with gold at US$ 20.67 per oz. In 1933/34, the peg was changed to $35, and Americans were no longer allowed to exchange their dollars with gold, hereon. Only foreigners could. Things changed again in 1968 when foreign individuals were disallowed from exchanging their dollars with gold and in 1971, even foreign central banks could not exchange and the world entered a true fiat regime (though the Austrian school argues that we have never been in a true fiat regime, but that's for another time).
>
> Before 1971, in a commodity pegged money, while one observed inflation on an ongoing basis, the long term historical average was zero. And the forward looking inflation expectations were also zero. Hence, the work of Irving Fisher separating the real from the nominal had little practical utility. In this world, low nominal rates meant easy policy and vice versa.
>
> But this was no longer tenable after 1971, and now real and nominal variables no longer needed to move in lockstep. Furthermore, level of rates no longer indicated the nature of monetary policy stance, as high nominal rates during high inflation periods (eg the 70s) may appear to indicate a tight policy, when in fact the real rates would be negative, perhaps indicating a loose policy.

As the inflation expectations started rising in the 70s, leading to breakdown of the hitherto precious Philips curve, it also reignited the importance of the Fisher effect. But this took almost a decade to percolate into the fiscal and monetary decision-making, culminating in the appointment of Paul Volcker as the Fed Chair in the late 1970s.

The 1970s was also the first time that the central banks really faced non-wartime inflation, as historically, money was gold-backed and hence prices in the economy were driven by the gap between rate of economic growth and rate of growth of gold available in the economy (from mining or trade exports), and by some stroke of chance, both the mining rate and economic growth rate ranged in the 2-3% zone for decades. Hence, high inflation was absent, except during wars when money usually got taken off the gold standard, and printed to support the war expenses.

Inflation reared its head in early 70s, soon after the US dollar went off-peg, driven by a confluence of fiscal and monetary factors. For starters, spending levels were high. Government was said to be overspending w.r.t the Vietnam War. Households were overspending as regulation-Q continued to cap the savings bank interest rates (during 65 – 79). Then, commodity prices went on an uptick – partly driven by the oil embargoes of 1973 and 1979, and partly due to supply side issues relating to the USSR drought of 1972. Furthermore, when the wage and price controls imposed by Nixon in 1971 were lifted in 1974, it created another inflation shock. The fiscal-monetary setup was also less economically oriented and more politically oriented, comprising Nixon and Johnson as strong Presidents and Arthur Burns as an accommodative Fed chair. And finally, there was a technical issue wherein mortgage rates were a part of the inflation measure (until 1983) so rate hikes, to curb inflation, automatically leaked into the inflation measure itself, through rise in mortgage rates.

In early 70s, the Keynesians thought that the monetary policy was tight as nominal rates were high (whereas the monetarists thought it was loose as real rates were low, given high inflation levels). Note that Keynes had denied the difference between the real and the nominal. Hence, the Keynesians advocated tax rises to curb both demand and fiscal deficit (from Vietnam spending). Tax rises did not help much, so in 1971, Nixon introduced wage and price controls to curb demand. It worked temporarily, but soon turned into stagflation, leading Nixon to reverse the caps by 1974.

After the second oil shock when WTI crude prices started rising once again in May 1979, and with inflation already on an uptick from 9.3% in Jan ’79 to 11.3% in Jul ’79, Carter appointed Volcker (Aug ‘79) as the Fed chair. Volcker tightened initially, but eased soon thereafter, and it took the soaring inflation of the 80s (avg 13.5%, monthly), for him to slam hard, starting spring of ’81, and take nominal rates all the way to 20%.

Meanwhile, in the world of academia, when the Keynesian approach to bring down inflation failed in 1970s, the Monetarists started making a comeback under the leadership of Milton Friedman. Milton Friedman, drawing inspiration from Hume’s work of 200 yrs ago (that level of money supply only determines wage levels and nothing else), and from Marshall’s work of early 1800s, the doyen of the Chicago school, led the so-called freshwater school of economic theory (as against the saltwater schools of the east and west coast America), but more properly led a revival of the monetarist tradition, as he remarked:

“Inflation is always and everywhere a monetary phenomenon, in the sense that it is and can be produced only by a more rapid increase in the quantity of money than in output.”

In his various writings, including his exquisite co-authored book, *A Monetary History of the United States (Milton Friedman and Anna Schwartz, 1963)*, he used the equation of exchange viz MV = PY to show that changes in money supply (M), over time, reflect fully in changes in price (P) i.e. in inflation, which he said makes sense also from the point of view that changes in nominal variables (M) should be

reflected in nominal variables alone (P), and should not affect any real variables, especially the real GDP (Y). This was in sharp contrast to Keynes, who had held that changes in money supply are not inflationary, and that changes in M are reflected fully in changing the velocity of money (V) and cause no material change in PY.

