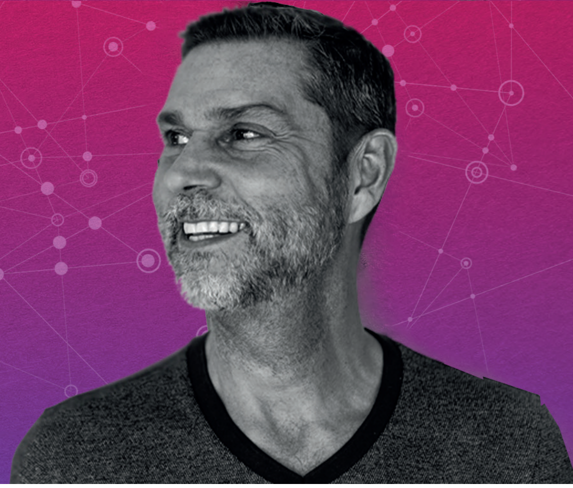
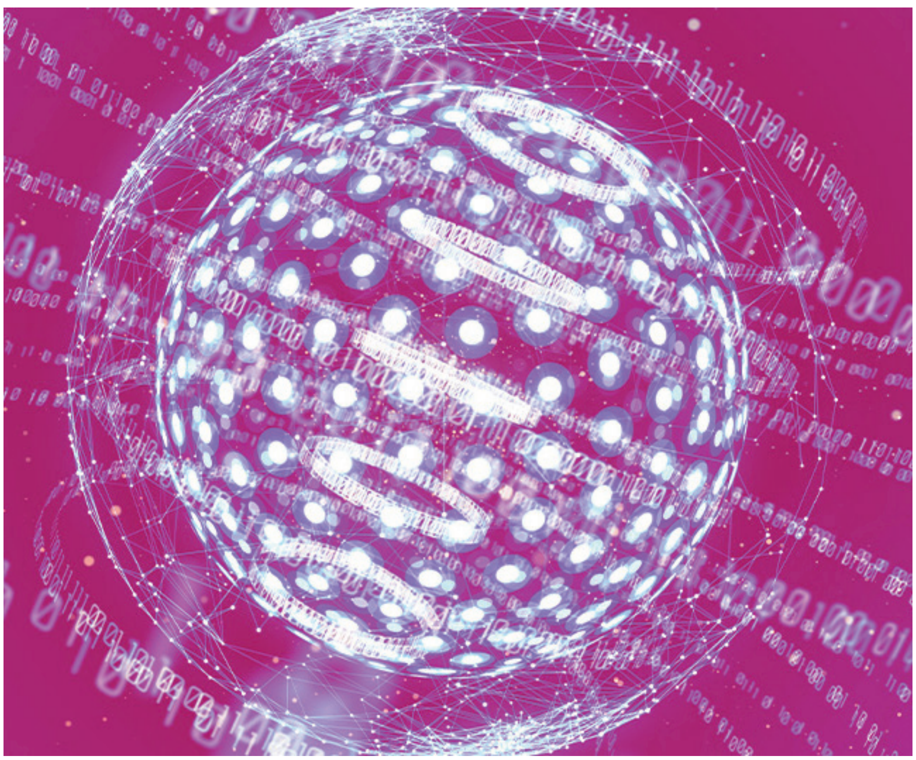


THE EVERYTHING CODE PART 2: THE SET-UP

In Part 1 of our journey through The Everything Code, we started at the end — with The Renaissance. If you missed that, you can catch up here.

Today, we get into The Set-Up.

Buckle up, it's a long and wild ride.



THE EVERYTHING CODE PART 2: THE SET-UP

Introduction

We begin at the inception of GMI in 2005 with my core thesis, and then discuss the eight-year period from 2012 to 2020 when the rationale for the underlying framework seemed obscure.

I wouldn’t say I experienced a light bulb moment in 2020 – it was more an understanding ground out from endless hours of work – but I did arrive at a framework for how we got into this mess (going all the way back to the Treaty of Versailles!).

We’ll then dive into how I got from *there* to *The Everything Code,* digging into the global central bank narrative trap, the formula for GDP growth, why everything changed in 2008, the clockwork economy, the magic money tree, and a sh*t-ton more.

There’s a lot in here. And there’s an awful lot to take in. So, enjoy over a coffee (or a drink) and, as ever, I’d love your feedback, pushback, additional thoughts… don’t hold back.

Next up, will be an AMA session on what we’ve covered so far and then I’ll share *The Everything Code* itself. Details coming your way soon.

Raoul Pal

Raoul Pal

The Set-Up

When I began GMI in January 2005, I led with my core thesis that the entire economic, financial, and political world was being driven by three secular trends: debt, deflation, and demographics.

Back in 2005, I laid out my case that demographics would be the key driver of the global economy and would lower GDP growth, and that in turn was driving up debt growth, which would all lead to deflation (which increases the real cost of the debt). I also noted that debt plus deflation equals a ticket to bankruptcy.

Then 2008 happened, followed a few years later by the EU banking and sovereign debt crisis, and all the chickens came home to roost in a massive debt deflation episode. This four-year period exposed the reality of the situation that there was simply too much debt and not enough GDP growth.

I was lucky enough to see it all coming (and find solutions like bitcoin) but I didn't foresee what was to come next – the game changer – Quantitative Easing.

To be honest, I thought I understood QE in 2008 with its aim to free up bank balance sheets. I was a little more surprised in 2012 when Europe went in hard and everything recovered, although that – in the end – made sense too.

However, after 2012 came a period that I didn't fully understand, and it took me until 2020 to really begin to figure it out.

Back in 2020, in an article titled *The Reason for Everything*, I laid out my deep thoughts of how we had got into the mess in the first place. The essay discussed how the Treaty of Versailles had led to WW2, which in turn led to the largest population boom in history, leading to an excessive number of people joining the workforce simultaneously.

This in turn created the great inflation (driven by the demographic demand shock of the 1970s), which led to ongoing competition for wages amongst the new working age demographic cohort, keeping real wage growth flat for the next fifty years.

In addition to the millennials competing for the same jobs as their parents, the subsequent rise of China and the WTO, and the relentless rise of technology replacing jobs, exacerbated the problem. Wages never rose in real terms.

The outcome was a dramatic increase in debt to cover the savings shortfall in an attempt to help people chase the higher and higher asset prices – in an endless spiral.

Additionally, I noted that the Labor Force Participation Rate led the Fed Balance Sheet.

But I still had yet to fully understand what QE really was...

I saw the rise in asset prices that occurred around a burst of QE (or even when the Fed balance sheet was stable) and when the Fed shrunk the balance sheet, assets fell. I assumed it was just about liquidity.

The narrative trap — Liquidity vs Debasement

I had fallen for the global central bank narrative trap.

You see, they told us that QE was a "precise" tool used to inject targeted liquidity into the financial markets to help generate growth and stability. But it wasn't that at all...

In the renowned article, *The Exponential Age,* I began to recognise that QE was in fact more than a liquidity tool (it is that too), it was the *purposeful* monetisation of debts and was a true *debasement* of the global reserve currency, not via the monetary mechanism of the injection of liquidity per se, but via devaluing the denominator, which allows asset prices to optically rise.

This was a big breakthrough. Once you comprehend that the denominator was being debased, the world starts to make a lot more sense. Asset prices would rise optically as the denominator (fiat) lost purchasing power versus assets.

The only two assets that avoid the trap...

I also discovered that there were only two major assets on earth that actually rise in value beyond the balance sheet – technology stocks and crypto – which were two mega-secular trends. I laid out the case for basing my entire investing around this Exponential Age mega trend, which was due to accelerate.

