THE DAYS OF THE US TECH LEVIATHANS ARE DRAWING TO A CLOSE.

The advent of the information age - the fusion of the internet plus computing power plus advanced algorithms, takes off at the end of the 1980s. Its development within the USA and its strategic economic importance allows the USA to once more dominate the global value chain. As a result, US Tech corporations become monopolies harvesting super profits. But this 30-year reign could be ending.

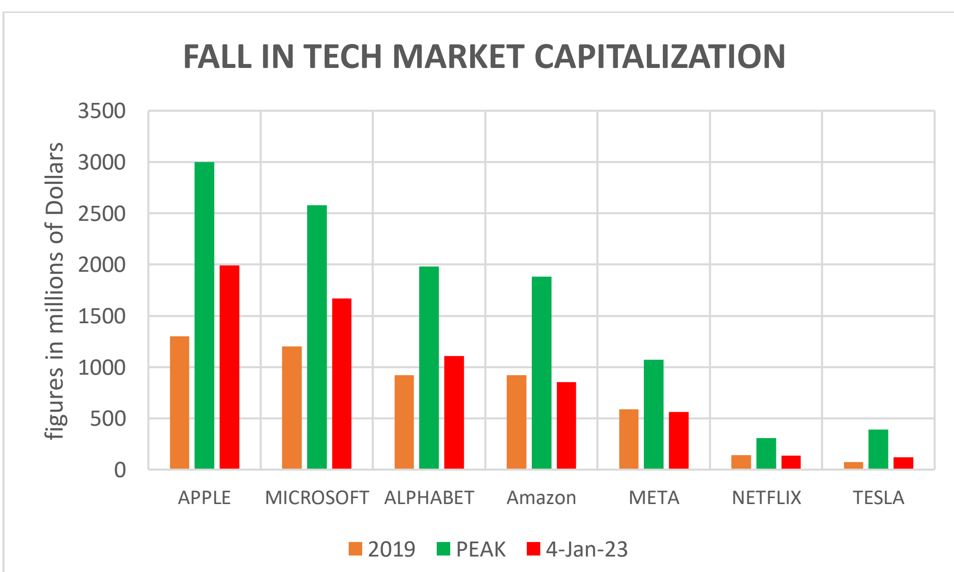
A recent article in the Financial Times based on the MSCI global indexes reveals that total 2022 losses in the share and bond markets were nearly $35 trillion with $25 trillion accruing to the share markets. "*This contrasts with 2008, when the slump was concentrated on equities while bond prices rose…*" In fact this is the first time in 150 years that both bonds and shares slumped together as usually a sharp contraction in share prices is associated with a fall in interest rates and therefore a rise in bond prices. And of course, only now are the losses in residential and non-residential property prices beginning to materialise.

Turning to the tech industry. The Covid virus may have been unkind to humans but it was very kind to Big Tech. Peak capitalisations as shown in Graph 1 occur between November 2020 and January 2021. Lockdowns resulted in working and learning from home, causing the demand for computer hardware including phones and software, to soar together with their prices.

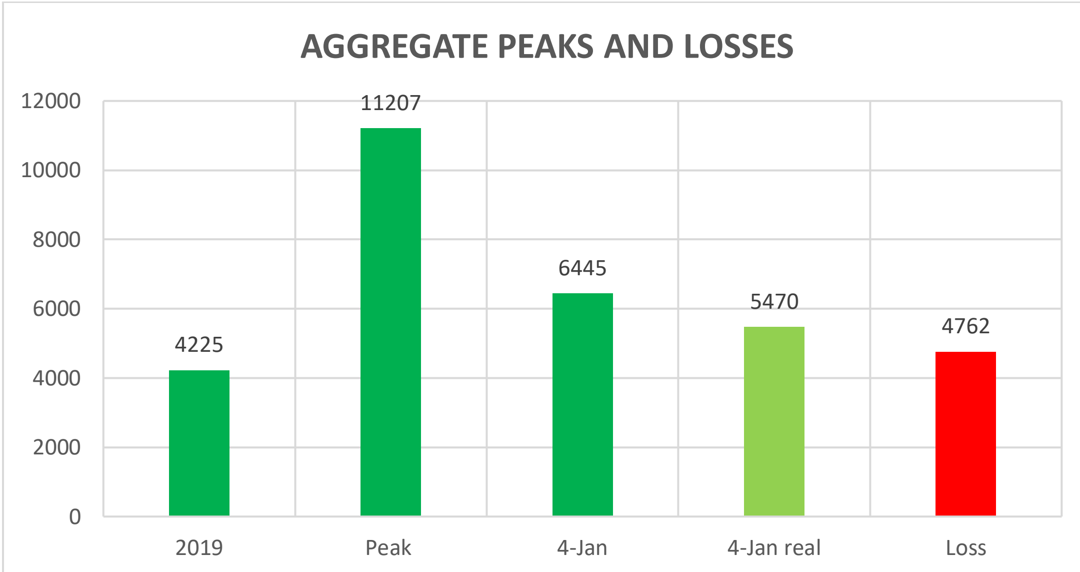
This led to a stampede by investors and speculators for shares in these providers. Apple which had become the first $1 trillion company in August 2018, became the first $2 trillion company 2 years later in August 2020 and then then the first $3 trillion company 16 months later. At their peak, these corporations were capitalised at $11.21 trillion dollars or over 16% of the total capitalisation of *the MSCI ACWI stock index that tracks nearly 3,000 stocks in 48 developed and emerging market countries.* But whereas the MSCI index has fallen by 19.5% from its peak, the aggregate fall for US high Tech has been 42.5% (see Graph 2). In numbers, whereas the MSCI index is down to $56.4 trillion, US High Tech is down to $6.4 trillion, meaning the share of these Corporates as a % of the index is down from 16% to 11.3%.