Hence, Friedman rejected Keynes completely and brought back the original interpretation of the quantity theory of money (QTM), and with it, money supply as the tool to manage inflation came back in vogue starting from 1980s.

But money supply lost its reliability as monetary policy target in late 1980s when its correlation with economy (assumed since the gold standard days) weakened, and the velocity of money (inverse of demand for money) became unstable.

And by early 90s, monetary policy went back to targeting rates (Greenspan said that they wanted to target money stock and not rates, but are forced to target rates, given the instability in velocity).

A rate-targeting monetary policy using OMO and CRR as the primary tools continued until the GFC arrived in 2007. During the GFC, the QE playbook from the depression-era 1930s was revived and it soon resulted in excess reserves in the system, rendering OMO and CRR ineffective, thereby giving way to first IOER and then IORB (and also the associated removal of CRR which had become redundant in the environment of excess reserves). **This effectively delinked money supply (liquidity) from interest rates, a situation not much appreciated by the markets even today**.

To revisit what we noted on page 13:

> *But what determines prices in an economy, their rate of change (inflation) and whether that rate of change is steady (stable inflation) or unsteady (rising/falling inflation)? Notwithstanding what economists and commentators would have us believe, the short answer is: "It's unclear".*

There remain deep disagreements among academicians, policy-makers, and market practitioners on:

1. **What is inflation**

Definition — *Originally, inflation was defined to mean the change in money supply (and not, change in Prices)*. But under the monetarists, since change in money supply over time reflects fully in change in Prices, inflation took on the meaning of change in prices, and holds it to this day.

Infl of what? — Price of consumption, investment and financial *stuff* inflate differently, at any given point of time, whether historically or expectantly. And foreign *stuff* also inflates differently from domestic *stuff* (depending upon not only foreign price inflation but also the exchange rate inflation).

This is important as whereas on the one hand, in the long run, what good is wealth if it cannot be spent (ergo consumption price inflation is **all** that matters), on the other hand, certain magnitudes of wealth can perhaps never be spent, even in the long run, if preserved properly.

For example, someone with $200 mn, say, may perhaps consume about the same as what he/she earns annually, from their capital and their labour, and if so, for them the deflation of asset prices over the last several quarters (that affects the $200mn) is more meaningful than inflation of consumer prices (even if it is larger than inflation of their

incomes) as the value of their consumption basket will probably be a single digit % of the value of their wealth basket.

The point being – inflation affects labour and capital differently. Consumer price inflation is usually more of a political problem, than a wealth preservation problem.

Past or future

Even in the simplified context of consumer price inflation as our subject of interest, there remain many variables on what to consider. For example does one look at historical inflation or future expectations of inflation.

And if future, then not only 'what period of future' but 'future starting when'. To illustrate, there is a 5y5y metric that reflects 5 yr forward expectations five years from now i.e. current estimate in 2023 of what the expectations would be in 2028 of the inflation in 2033). But why not 7y7y, or 3y7y?

And within the above quagmire, one has to consider whose expectations – market / Fed / households? For market expectations reflect their best guess of what Fed's best guess is of household expectations (which are more heuristically formed than scientifically formed).

Transitory?

As if above were not complicated enough, one also has to deal with the core vs non-core issue. And above all, one has to deal with the poor understanding of probability theory among public at large, where an 80% probable event turns out to be false 20% of the time. There are no absolute rights and wrongs in a probabilistic, let alone uncertain world, and even if one turns out to be right, the quality of the decision is reflected in whether the outcome was a 20% probability one or a 90% one. In 280 characters, there is not enough whitespace or mind-space to consider all this.

2. What causes inflation

Cost push? Demand pull? Wage-price spiral? Excess money supply? Supply constraints? A mix of the above – and if so, governed by what kind of equations? It's not clear.

For example, while the Keynesian and the Monetarist theories have been the mainstay of economics before the model-worship kicked in led by Lucas (DGSE), there have been a number of other prominent theories of money and inflation, especially including the Austrian school.

Austrian School's flagbearer Carl Menger published *Principles of Economics* in 1871. Menger, in contrast with the Quantity Theory of money (being popularised by another American economist Irving Fisher during those times) proposed his Liquidity Theory of Money wherein he defined moneyness of a commodity as the degree of its liquidity.