I began really focusing on investing in crypto from 2020 on; it had by far the highest expected return of any asset class in history (I had already proven this to be true in my first thesis in 2013 when I began investing in BTC) and I waited until 2022 to begin buying technology after it fell in price (I was early, as ever).

And the debasement will continue...

In 2022, I put the next piece in the puzzle in *Broken Markets and the Cowbell*, laying out the case as to why QE would continue and was inevitable.

That idea was then further fleshed out in *The Truth and The Trap,* which *profoundly* proved that QE was just the delayed monetisation of all the government's interest payments because the economy was over 200% in GDP in debt and was only growing at 1.75%.

And in last month's publication I finally proved (after trying to find the right way to demonstrate it for a couple of years) that the rise in P/E ratio was also part of the QE equation.

We can look into the future...

I have now put everything together and have come to the final shocking realisation that I can now project out both the global central bank balance sheets and thus the price of assets, far out into the future.

In short, it is *The Everything Code*.

Once you see it all in one place, in one consistent and cohesive analysis, you can't unsee it. It explains everything. All other "stories" you see written by others are just that, "stories", or are just a small part of the bigger picture.

This is the whole enchilada and no one else in the world has figured this out as far as I am aware.

Allow me to lay it before you...

The Magic Formula

As you may know, I have been using The Magic Formula of how to create GDP growth as the best way to understand how the world works, and why it is currently so fucked.

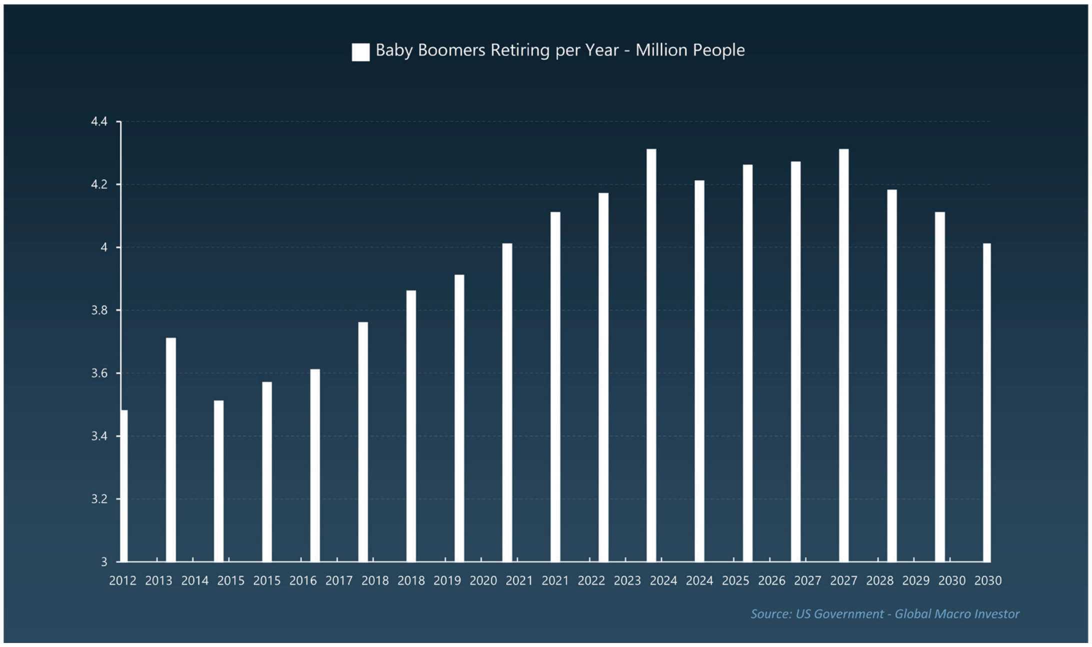
As a reminder,

GDP Growth = Population Growth + Productivity Growth + Debt Growth

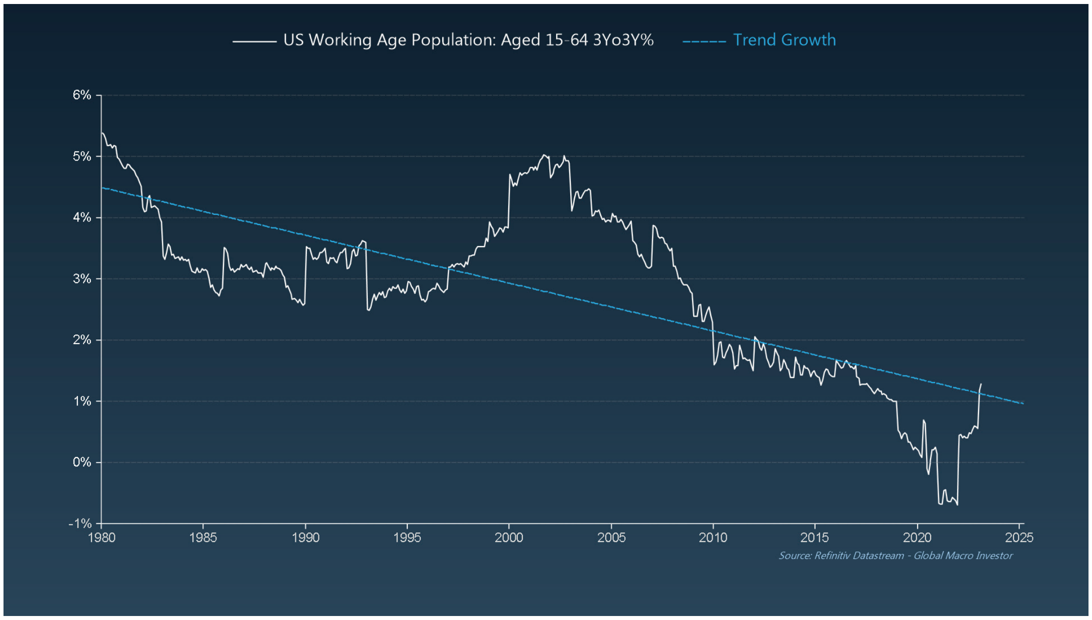
Let's deal with them one by one...

1. Demographics

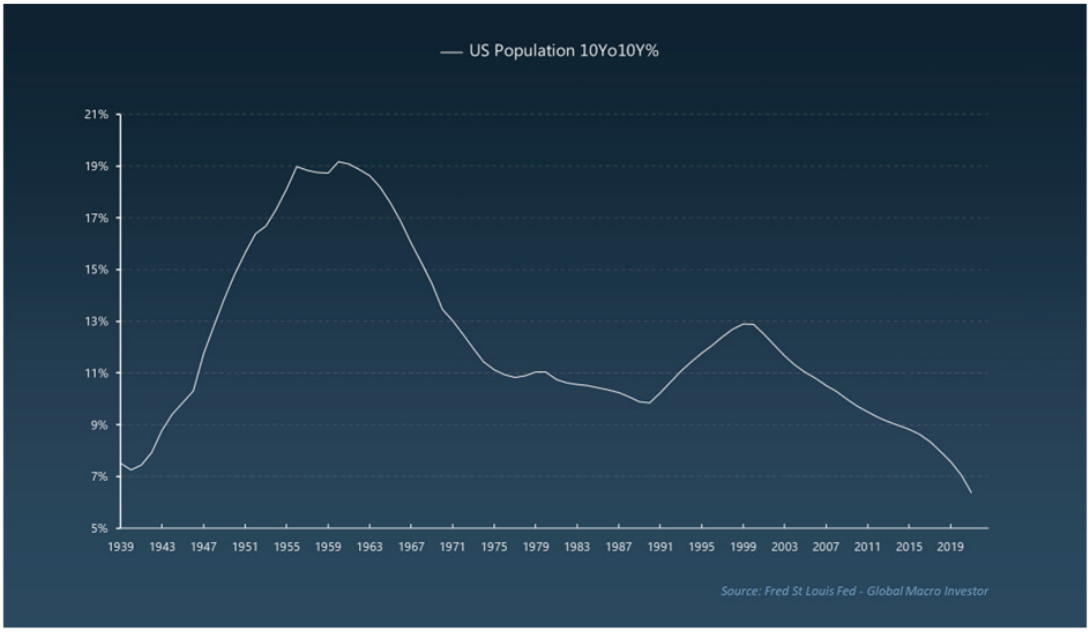
On average, 4.3m people will be retiring in the US each year for the rest of the decade (and this is worse when we look at the global trend) ...