Put another way the loss of $4.762 trillion exceeds their market cap in 2019 amounting to $4.225 trillion.

Graph 1.

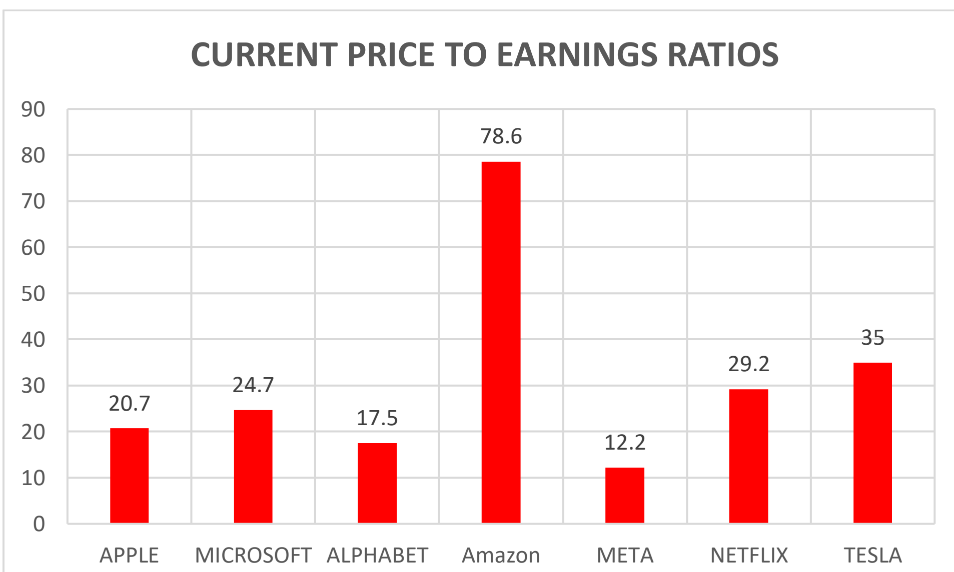


Graph 2.



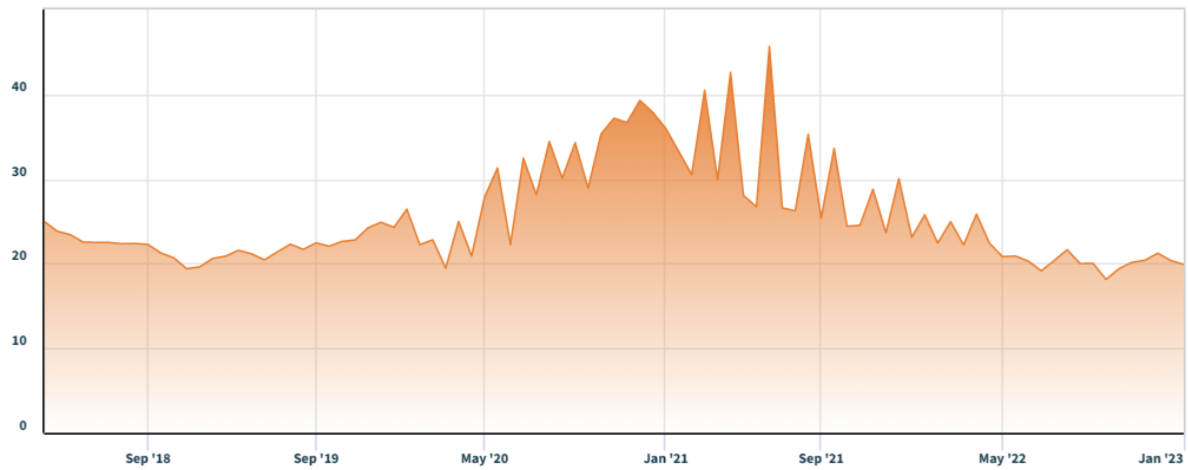
The light green graph is the inflation adjusted figure on the 4th January. (All current data is fixed on the 4th January) It represents a real 29% increase from 2019. This observation of a 29% p.a. rise in share prices makes a good starting point to address whether these share prices are now realistically priced or overvalued. To answer this question the price to earnings ratios as at 4th January are presented in the graph below. Amazon and Tesla are the highest while Meta is the lowest.