And hence, by way of example, if money supply rises, then the new money introduced in the economy is usually issued against taking away an equal value of collateral from the system (which is what backs the money), and if the money and the collateral are of the same liquidity profile (as they usually would be), then net liquidity in the system (and hence by the Austrian definition, net money in the system) does not change and hence should not cause inflation.

In essence, Menger's view was that there is no true fiat money in any nation, as all money is issued against a collateral, that fairly prices that collateral, and is hence of the same liquidity profile as the collateral. Hence equating collateral with money, under the Austrian tradition, money supply cannot increase in an economy, in the classical sense, and the only thing that can change is the liquidity profile

of the means of payment, and this liquidity profile is how the Austrian school defined moneyness of things, and in essence, money itself.

The point is, economics remains deeply divided, almost on religious lines, on what causes inflation. I hope to discuss this matter in sufficient detail in a subsequent memo as it may require several pages and this one is already running over-extended.

3. What can monetary policy do about inflation?

The Fed says it cannot print oil. That is a fancy way of saying that it is not within the remit of monetary policy to deal with supply side issues of *stuff* that is not money, and such issues are hence relegated to be dealt with by the fiscal authority.

Monetary policy works on what I would call a '*Tools-Target-Outcomes'* basis:

Tools are the variables that the Fed controls and can change
Targets are the bridge between Tools and Outcomes
Outcomes are the goals set for the Fed by the congress

Targets are needed because the causality between Tools and Outcomes, if any, is considered to be indirect. The line of thinking is: "I will do xx (i.e. change values of the variables I control – my Tools), to seek yy (intermediate Targets) which I expect **should** lead to zz (Outcomes)".

We have seen in the last few pages how the definitions of xx and yy have changed over the last 110 odd years. As things stand today, in the post GFC, post COVID-19, era:

xx = IORB, Discount window rate, CRR, M0, etc
yy = Fed funds rate, US$ exchange rate, etc
zz = 2% inflation, maximum employment, implied / other mandates (eg funding the govt)

The 'etc' parts in xx and yy above require us to switch from the snorkelling gear to diving gear as we head to the so-called plumbing of the monetary system. For example, the 'etc' under 'xx' includes, just within the rates construct, EFFR (effective Fed funds rate), ONRRP (Overnight reverse repo rate), BCGR (Broad Collateral General Rate), OBFR (Overnight Bank Funding Rate), TGCR (Triparty General Collateral Rate), the now well-known SOFR (Secured Overnight Funding Rate), and then there is the Eurodollar market and of course the futures market, and more, and this is just the 'rates' construct. Some of these fall under xx and some under yy.

The overall idea hence is to find the relationship between xx and zz by creating models, using the intermediate variables in the form of yy. Historically, till some time back, despite it coming into question even during the 1970s, the Philips curve was used to link inflation with unemployment, perhaps because it was the best link available, albeit an imperfect one. And a link was needed because of the dual mandate of the Fed where both inflation and unemployment were the Outcomes under zz. The advantage of the link was that now Fed would only consider Inflation as its sole Outcome as unemployment becomes a 'derived Outcome' under the Philips curve. The Fed models hence largely linked Tools (xx) to Inflation (zz) using one intermediary variable (yy) – a target range for the Fed Funds rate – and soon, this intermediate variable became the 'target' of the monetary policy actions, as its eventual impact on the Outcomes (Inflation, Unemployment) is considered a foregone conclusion.

As noted on page 16, in the 1980s, Fed started targeting M0 (narrow money) and the models linked M0 to Inflation, using QTM. That stopped working once V became unstable in early 1990s, and then Fed started targeting short term (ST) interest rates, which continued till the 2007 GFC. In late 2007, Fed continued targeting ST interest rates but also started targeting long term (LT) interest rates (thru QE) and backstopping ST rates (through IOR, IOER).

But how does "Targeting" work? Assuming Fed is targeting ST interest rates, it merely means the following: At any point of time, the aggregate mkt conditions determine ST interest rates that will lead to 2% inflation (the stated monetary policy Outcome), and usually for a singular policy objective of 2% inflation there is usually only a singular ST interest rate path that gets you there. Hence Fed's job is to "guess" what that ST interest rate is (for which it relies upon its models and its judgment) and "set" its Target there, and hence, **a competent Fed has NO control on interest rates, and its job is only to guess what the rates should be to achieve its Outcomes, and to try and nudge the market towards that rate**.

How is the target achieved? Let's say ST market rates are 2% and Fed "raises target rates by 25bps" and now sets its target at 2.25%. It merely means that Fed doesn't think 2% rates will deliver its Outcomes (zz), and instead a 2.25% rate will do so. The Fed employs its tools to **nudge** ST market rates to its targeted range.