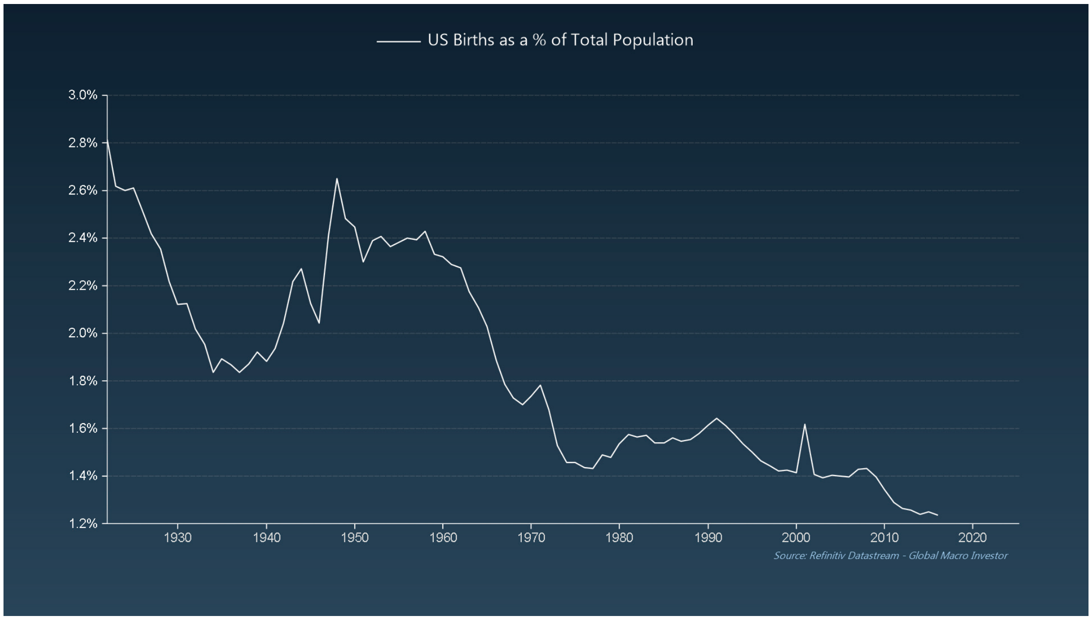
Working Age Population growth is in free fall... and this will continue...



... and population growth, which is the key driver of GDP, is falling...



... and will continue to keep falling and falling (every other major developed economy in the world is now seeing negative growth already) ...

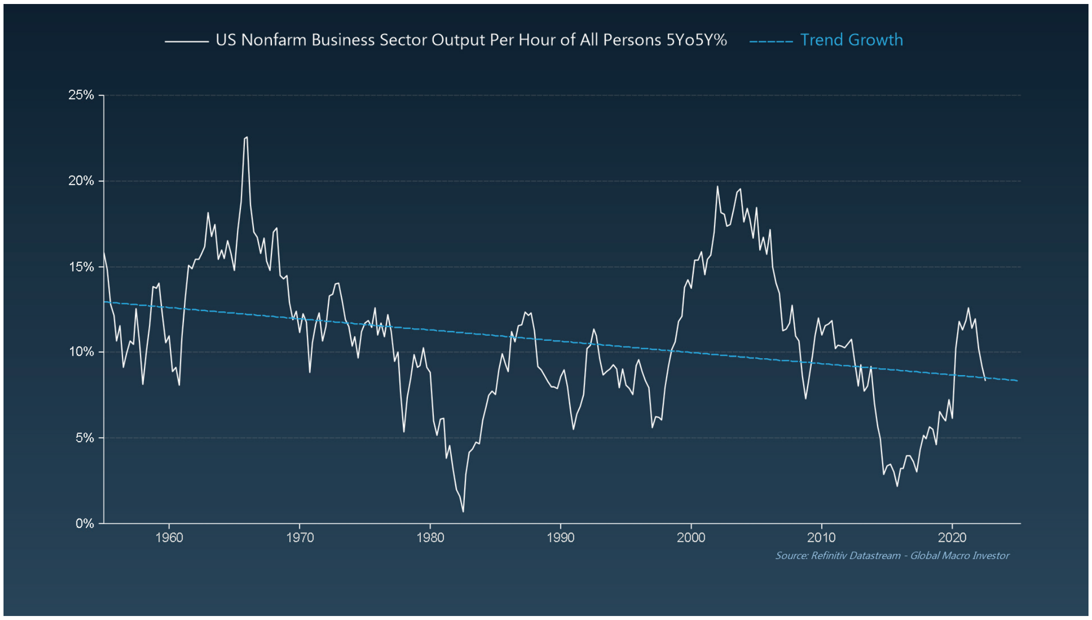


The demographic driver of GDP is dead. *Forever.*

2. Productivity

The aging population has also forced down productivity as retirees are non-productive members of society from an economic perspective. Younger populations tend to show higher productivity.

The trend is clear...



We cannot change the demographics, but we can change the trend of productivity via technology.

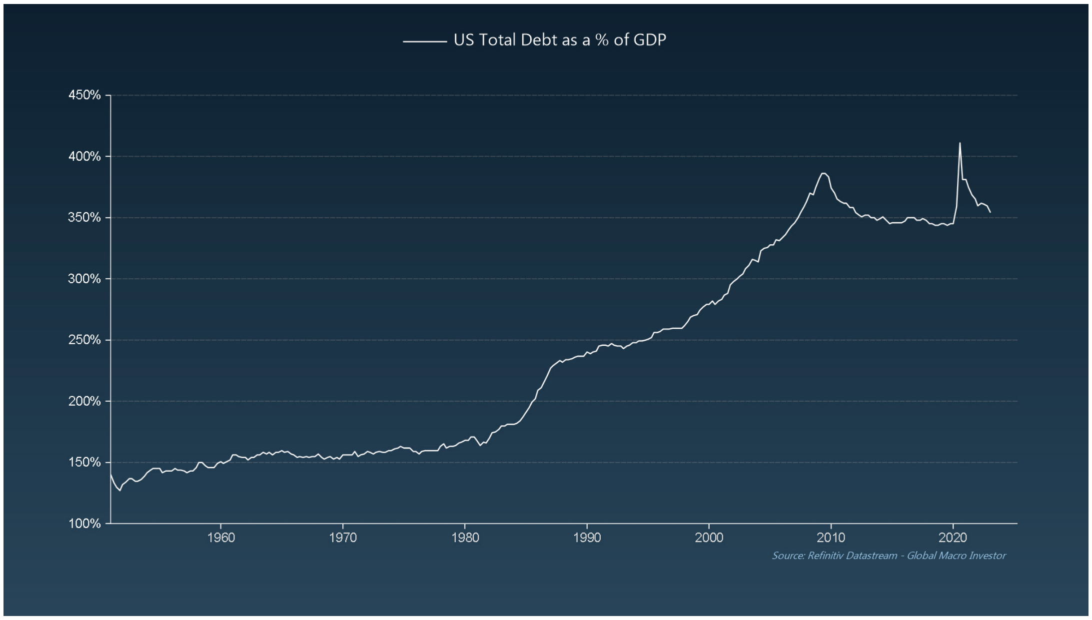
This is the essence of *The Exponential Age,* with the rise of technology and the collapse in the cost of energy. David Mattin has written an absolutely epic article on the subject in the April 2023 *GMI Monthly,* which is the first of many articles from him discussing the biggest change to humanity in the shortest period of time in all history.