Graph 3.



For comparison purposes I have also included the contemporary trailing P/E ratio for the whole of the Nasdaq where most of these shares are housed. This is the most accurate graph I found prepared by Nasdaq itself. With shares in the Nasdaq having fallen by a third overall, the P/E ratio is trending back to levels last seen in 2019 at around 20. On this basis, four of the above P/E ratios sit close to the average, one below and three above.

Graph 4. (Nasdaq Price to Earnings)



But comparing the current P/E ratio to 2019 is deceptive. In 2019 the NASDAQ was being driven higher by these TECH stocks which were seen as growth stocks. We need only remember that Apple's valuation was growing by $500 Billion or half a Trillion Dollars per year. This is no longer the case. They are no longer growth stocks. Therefore more downside can be expected.

Let us begin with Apple. In the last quarter ended September 2022, Apple's revenue rose by 8.1% while its operating income rose by only 4.6% leading to fall in its margins. During the course of this December, Apple's analysts downrated its near term prospects. iPhone sales for the quarter ending December 2022 have been cut from 82 million to 72 million units. For 2023 this bleak perspective continues: *" Nikkei reported that Apple told several suppliers to make fewer components for a number of products, given weakening demand. Exane BNP Paribas also downgraded the stock, writing that Apple's growth outlook "seems insufficient to justify a valuation premium to platform peers."* Thus Apple may have a problem keeping its P/E ratio at 20 compared to its traditional ratio of 17. But worse may be on the horizon as Huawei makes a comeback in 2023. It appears the 'King Is Back'. *"Huawei's chairman Eric Xu sounded a positive note in a New Year's message. "In 2022, we successfully pulled ourselves out of crisis mode. US restrictions are now our new normal," he said in the letter. "We're back to business as usual."*

The same applies to the other tech leaders. We forget that today investment is not only about hardware it includes software as well. As corporations cut back on investment in the face of sharply falling orders and sales, they are not only cutting back on software licences, but demanding that vendors reduce prices as well. This is particularly true for cloud computing one of the key money spinners in recent times. Amazon, Microsoft and Alphabet are the biggest providers of cloud computing and now that this industry is maturing converting fulsome Cumulonimbus clouds into Cirrus like clouds, it is creating drought like conditions for their share prices. "Microsoft cloud *computing while Azure is entering a "steep growth deceleration" that could be worse in 2023 and 2024 than investors are expecting* UBS reports." "Once again, *Amazon suffered from slowing growth in its bread-and-butter AWS cloud business, with the outlook implying a steeper deceleration path on cloud optimizations*." This could be devastating for Amazon.

These trends are confirmed by the number of workers being fired by these corporations. The *Wall Street Journal* reported that tech employers cut more than 150,000 jobs in 2022. Amazon announced this week it intended to lay-off 18,000, while Salesforce intends to lay-off 8,000. Salesforce is the largest private employer in San Francisco. These firings are just the tip of the iceberg.

The claim behind the lay-offs is that companies over-hired over the last 18 months. This is a euphemism for misreading market conditions. What has caught employers wrong footed is deteriorating market conditions and the pace at which they are deteriorating. But the headwinds facing these corporations are not only cyclical but secular, their period of monopolising High Tech is coming to an end.