It must be noted that the Fed cannot set or dictate the value for the intermediate Target (yy), such as the Federal Funds Rate, contrary to general perception. Hence the Fed changes its "target" for the funds rate and not the rate itself. And hence the target is set as a range, as the same is market driven, and not Fed determined.

I close this already long and potentially boring inflation section (despite there being so much more to say) with the following observations:

1. The central bank mandate has always been put on hold during times of war, over the last few hundred years, in US and Europe. So the risk of Fed stopping being purist w.r.t its inflation and employment targets is real and present.

2. Even if Fed hangs on to its targets - notwithstanding the questions around whether CPI is a better target or PCE (loosely, the consumer spending portion of the GDP) is, or whether 2% is a better target or 4% is, or whether it's a point-of-time target or an average-over-a-period-of-time (and in that case, over what period), and around the morality and optics of changing definitional goalposts amidst times of trouble (which it has already done, subtly), notwithstanding all of this, the causal relationship between Fed's tools and Fed's inflation and employment targets is weak at best and suspect at worst.

   Incidentally, only a few days back, on Jan 04, 2023, the Minneapolis Fed president Neel Kashkari released a memo highlighting that perhaps the Fed missed on inflation as its models did not adequately capture some variables:

   > *"I think the root of our miss is that our models are not currently equipped to forecast the surge pricing inflation we are experiencing… Can we develop frameworks and tools to analyze and potentially forecast inflation outside of labor market and expectations channels? Specifically surge pricing inflation, but potentially others as well?"*

3. Inflation reaction function is slow and deliberate. If some concoction of human actions, deliberate or otherwise, does send inflation in the 2% vicinity in the United States, it is highly improbable it will get to 2% and stop there. It is likely to overshoot and go under, perhaps much under.

4. Finally, the pre-GFC Fed monetary policy had a reasonable linkage between liquidity and interest rates, loosely speaking (i.e. between M0 and Fed Funds target rate, properly speaking). But the linkage stands broken. The talk of Fed pivot is largely around rates. But what about liquidity? **Historically, one had a bit of Friedman in liquidity and a bit of Keynes in rates and this uncomfortable symphony went along. Now one needs to choose**. What if Fed pivots (on rates), but liquidity continues to tighten (though QT is not the same as tightening) and Inflation of today is

less Keynesian and more Monetarist? It is not clear if this is being sufficiently factored in, by the step function price changes across asset markets as the FOMC rate announcement approaches every other month. And we have not even begun speaking about liquidity – what it is, what determines it, and what it impacts, and the current nature of the liquidity transmission channels, especially between M0 (the reserve liquidity, non-spendable – except by Treasury) to M2 (the spendable liquidity).

Take me home, country roads

All of this brings us to a juncture where we are confronted with the critical question of whether the Three Horsemen of COVID-19, Ukraine and Inflation ride past us or stay on awaiting the fourth. Scott Reynolds Nelson in his extraordinary book *Oceans of Grain* lays out the Four Horsemen back-story as:

> *In the Bible, John of Patmos's vision in the book of Revelation (written around AD 95) gives us a memorable metaphor…The prophet John describes the apocalypse coming with four riders. The rider on the white horse "went forth conquering"; the man on the red horse took away "peace from the earth"; the one on the black horse took advantage, selling only "a measure of wheat" but demanding an exorbitant penny for it; and finally, the rider on the pale horse brought death*

In this vein, if we picture Covid-19 on the white horse that "went forth conquering", Ukraine on the red horse that took away "peace from the earth" and Inflation on the black horse that took advantage, selling only "a measure of wheat" but demanding an exorbitant penny for it, the analogy is terrifying.

The way to avoid the fourth horseman riding on the pale horse perhaps lies in how the damage inflicted by the three horsemen on Geopolitics and US Treasury Bond markets gets healed. And the medicine will perhaps be found much more in Statecraft than in Politico Economic vision, leadership or understanding.

Geopolitics

Geopolitical changes usually manifest in a reorganisation of trade flows and capital flows (financial, technical, human) around spheres of influence of the emergent power centres / empires. Sometimes this happens relatively peacefully and sometimes militarily. This depends entirely on whether the existing empire retains material supremacy in the new order, or not. Even going back thousands of years, one would be hard pressed to think of a historical example where a reigning empire has vacated or shared its mantle without a military or an intelligence (regime change) fight.