I cannot overly stress how important *The Exponential Age* is for investors as it will provide solutions for the economic mess we find ourselves in right now. This will not be instantaneous but after 2030 the effects will begin to finally kick in and reverse the decline in GDP, as well as GDP per capita.

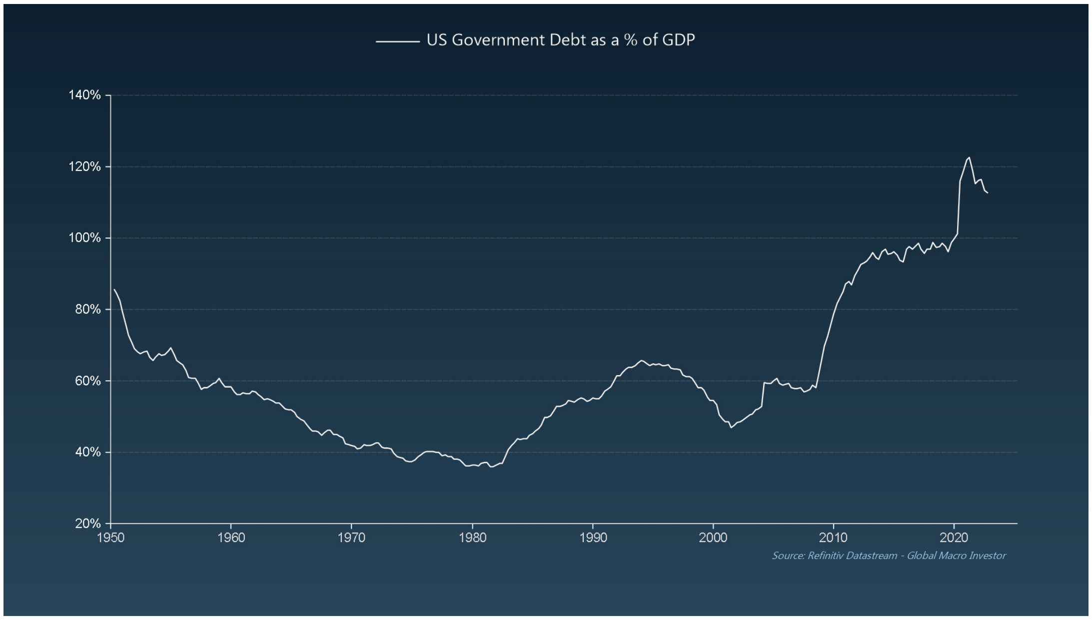
3. Debt

The aging population plus lack of productivity has led to an increase in debt at all levels to compensate for the lack of growth.

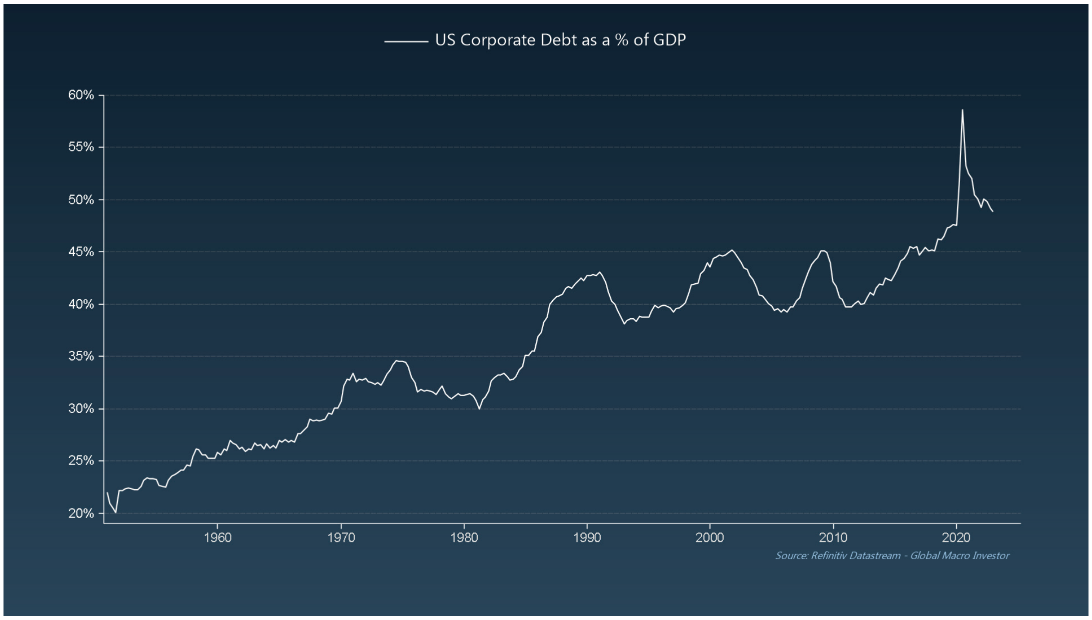
Total Debt as a % of GDP in the US is enormous...



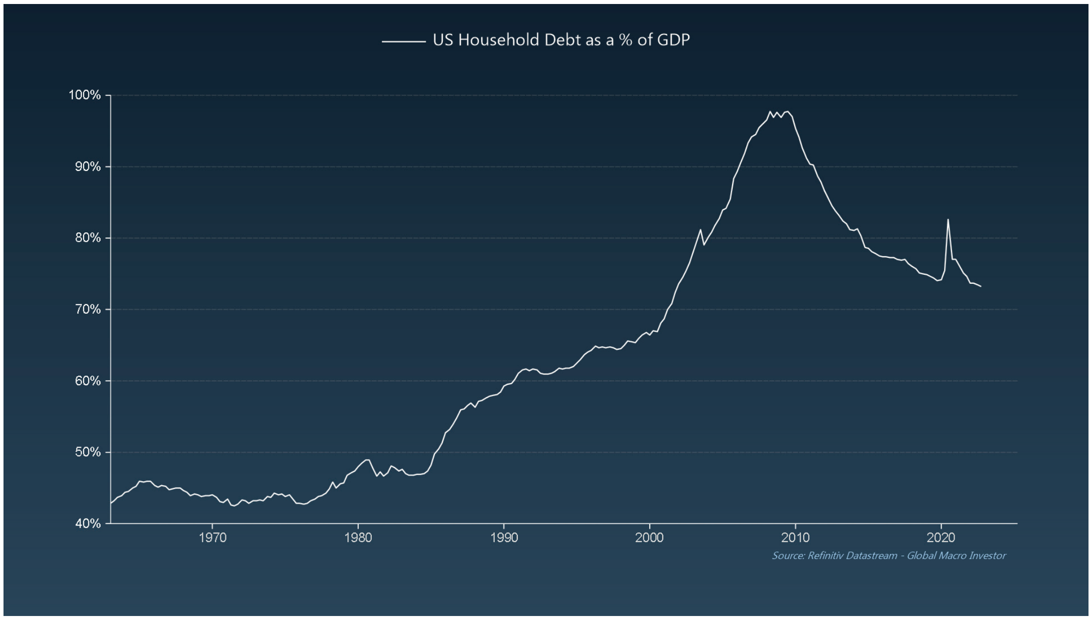
Government Debt to GDP is over 100%...