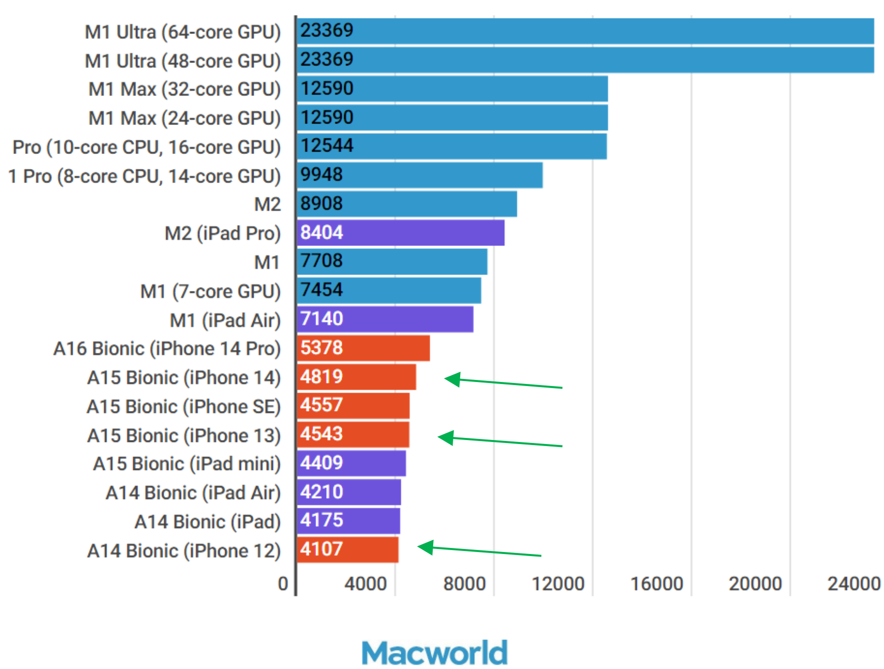
In many ways these Tech Companies will always be associated with globalisation, and if they are faltering, that is because globalisation is itself faltering. Their success primarily depended on dominating a unipolar world economy, but that economy is itself fracturing. If the USA's economic war on China fails, in particular its drive to repress China's growing technical capabilities, then in a bipolar world, US tech is likely to end up playing second fiddle.

Is Moore's Law Dead?

The reason the above question is posed is that it relates to China's catch up to the best the world has to offer in microchips. Moore's Law is two laws, not one as is usually understood. The first law holds that the density of transistors on a single chip will double every two years. The second law, which is just as important, is that the price per transistor will also reduce as a result. Therefore from the vantage of cost price, the reduction in the physical size of the transistor usually measured in nanometres is relevant only if it reduces the cost per transistor as well. It follows that if physical improvements are no longer cost effective, the use of new chips will be limited to those fewer applications able to bear the premium.

The question is; have we reached that point, and the answer looks to be, increasingly yes.

Graph 5.



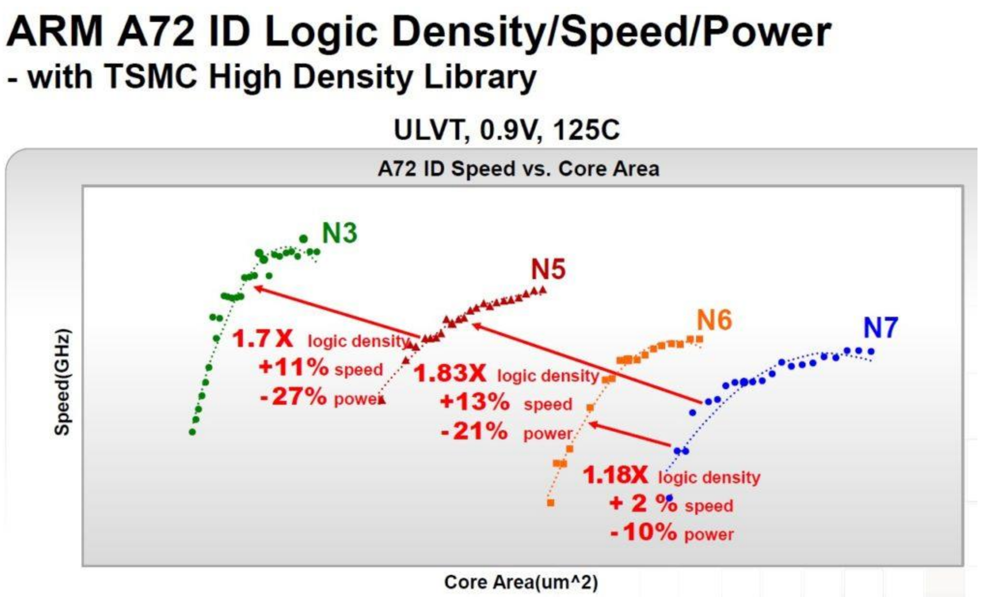
Source: MacWorld

In the graph above the clock speed of various Apple devices can be read. In the case of its dominant product, its phones, the speed rises by about 10% each year between the standard iPhone 12, 13 and 14 (as arrowed). And it is becoming questionable whether these faster speeds add to the user experience.