A unipolar world, as has been the case since 1991, would have one sphere of influence and result in a trend towards true globalisation. A bi polar world would result in two spheres, as was during the cold war during 1945-91 and would trend towards regionalisation. More than two power centres, resulting in a tri-polar / multi-polar world, are hard to imagine, and the equilibrium is seldom long-lasting as it stands on a delicate balance of competing interests. Even the two world wars of the 1900s had two sides each, and were not multi-polar wars.

The geopolitical reorganisation that we discussed much above in this memo (see the 'Ukraine' section) is for now represented almost entirely in trade flows (and that too limited largely to inputs – food, energy and commodities), marginally in technological capital and financial capital flows, and not yet in human capital flows. At this point it's too early to say as to who is 'winning', and things really need to escalate a lot along trade and capital flows lines, before one starts worrying about military risks. For now, things seem confined to the domain of intelligence operations.

As a trade war makes supply chains inefficient, it is fundamentally inflationary from a cost-push standpoint as prices rise and availabilities fall. Since consumer price inflation is already at a multi-decade high in most DM

nations, the input price inflation has become a governmental structural problem as against a private-sector cyclical problem. The governments, in response, have sought to absorb this inflation into its own books and financed it by issuing debt (via subsidies to households and corporates, largely in relation to energy costs, in EU and Japan, and via release of SPR by the US to keep oil prices in check but will require debt to refill the SPR).

Mistakes have been made along the way. The UK, for example, went for the economically astute, but optically sorry, solution to try and come out of its twin deficit problem by stimulating growth, in addition to providing subsidies. The debt burden this demanded was too much for the bond vigilantes, and in the aftermath of the Gilt crisis, the Bank of England (BoE) was reluctantly forced to proffer the "Central Bank Put".

For the US, the key geopolitical impact has been w.r.t the US dollar. The thinking goes that the key geopolitical conflict today is less around Ukraine, less around China, and more around the continued primacy of the US dollar as the global reserve currency. There seems to be a push from Asian nations, led by China and Russia, to promote trade in regional currencies, settled in Gold. This may partly explain the unprecedented gold buying by global central banks over the last 6-7 years, but especially by China and Russia in the last 2 quarters (also partly explained by their need to diversify their reserve assets away from the US dollar treasuries).

Under this construct, the idea behind the Fed's interest rate hikes, is to strengthen the US dollar, against oil. In other words, to weaken the price of oil, in US dollars. This achieves multiple objectives:

(a) lower energy prices mean lower revenues from sale of energy, thereby weakening Russia's finances, and hence ability to sustain the economy during the war,
(b) a stronger US dollar weakens China and India, through CAD and exchange rate, and perhaps also drives its large corporates into default on US dollar debt, and hopefully plunges the countries into recession, thereby weakening their demand for energy, and the hence weakened volumes of sale by Russia further impedes its revenues and finances

This is not new.

The strengthen-dollar playbook has been utilised by America several times in the past during such times of trouble. And successfully too. This however brings us to a quagmire of competing objectives.

The US Fed for example is mandated to fight consumer price inflation, arguably by raising rates. And it seems to be doing so. But the Fed also is required to help finance the functioning of the US government. And at this time, the last thing the US treasury would like, financially speaking, is higher rates (as that makes debt servicing even more difficult). This requires Fed to not be raising rates with the gusto that it currently is.

Furthermore, higher inflation is perhaps even preferable to the treasury, as it deflates away the real value of government debt. Again, this calls for the Fed to tone down its aggression.

But perhaps the treasury, as an arm of the government, also carries the government's geopolitical agenda of strengthening the US dollar, against energy, in its war against Russia, and in its war to save the trade supremacy of the US dollar. And to keep the US dollar strong, rates need to be high and higher. This is in sync with the Fed's continued enthusiasm.

Irrespective of whether Fed is acting independently or whether treasury is shooting from Fed's shoulder, when geopolitics becomes front and centre:

(a) independence gets lost (of regulators, judiciary and currency) as everyone rallies around the government and the nation, and
(b) governmental decision-making gets driven purely by geopolitical considerations, and no longer by economic, military, morality or other such considerations. A classic case-in point is that in the last few hundred years, every time a nation went to war, its currency came off the gold standard, money was printed to fund the war and the trinity of men-material-factories re-directed to produce for the war effort. That is how it has been, and that is how it continues to be. This brought all European nations to

the doorstep of financial ruin after the two world wars, lost Britain its empire, but it happened nevertheless.

The lesson here is that investment decision-making would now need to be driven by a deep and astute understanding of geopolitics (starting with a reading of Mackinder, Kissinger and Brzezinski, and going from there), and thankfully, one no longer needs to be baptised in the temple of the macro folks who even after a few hundred years cannot even agree on what money or inflation is, let alone anything else. The age of fundamental investing started losing ground around 2018 when macro started taking over and now the age of macro is slowly losing ground to geopolitical considerations.