Corporate Debt is around 50% of GDP...



... and Household Debt is around 75% (and is still falling) ...



That leaves financial debt at around 125% of GDP (chart not shown).

4. GDP

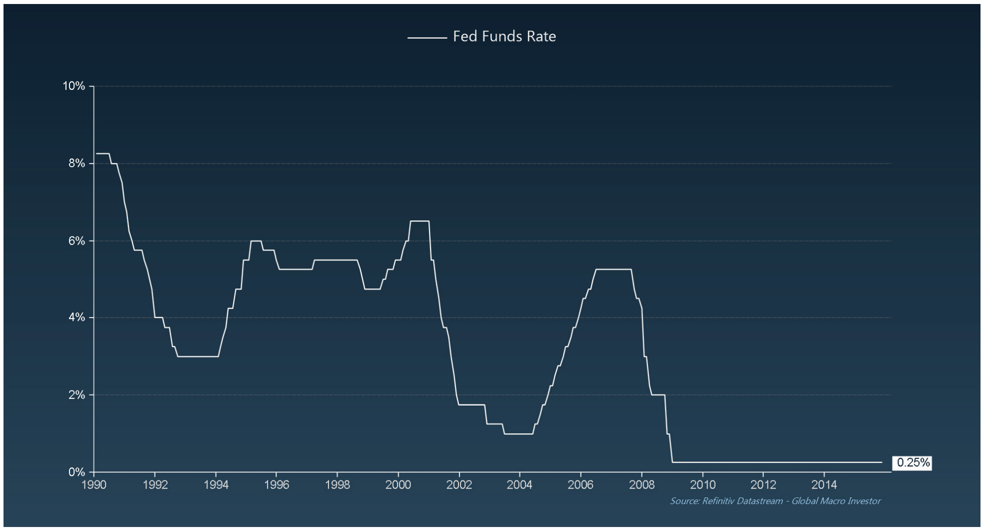
If the Magic Formula is correct, then we should see the trend rate of GDP fall over time — and it has.

The trend rate of GDP growth has gone from 5% to 1.75% today, a fall of 65%!

Everything Changed

In 2008, *everything changed*. The financial world blew apart, tearing the fabric of the highly financialised global economy, as well as the fabric of society, asunder.

The response to that was the obvious one. If interest payments were too high for economic growth, then cut them to zero...

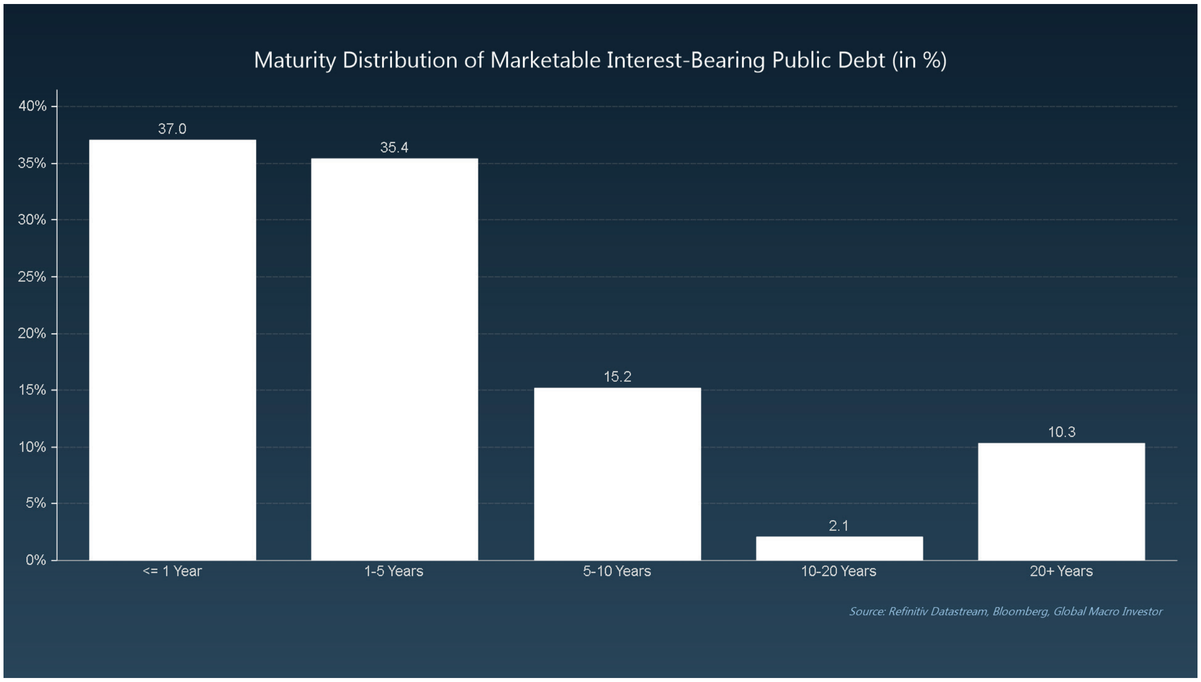


... and every major economy followed suit in what appeared to be an agreement of the central banks, that the global economy could no longer sustain the interest payments.

When you cut interest rates to zero, saving the system, you create a whole bunch of other problems that were unforeseen...

You see, the 100% most logical thing to do in 2009 was to refinance all debt in the system at zero rates. Every government, corporate and bank did just that, and households refinanced their mortgage costs much lower too and fixed them. This helped repair the household balance sheets.

The government essentially brought most of its debt into the cheapest part of the curve – 5 years and below...

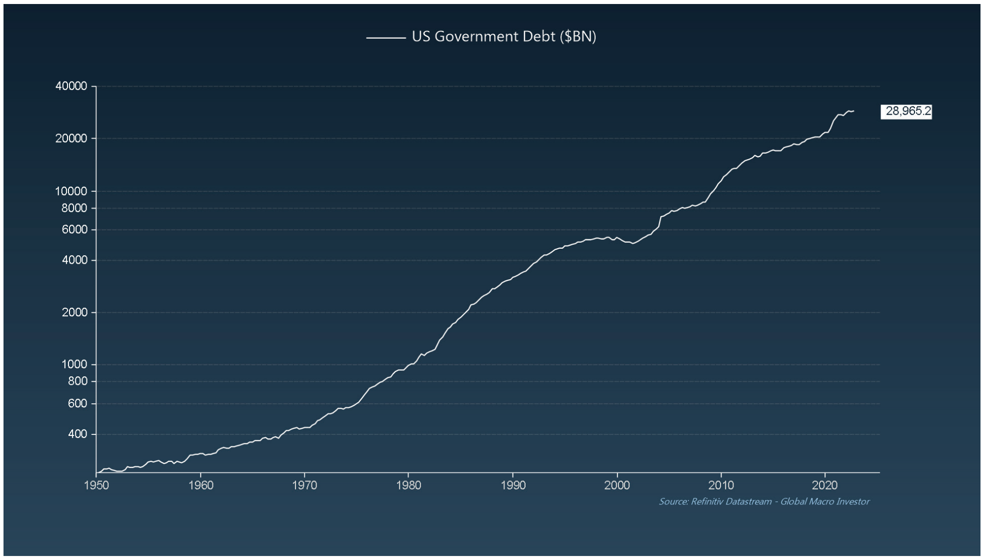


Corporates did the same. It was cheap and it drove profitability up.