The launch of the iPhone 14 was not greeted with much more enthusiasm than the previous iteration and many reviewers questioned the benefit of spending an additional $100 on the iPhone 14.

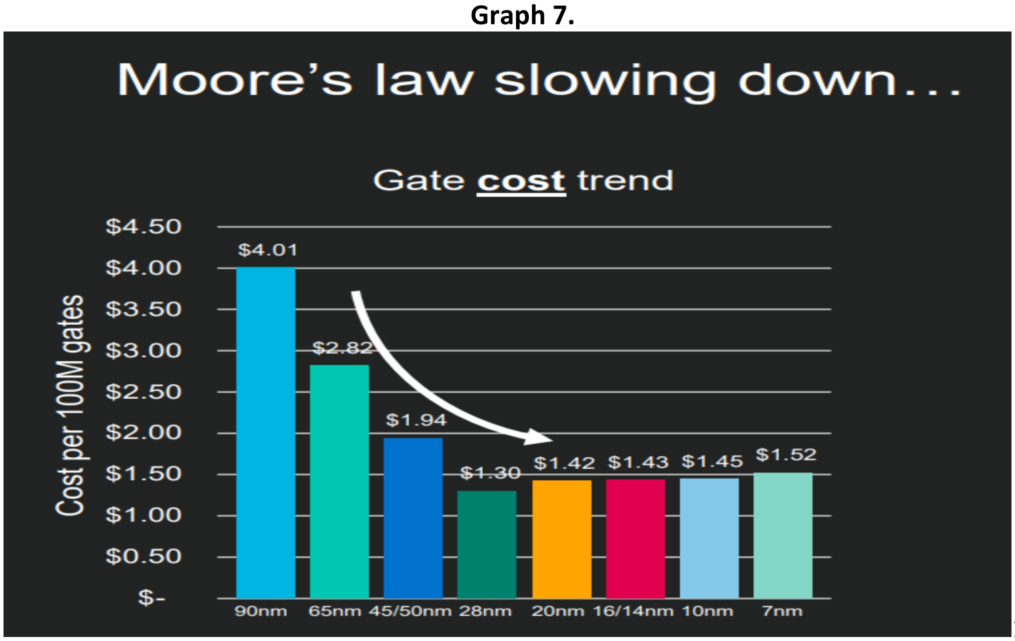
The fact is that performance and price points are colliding. The next graph, which is more technical, shows the improvement in performance between each generation of chip.

Graph 6.



We note that the move from nm7, the standard two years ago to nm5 the current standard, creates a chip which is 1.83 times denser in transistors, is 13% faster and uses 21% less electricity. If cost was no consideration this improvement in performance is admirable

Graph 7.



[10]

(Source: Fabricated Knowledge)

It is likely that the gate cost trend above has continued to rise with the introduction of 5nm. In every respect the cost of producing 5nm has soared, from the cost of the silicon wafer which has to be purer, to the cost of designing these chips to the cost of fabricating them. As a result only two global manufacturers remain with the financial muscle to produce 5nm and lower – TSMC and Samsung. But even mighty Samsung is feeling the strain, its most recent profits have fallen by 69% and this is only the beginning.

In addition the gap between the actual performance versus the projected performance of these chips are widening as etching gets finer thus whitling away their performance advantages. As the etching gets finer there is more leakage, there is more gate redundancies and localised heating issues. The chips may be more powerful but they are also more temperamental and the many recent Apple iPhone bugs may not only be software issues but hardware issues as well.

Of course there is another side to this equation, the demand side. Cost is becoming a much more important consideration now that market conditions are deteriorating. Because of this narrowing of the market, low nm chips only lend themselves to luxury products, military purposes and grand computing. Outside these areas, the market is unlikely to bear a premium for these chips. With shorter production runs it is highly likely these high end chips will become loss making, all the more so because of the capital invested in their production which is manifold greater than earlier chips. This demonstrates once again that it is capital limits, not technical limits, which arrests economic progress.