It might be prudent to *de minimis* consider the possibility (if not probability), and factor in the risks therefrom, that the rate hikes are primarily driven by geopolitical considerations and are directed at reducing energy's price in US dollars; and the consequent inflation reduction is merely both a collateral advantage (for consumers) and collateral damage (for the heavily indebted govt and corporates).

In consideration of this possibility, and keeping in mind the ongoing separation of rates from liquidity, as noted above, the expected trajectory of future rates may need to be built not only along CPI / PCE lines but also along geopolitical lines, within the constraints set out right below.

US Treasury Bonds Market

While the US fights the geopolitical war of oil vs dollar, and goes about strengthening the dollar against oil (and is winning the war for now, as seen in the continually declining oil prices, in dollar terms until a week back – though of course US dollar levels will be volatile and while the US dollar has come off a bit from its high perch vis-à-vis other currencies, it remains strong w.r.t oil – a strength that matters more than the strength against other currencies), historically the cost of such a war has been a slowdown or a mild recession in the economy.

This time, the economic setup is much different. Specifically, the government debt levels are quite high, and that is increasingly bringing to question the continued functioning the US Treasury bond (UST) market. But why is the structure of the deepest fixed income market in the world, being questioned today?

Rising rates have created quite a few headaches for the US treasury:

1. Rising budget deficit, from falling taxes (slowdown), rising interest costs & rising entitlement payments
2. Rising US dollar, driving higher CAD and driving foreigners to sell USTs to protect their currencies
3. Fed QT, resulting in withdrawal of the largest single buyer of USTs from the market

This results in a starkly heightened supply profile for the USTs for the current year:

US Budget Deficit	$2.2 tn	(2x of US treasury 6mo projections, equals 6% of GDP)
US Trade Deficit	$1.0 tn	(4% of GDP)
US Fed QT	$1.1 tn	($95bn a month, Fed owns ~25% of USTs)
Interest on Govt Debt	$0.5 tn	(2% of $24 tn USTs, total debt of $31 tn equals 130% of GDP)
Total	$4.8 tn	

Additional likely supply:

Foreigners selling	$0.7 tn	(say 10% of $7.2 tn foreign held USTs)
Decline in tax receipts	$0.9 tn	(assuming a 20% decline, amidst slowdown / recession)
Total	$1.6 tn	

The problem is that while US$ 4.8 - 6.4 trillion of treasury bonds need to find buyers, the usual ones have either turned sellers (foreigners, Fed) or are unable to buy for regulatory (US banks) or economic reasons (hedge funds). That leaves only the domestic US buyers (households and institutions) in the playing field, but they are constrained by their liquidity needs and allocation (to government bonds) constraints.

So who will come to the rescue?

To start with, there is talk of relaxing the SLR limit which allows the big banks to come to the table, if they can be economically encouraged, with the regulatory shackles gone. The banks would of course like for the shackles to remain, but perhaps that horse has bolted already, and it's a matter of time.

The second large buyer could be the private pension system, who could be regulatory mandated to hold a certain percentage of the assets in USTs. Again, this has been done before. And they even has a name for it – euthanasia of the savers. But, if this path is pursued, it will require these institutions to sell stocks to make space to purchase USTs, and the resultant decline in stock prices would have a direct impact on PCE, which has been shown to be highly correlated with tax collections, and hence would strain the budget deficit further.

Maybe households can be incentivised to contribute a little from the $ 7.6 tn of liquidity they are holding as of Q3 2022. But liquidity held by households, is the liquidity preference as defined by Keynes, represented by the Cambridge coefficient (k) or inverse of velocity, and is not so easy to change by regulations or policy.

Maybe the corporates can be incentivised to contribute a little, but the large cash holders in the Tech sectors are bleeding market cap, and will find it tricky to joyfully participate in this nationalistic financial repression.

Finally, since the demand profile is so large, and so recurring, eventually, the Fed would have to step in, reverse its US$ 95 bn a month (target) QT, and switch back to purchasing bonds under a "not QE" program. This is the so called Fed pivot scenario.

Of course, mathematically at least, there could be ways to reduce the funding gap by reducing budget deficit, or trade deficit or interest rates, or somehow raising tax collections or finding a way to get foreigners (esp the petro-dollars) buying again. But each of these seems a non-starter.

So what to do?