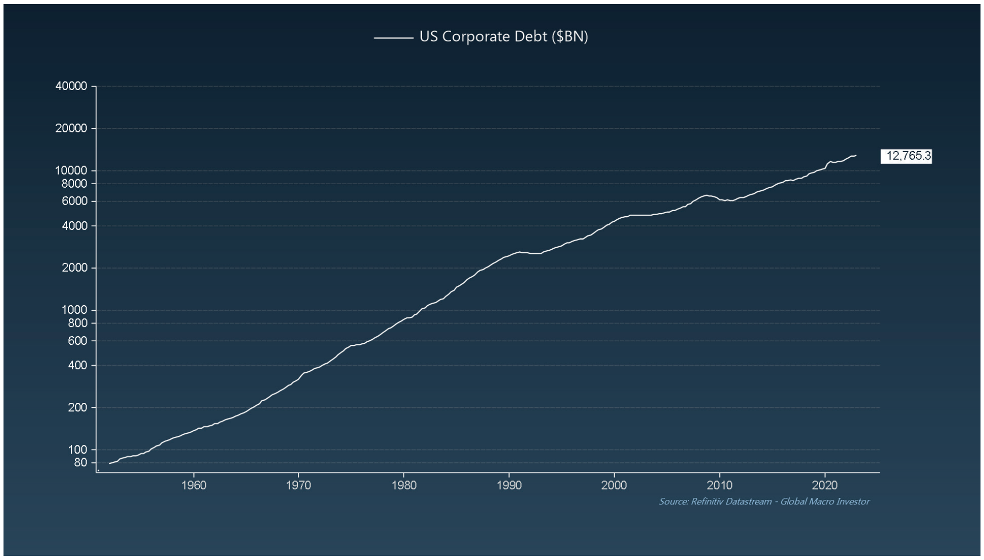
Good but not good...

Ok, sounds great but herein lies the problem...

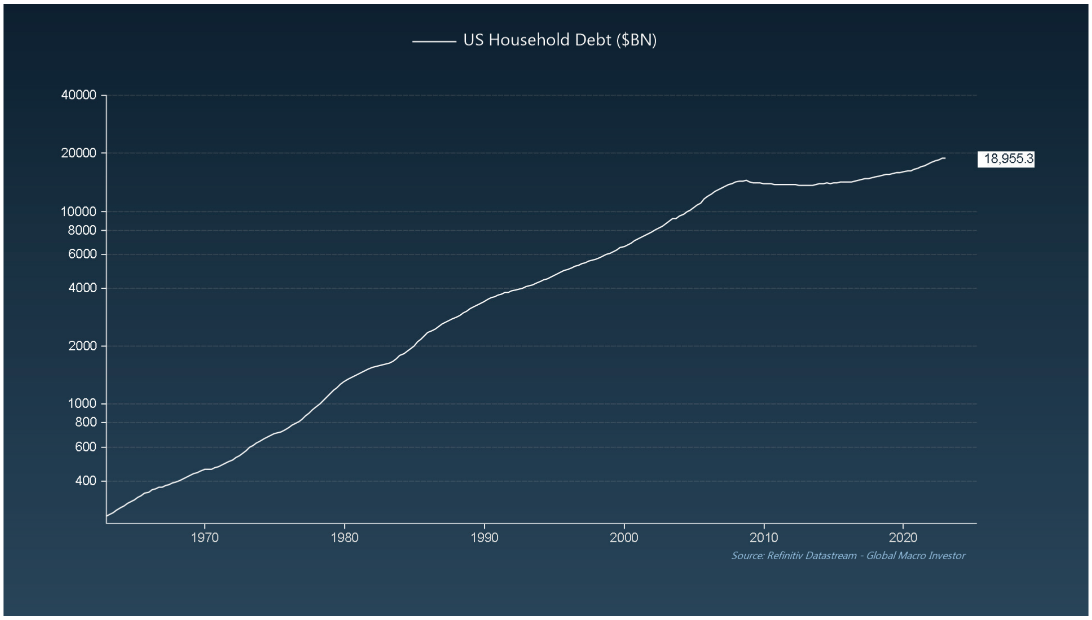
The Government never paid anything back. They just kept rolling the debt in one big debt refinancing cycle, where interest payments were financed by increasing the debt (essentially using their credit card to pay the interest on their credit card). So, their debt compounded at an *exponential* rate (hence the log scale) ...



... and the corporations did the same...



Households, however, were not allowed to follow suit and were excluded from this fun game (the banks pulled back lending to them), so their debt has barely risen in comparison...



This all turned the US economy into a perfectly cyclical phenomenon based on the 3½-year refinancing cycle of those debts. All economic growth was used to pay the interest on the debts...

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The Clockwork Economy

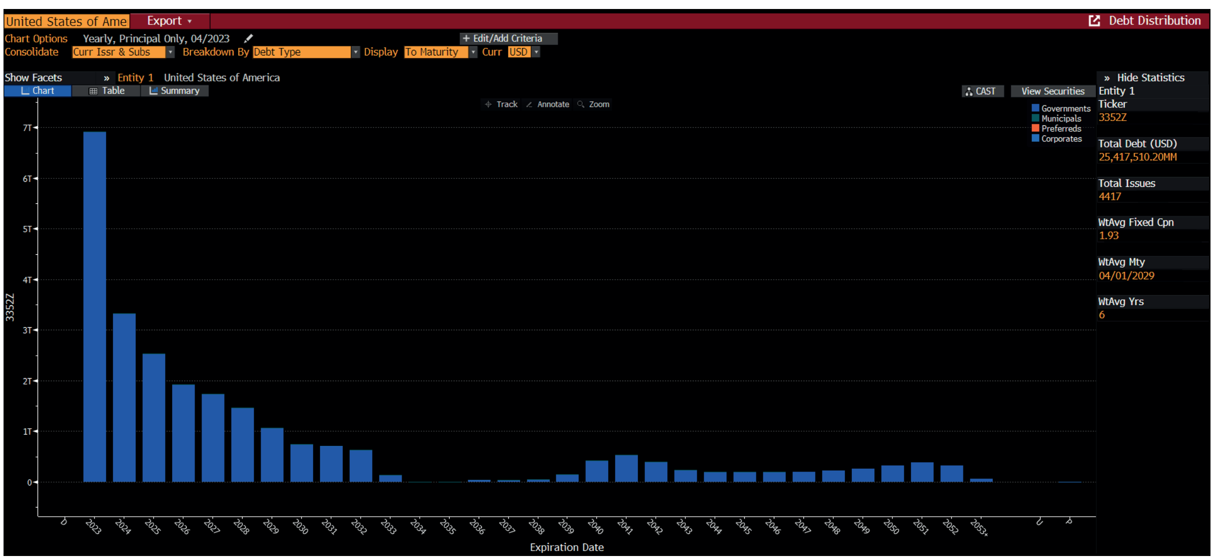
Every 3½ years, like *clockwork,* the economy slows sharply as interest rates rise and bite hard into the debtors.

Eventually QE arrives, along with rate cuts, and the Refi cycle begins again, and everyone rolls their debt. They also increase their debt to pay for the new larger interest payments as it continues to compound.

Repeat ad nauseam.