Thus TSMC and Samsung find themselves over-invested and over-extended as is always the case at the end of the business cycle, except that this is going to be a severe global recession not easily nor quickly resolved. As a result of the stalling of leading edge chipmaking, China will no longer have to chase a running target heading for 1nm. The importance of this cannot be sufficiently stressed. Should China achieve indigenous 7nm chip production in the next 2 years, defined as not requiring imported lithography machines from Holland or Japan, that will suffice, because 7nm is likely to be the chip which combines the most advantageous price-performance ratios making it the higher end electronic workhorse.

While we have focused on US imperialism's dependency on High Tech, it is also worth touching on its energy production. The US has once again become a forceful global energy player by exploiting fracking. The US has become the world's biggest exporter of LNG (Liquid Natural Gas). The USA has become the world's third largest exporter of the world's second largest export product – crude oil. (Note 1.) The Mexican Gulf has become the new Persian Gulf.

Some say that the US provoked the war in Ukraine to benefit its energy producers by taking out Russian exporters thereby cultivating European dependency on US supplies. To this we may add, a dependency on a much more expensive source of energy which not only shored up the Dollar through Euros having to be converted into Dollars to pay for this energy, but also undercutting EU manufacturing competitiveness due to energy cost differentials.

However, as with its Tech dominance, the benefit of energy exports is waning as the price of oil and gas has collapsed despite the hype by these companies of a permanent deficit in supply. The fall in the oil price as shown below has tracked the deterioration in global economic conditions. Adjusted for the depreciation of money, the 2019 price today would at $78 would approximate the price back then. In a significant way, the oil price, amongst other indicators, shows the world economy has returned back to 2019 levels on its way further down.

Graph 8. (Brent Oil Futures)

UKRAINE.

We would be in error, were we to conclude the war in the Ukraine provoked by US imperialism was merely about oil. We would also be in error, were we to conclude that this war was provoked by US imperialists who believed they were entitled to loot the USSR when it collapsed and who have never been reconciled to being thwarted in their efforts by an indigenous Russian capitalist class headed by Putin. No, the stakes are even bigger. This war provoked by US imperialism is part of its hegemonic struggle against the rise of China. It is the counter-part to the declaration of economic war on China by means of embargoes.

The US's *bait and trap* policy which began with the coup in 2014 was aimed at sucking Russia into a war which had been prepared by NATO over 7 years. During this time extensive fortifications were built including thousands of miles of trenches, the Ukrainian army was overhauled with again tens of thousands of troops being trained in NATO countries, and of course they were supplied with new advanced arms, particularly close encounter arms. The intention was to bog the Russian army down, break its economy and open up the northern flank of China to US encirclement.

This much has been confirmed once again by Angela Merkel, the previous German Chancellor. In December she gave an interview in *Zeit* confirming the open secret that NATO was not serious about the Minsk Agreements, that it was a ploy to disarm the Russians and buy time to rebuild the decrepit Ukrainian military into a formidable fighting force. In this she was merely echoing the words of "*Pyotr Poroshenko's, who became president of Ukraine after the 2014 US-backed coup in Kiev, told a domestic audience in August 2015 that Minsk was a ruse to buy time for a military build-up. He admitted as much to the West in July 2022, in an interview with German media."*

But this strategy has backfired spectacularly and it has been the West not Russia who has been weakened. US imperialist interests have been set back years. Despite emptying their armouries and arsenals and handing these weapons over to Ukraine, the Ukrainian army is not so much on the back foot but stumbling backwards. The key town of Soledar has just fallen to the Donbass fighters and their Russian allies paving the way for the encirclement of Bakhmut. The imminent fall of Bakhmut could lead to the fall of Zelensky himself because he has pinned his reputation and that of the Ukrainian army on holding it. By spring, the borders of the Donbass region should be secured by the local army and their allies bringing the immediate military objectives to an end. But not quite. It is likely that NATO will provide longer range weapons forcing the Russians to secure a deeper de-militarised zone thereby extending the war, but then it won't matter so much because the Ukrainian army will be a spent force. But it will turn the Ukraine into no man's land.

Western observers have failed to understand the tactics deployed by the Russian army made possible by the pig headedness of Zelensky's regime and NATO – which has everything to do with their obsession of holding onto every inch of Donbass territory regardless of cost. This has allowed the Russian to draw more and more Ukrainian troops and equipment into their killing zones, there to be smashed by superior artillery, mortars and armoured vehicles, all of which were prepared industrially in advance for this reason by the Russians. If the Russian advance is slow this is not so much due to the trenches, but to maximise the Ukrainian casualties while minimizing allied and Russian ones.