There are two equally-bad options: either liquidate the debt or provide liquidity to maintain the debt

1. *Restrain Liquidity, Allow Liquidations, Inflation Collapses – liquidate the debt, save the currency*
   This options appears unpalatable at the headline level itself. System-wide debt liquidation takes the wealth of the nation a generation or two back. An economic depression would be a superstar outcome here. But the sacrifice of the economy brings in geopolitical cheer. Oil collapses, in dollar terms. Dollar rises against every asset. Strong dollar leads to global debt defaults and recessions. A systemic reset would be needed, and from its ashes might rise a continued unipolar world.

   This is the hike-till-you-die option and the hope is that you win geopolitically before you lose your economy. It is sort of a game of chicken where continued rate hikes would eventually lead to credit liquidations even in America, but the hope / idea is that it would bring down Russia and other Asian nations, before it brings down the US economy.

   It is hard to imagine a world where America allows credit liquidations, defaults on its sovereign liabilities – whether entitlement based pension and other payments or credit based UST servicing. Which brings us to the second option.

2. *Provide Liquidity, Prevent Liquidations, Live with higher inflation – save the debt, sacrifice the dollar*
   From a purely consumer price inflation standpoint, the US treasury and the Fed should like to see a ballpark 4% inflation for a few years, such that the current Govt debt / GDP level of 130% odd comes to

sub 100% range, which is, well, manageable. Ideally 80% odd, but sub-100 will do. And while the ratio comes down in nominal terms (due to higher nominal GDP growth under high inflation, mathematically), it also comes down in real terms due to reduction in real value of debt, under high inflation.

And all this would be possible to do, without changing the 2% target, under an appropriate narrative such as average inflation, transitory inflation, sticky inflation, entrenched inflation, 'we-are-trying' inflation, and the like. And perhaps jazz it up with the lessons from the 80s and distribute some digital WIN button NFTs (see page 1).

The first shot on this has recently been fired by redefining CPI, which will here-on utilise weights from actual expenditure over the last one year and not the last two years. This effectively sets the inflation target at 4 to 4.5%, at least for the next two years, and hence gives space for the Fed to cut rates, if they wish to.

And Fed needs to cut rates, for them to be aligned with liquidity. And the Fed needs to infuse liquidity to bid the UST market. As of now, there seems to be not much of a way out. Unless some ingenious solution comes about.

This will bring in an environment of a weak dollar, not-strong interest rates, negative real rates, Fed monetisation of UST debt and ultra-rapid balance sheet expansion (as reserve levels do not determine rates any more and are hence less relevant).

As the Fed monetisation starts getting priced in, capital would like to flee US dollar denominated assets and the US dollar itself. This could spiral into hyper-inflation and an extremely weak US dollar, requiring capital controls in America.

While this may be the only real option on the table, it does not sound good at all. It essentially liquidates the currency to save the credit.

Oil wins, its prices zoom in dollar terms. Eurasia resurges. NATO faces exits. The deep-state would resist.

This does not look workable. So what's the 'But'?

The 'But' is - what if there is some way to buy time and create space for the fiscal and monetary pressures to release a little?

Just a little.

Say the debt levels for the govt come down to at least 100% of GDP, ideally 80%, helped by some immaculately disguised inflation for 2-3 years.

Say the US dollar weakens just a little more, which brings back the foreign bid for USTs as it becomes rewarding once again on an fx hedged basis.

Say a positive yield curve is able to develop so that the hedge funds can start buying USTs again (arbitraging short term borrowings in money markets and long term yields from USTs)

Say a little nudge to banks (by tinkering with SLR) and Pensions (for them to raise allocations to USTs but just a token amount, for they can't raise it by much amidst an ageing population) to buy a little more of USTs

All this would put some fire under the risk asset prices, resulting in higher PCE (based on historically strong correlations between stock prices and PCE) and thereby strong tax collections, hence reducing the fiscal deficit.

And, say the Fed keeps liquidity easy, which allows more borrowings to pay higher level of interest costs.

It seems the first shot towards this has been fired in the form of a revised calculation for CPI to be applicable from Feb 2023, as also noted above. That is likely to calculate actual CPI data materially lower than what it would calculate to using the current methodology. This effectively, though not literally, moves up the inflation target materially above 2%. Could that do the trick? It is hard to say. Maybe.

It buys time. It creates the space. But.

But the risk is not only whether it will economically work (given high twin deficits, high govt debt levels, low bid for USTs, a strong US dollar, high nominal interest rates and high govt expense levels) but also whether it will be pushed back by any geopolitical developments coming out of Eurasia.

The risk is as to what Eurasia will do – Europe to secure its supplies and industry, Middle East to re-organise its trade along Asian lines in Asian currencies, China in response to the trade war on various fronts, especially semiconductors, and of course Russia.