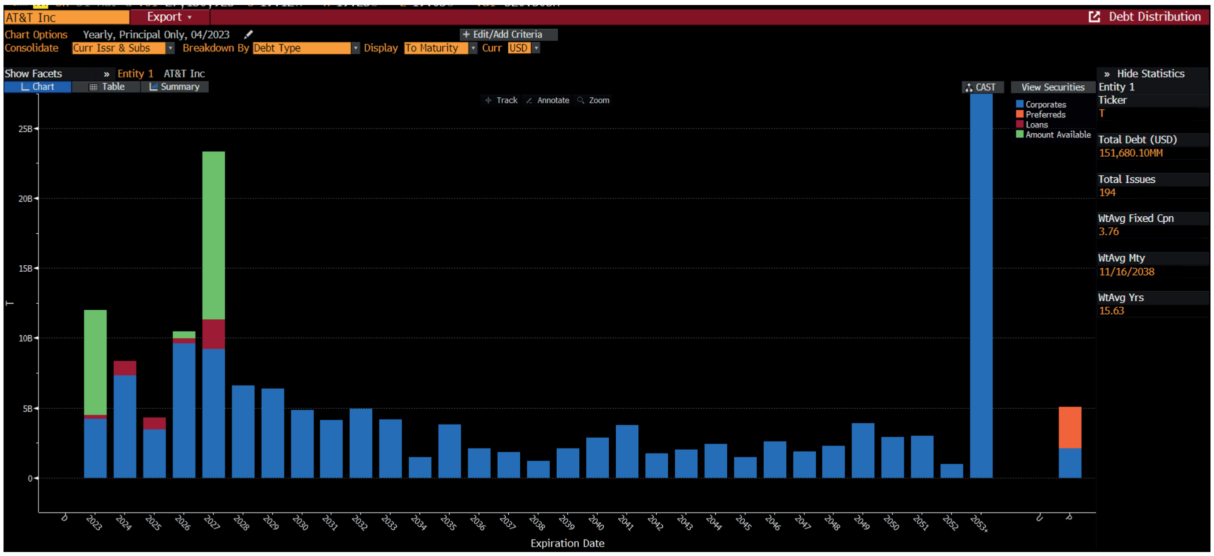
However, if rates don't fall enough, everyone goes bust. Low interest rates are a feature, not a bug. We cannot survive without them.

You can see this structural issue when you look at Government Debt due… this year and the next. Interest rates MUST come down… and FAST!

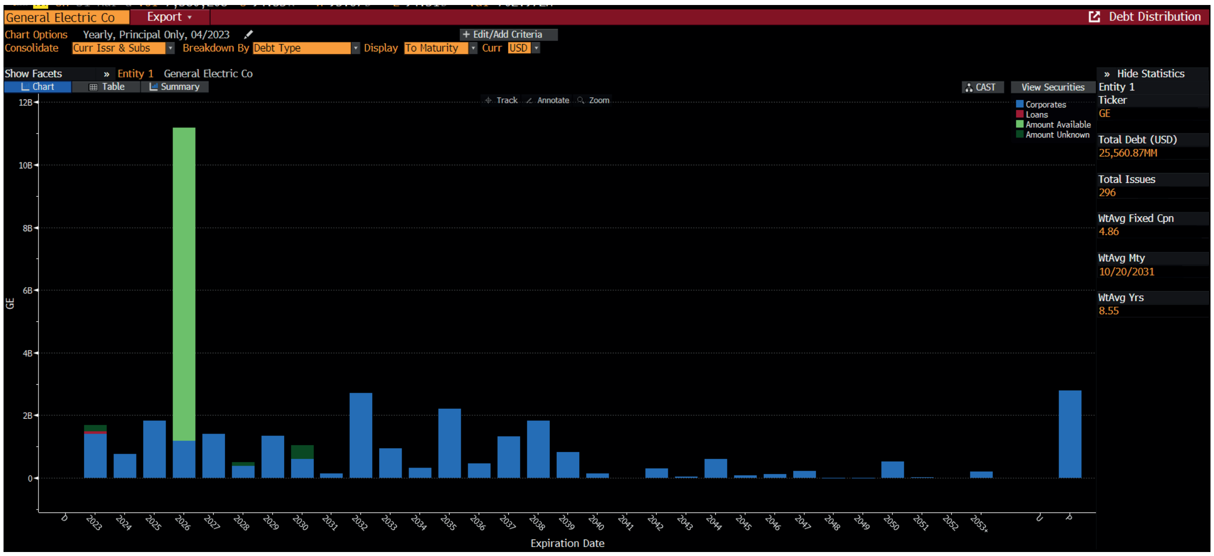


We can also see the same in the corporate debt world...

AT&T (the most-indebted corporate) has most of its debts clustered over a 5-year period...



It's the same with GE...



The median debt averages at about 3.5 years, the same as the economic cycle.

It is all a debt cycle now.

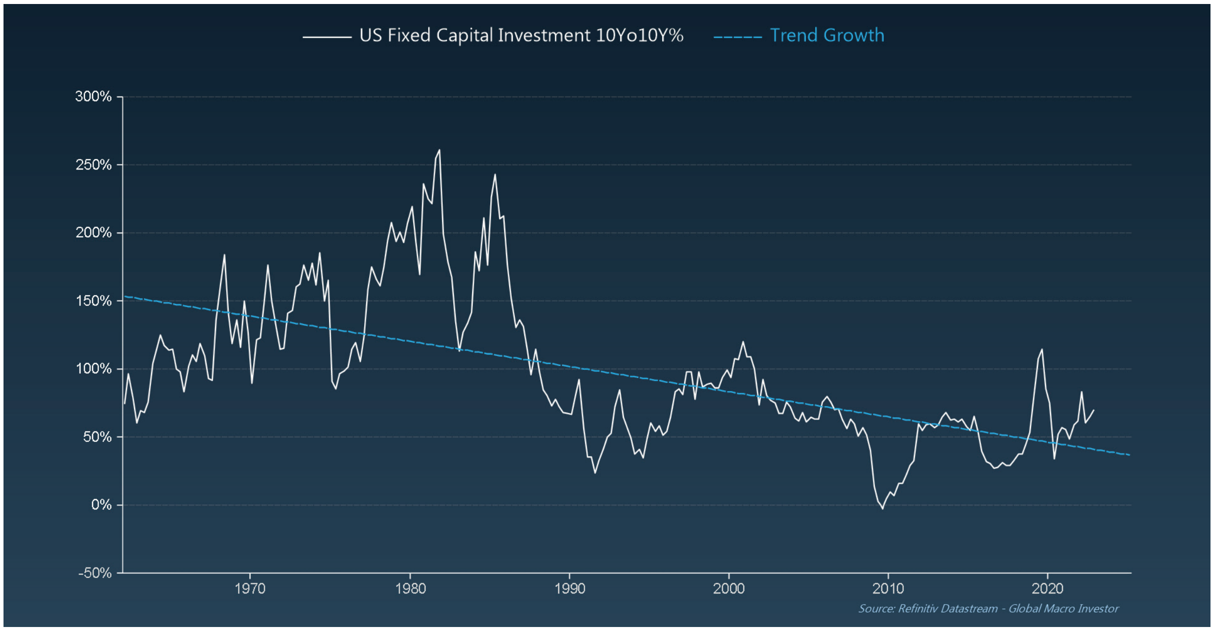
The Interest Payments Problem

But that isn't the entire story.

With private sector debt at over 120% of GDP, ALL GDP growth (trend rate of 1.75%) just pays the interest on the debt.

We can see that 5-Year Rates have averaged at around 1.75% (and are obviously far too high now!) ...

If interest payments are 1.75% of GDP and GDP grows at 1.75%, then that means there is NO money left at an economic level to fund fixed capital investment, which in turn lowers GDP...