Based on numerous reports this seems to have been successful. Current total Ukrainian casualties are likely to be in the region of one million with two hundred thousand killed as against 40,000 for Russia and its allies. Three facts seem to support this. The Ukrainian army is recruiting younger and younger troops and now women for the first time. It is appealing for more foreign fighters. And it is talking up Russian casualties to cover up its own. On December 22nd Ukraine said Russian soldiers killed exceeded 100,000 for the first time and since then they have been dying at a rate of 1,000 per day, allegedly.

The fact is, that when Ukraine has no military successes to speak of, the intensification of the propaganda barrage gives the game away. *Russia is running out of weapons, Russian soldiers are rebelling and deserting, Russian officers are demoralised, single Ukrainian soldiers are besting whole companies of Russian soldiers, Putin is dying* and so on and so forth. This is mere deflection from the facts on the ground.

One wonders how the Western media will react when the Ukrainian retreat starts in earnest and cannot be denied. Will we have the same handwringing by the media we saw when Kabul fell to the Taliban and the West scrambled to get on planes Hanoi style? Oh! will cry the media, why were we misinformed again, why did the army and security services not know the situation in the Ukraine was so dire, why were we so unprepared? The answer is clear, the West is once more on the wrong side of history and when that is the case, only lies will do.

Finally, Xi is due to visit Moscow in Spring. *"We are expecting you, dear Mr. Chairman, dear friend, we are expecting you next spring on a state visit to Moscow," Putin told Xi in an effusive eight-minute introductory statement broadcast on state television*." While Xi is coy about his support for the war in the Ukraine, outside Ukraine there is military co-operation between these two powers, with Russia and China conducting joint naval patrols in the Sea of Japan for the first time late last year. It is likely that as Russian successes accumulate Xi will become more effusive and it is probable that the timing of Xi's visit is intended to coincide with the conclusion of the Russian policing operation in the Donbass. Whether Xi will be treated to a victory parade in Red Square is an open question.

A defeat for US, British and Western Imperialism in the Ukraine is not just another defeat in a long line of defeats. This will be a strategic defeat altering the global balance of power no less. And of course it is a tragedy for the Ukrainian people who have been used as expendable chess pieces, to coin a royal phrase, by the USA. The Ukraine, once a pre-eminent bread basket has been reduced to being a basket case.

Conclusion.

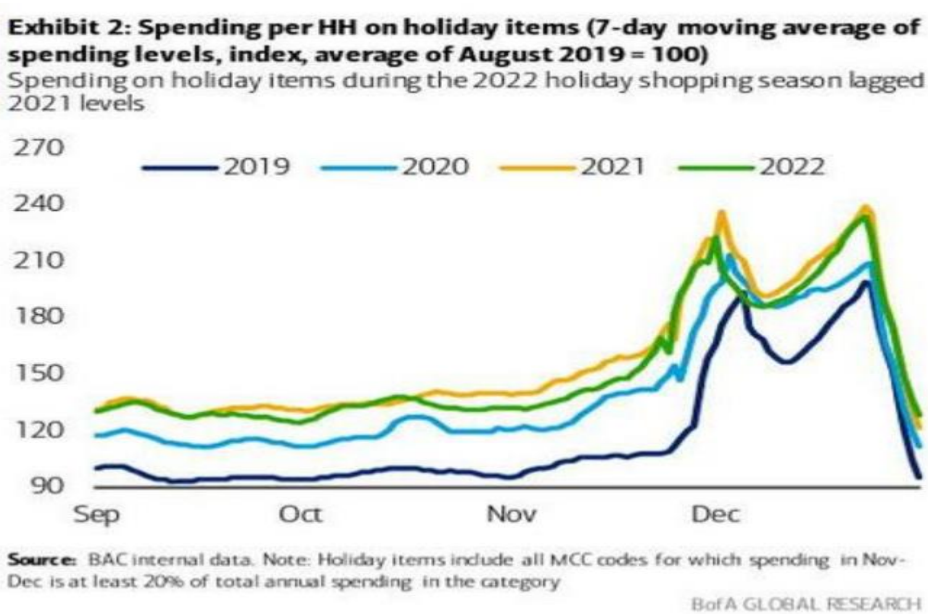
It was always going to be a clash between two priorities. The USA recognising it was running out of time, and China, playing for time. But the rising tide of embargoes and the turn of events in the Ukraine is coalescing time. It is making a war over hegemony more likely, not less likely, and more imminent despite the Pentagon new found respect for Russian military capabilities.