This is exactly where **Statecraft will be called for**, to buy time and space for govt and fed to do their job. While Henry Kissinger is still holding the flag at 99 - writing books and giving interviews - the political system is becoming increasingly dysfunctional and is constantly at the edge of chaos. The upcoming elections will be crucial, from a statecraft standpoint.

An astute (wartime) Fed, as it has been thus far, and a semi-functional (at-least) govt, supported by some cold-war era statecraft, do have a fighting chance of getting past this liquidity vs liquidate dagger hung over their head by the three horsemen and can avoid facing the fourth horseman riding the pale horse, if they can concoct the right mix of astuteness, nationalism, statecraft and luck.

As investors, we must wait and watch. The night is young, and full of terrors.

A word on India

Amidst the US centred geopolitical, fiscal and monetary setup described in this memo, it is going to be very hard for EM nations, including India, to adequately protect themselves against the unfavourable winds blowing from the West, despite the EM nations, including India, having great balance sheets and great P&Ls, not just relative to DM nations, but on an absolute basis too (except perhaps China, to some degree).

But, from a bottom-up microeconomic basis, and from an internal macro-economic basis, EM in general and India in particular are at an ultra-stable perch – politically and economically. And stability is at a premium today. Hence I am comfortable and confident of value retention in assets held under the Indian rule of law. I emphasize that I speak of value, and not valuation.

Overall, I remain optimistic on India and its ability to provide shelter from the storm.

In Summary

I ended my Feb 2020 memo, with:

- *"With populism on the rise, it's prudent to focus more on wealth preservation than wealth expansion*
- *With de-globalisation picking pace, it's prudent to exit global supply chains enter national supply chains*
- *With global fiat monetary system at risk, it is prudent to hold investment assets and not financing assets*
- *With rule-based (passive) investing on the rise, withdrawal of liquidity will trigger the rise of Active*

It is hard to say as to what will… (crack)…first - …Geopolitics,…socialism, or…monetary system."

Since then, over the last three years, powerful cyclical forces have converged:

- Geopolitical cycle (500 yr) Shifting power balance between East and West
- Socio-Economic cycle (50 yr) Shifting power balance between Growth and Distribution
- Economic cycle (10 yr) Cyclical economic expansion and contraction

Wherein, the Geopolitical Cycle is seeing an accelerating conflict between West (US led) and East, led variously:

- With Russia epicentered in Ukraine, fought along financial, military, real-resources lines
- With China overt & wide-ranging along technology, trade, financial, geographic lines
- With India Frenemy relationship, e.g. Quad partnership vs Russia related disagreements
- With OPEC+ epicentered around oil production, settlement currency & ability to get along

And the Socio-Economic cycle is raising probabilities towards a shift in:

- Nature of Liberalism from production-led private sector to distribution-led govt sector
- Nature of Capitalism from shareholder (financial) primacy to stakeholder (labour) primacy
- Nature of Globalism from optimisation-led globalisation to certainty-led regionalisation

And the Economic Cycle stretched thin in US & G7 by the three horsemen of:

- Covid-19 Exacerbated the Twin Deficit + High Debt + Inflation problems to critical levels
- Ukraine Escalated geopolitics from China-trade-war to Shadow-military war (in Ukraine)
- Inflation Forced high rates amidst extreme indebtedness and recession outlook

Managing this cyclical confluence would require focus on two key theatres:

- Geopolitics by breaking Russia's finances (in ST) and China's trade advantages (in LT)
- US Govt Bond Market by breaking Liquidity (pivot) vs Liquidate spiral

This is exactly where Statecraft will be called for*…(but) While Henry Kissinger is still holding the flag at 99…the political system is becoming increasingly dysfunctional and is constantly at the edge of chaos…An astute (wartime) Fed…and a semi-functional (at-least) govt, supported by some cold-war era statecraft, do have a fighting chance of getting past this liquidity vs liquidate dagger hung over their head by the three horsemen and can avoid facing the fourth horseman riding the pale horse, if they can concoct the right mix of astuteness, nationalism, statecraft and luck…. As investors, we must wait and watch. The night is young, and full of terrors*

Overall, in current times:

- Geopolitical considerations (not micro/macro ones) are driving sovereign decision-making
- Money and rates subservient to geopolitics, can no longer be relied upon to value assets
- Counterparties risk losing multi-generational wealth, making them highly unreliable
- Investment mind-set must prioritise preservation over growth (of purchasing power)
- Purchasing power will be preserved in non-financial assets (away from money / counterparties)
- Temple of First Principles should drive all investment decision-making

Amit Garg
January 18, 2023

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