And the final factor driving war is the plummeting world economy. Oh yes, official figures shows the US economy will avoid recession. But these figures are Ukrainian. All other data points the other way. Pending home sales have fallen further and faster than at any time since 1980, more so than in 2008.

Graph 9 (Zerohedge)

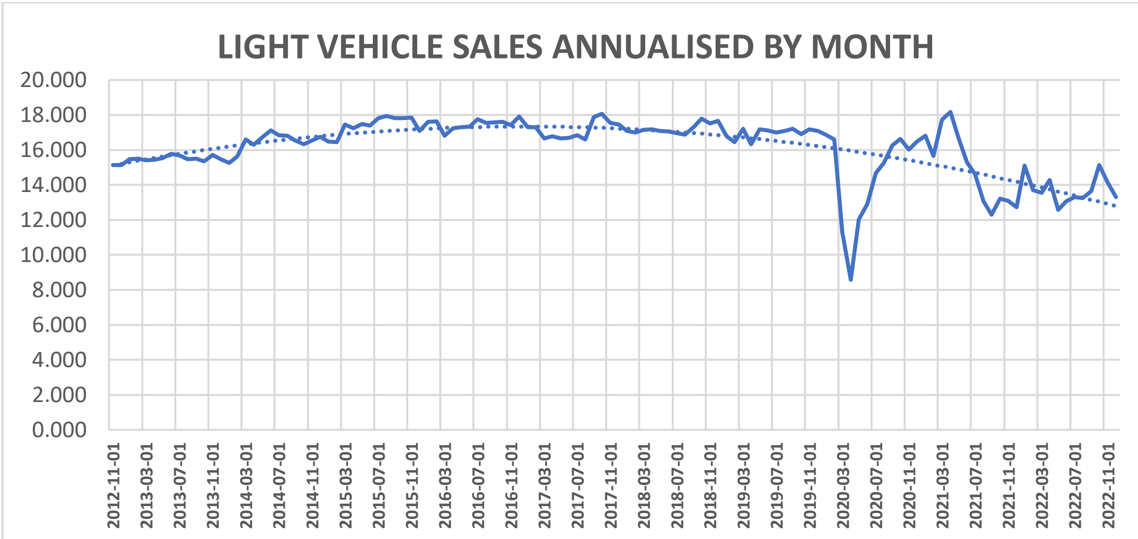
And consumer spending over the last 8 weeks has finally gone back to levels last seen in 2019.

Graph 10 (Zerohedge)



Or light vehicle sales which are down nearly 25% though the average sticker price has offset some of this loss in volume.

Graph 11.



Despite an increase in coal and sand shipments (shale oil) railway freight was down nearly 3% yoy, the Baltic Dry Index plummeted last week, Trans-Pacific container movements are down 40% yoy with shipping freight rates collapsing, while inland road freight tenders are down 26% year on year. In other words everything in the US is reversing back to 2019 levels before falling further. This is true as well for profits. FactSet's most recent report further reduces the profit expectations for S&P 500 corporations for the final quarter of 2022. "*During the past week, the estimated earnings decline for the S&P 500 for Q4 2022 increased to -4.1% from -3.3%. If energy were excluded, the expected earnings decline for the index would increase to -8.5% from -4.1%.*" Revenue growth is put at 3.8%, well below global inflation. Other reports put the estimated fall in profits higher at a fall of 5% year on year in EPS.

And most consequential of all, the chip industry is in free fall. With demand collapsing and capacity having been increased by 25%, it is bound to become loss making undoing all the government subsidies being given to restructure and reshore Fab production. In the end, a loss making industry, with huge unsold inventories, and with technical developments stalled, is to the advantage of China and Russia.

The US is a wounded beast therefore at its most dangerous. We should not underestimate the lengths it will go to preserve its hegemony, its profits and its currency. Only the international working class is forceful enough to stop what is coming. But for this to happen it needs an anti-war movement uncontaminated by and liberated from imperialist ideology. Unfortunately, what we have seen over Ukraine in the form of national anti-war campaigns, is confusion and immaturity. What is needed is new leadership, independent politics and adequate slogans. Nothing less will suffice.

Note 1. It is worth looking at the top global exports by product. Total electronic exports (chips plus finished goods) was equal to $2.21 trillion in 2021. Total energy exports other than coal amounted to $1.90 trillion. Cars plus trucks plus components amounted to $1.251 trillion. Together these three use values dominate global trade amounting to over 30% of global exports.

Brian Green, 7th January 2023.