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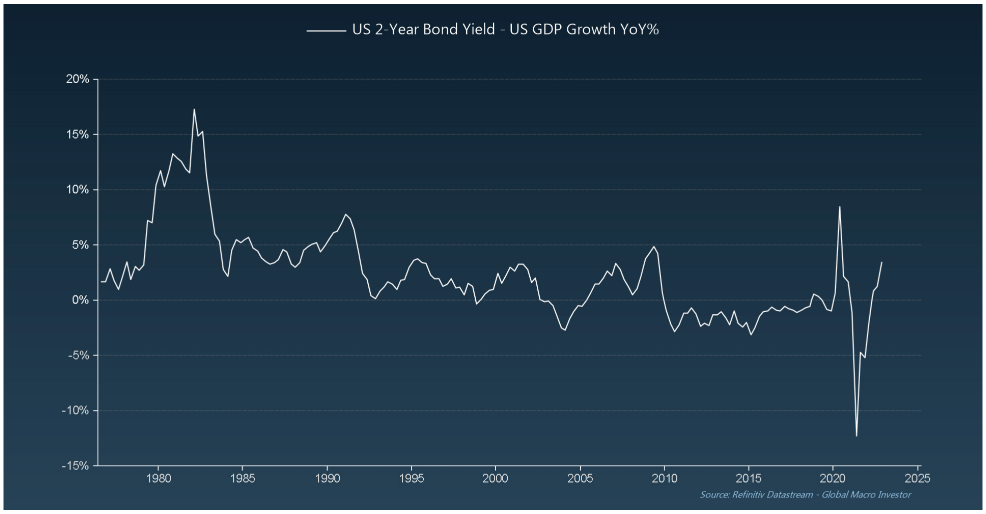
Why GDP and interest rates are now tied at the hip...

As you can see, interest rates simply must be equal to or below GDP growth for the system to sustain. If rates remain for any period above GDP growth, we force a debt deflation. This is exactly why the banks are now blowing up and why the Fed MUST quickly get inflation expectations lower so they can roll the debt loads at rates of 1.75% or less. As you know, we think inflation collapses and goes negative in the coming two quarters.

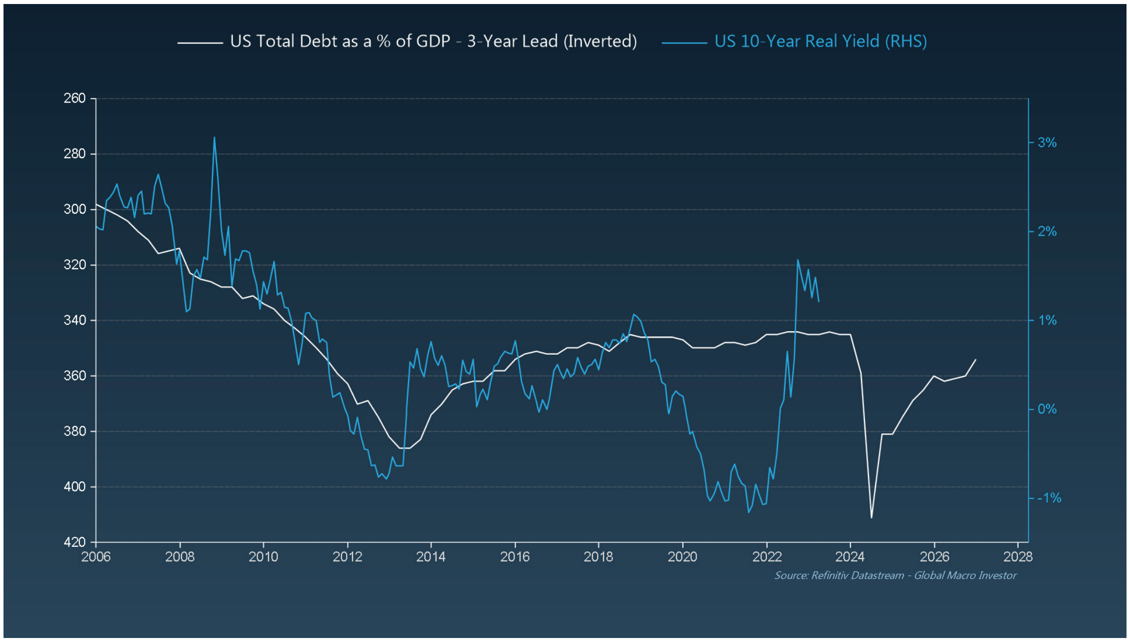
The Fed have exactly engineered rates below GDP since 2010 (as have all central banks). It is purposeful.

Here is the chart of 2-Year Rates minus GDP (my measure of real rates at an economic payment level) ...



... and as the trend rate of GDP growth falls, interest rates MUST fall...

And the 3½-year refi cycle can be seen in the chart of Real Rates versus Total Debt to GDP. The Fed have to get 10-Year Real Rates (in this case using breakeven inflation) down to -1% to offset the upcoming pandemic interest payments...

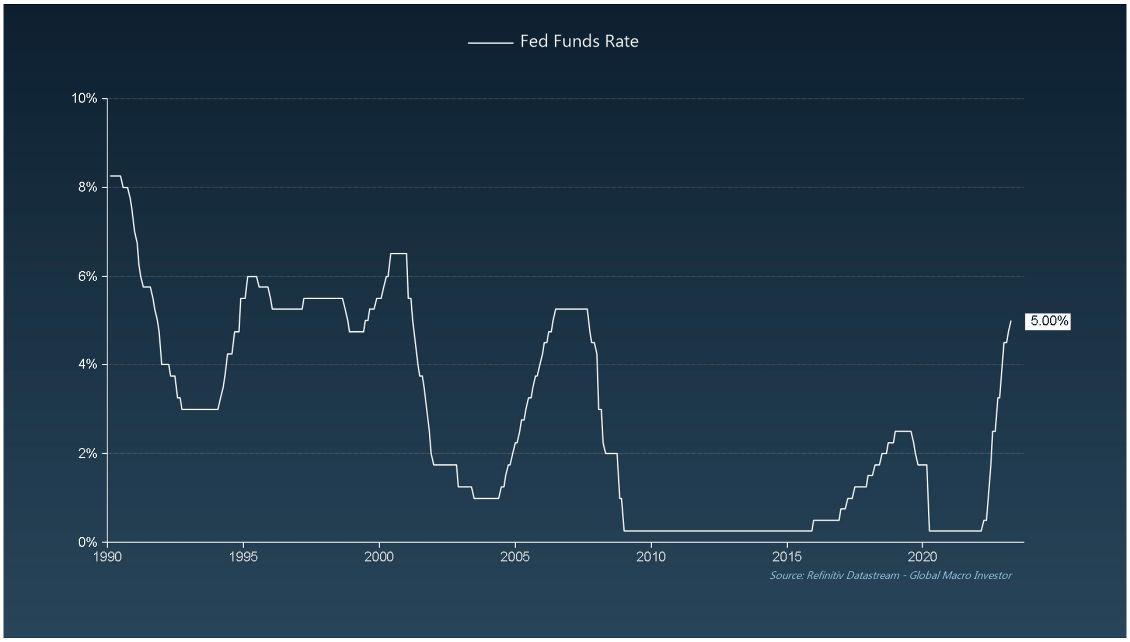


Expressed a different way, you can see the trend rate of 5-Year Real Yields (it is falling at roughly the same rate as GDP) and suggests fair value is at -1% although they normally undershoot...

And that is why rates will come down to trend. They simply cannot stay here or the system unravels.

Here is the log trend of 10-Year Rates. Fair value is 1.5%...

I continue to believe that yields are soon going to fall at a *shocking pace*. There is no way the economy can survive these rates... rates will hit near zero again in the coming 12 to 18 months, just in time to save everything...



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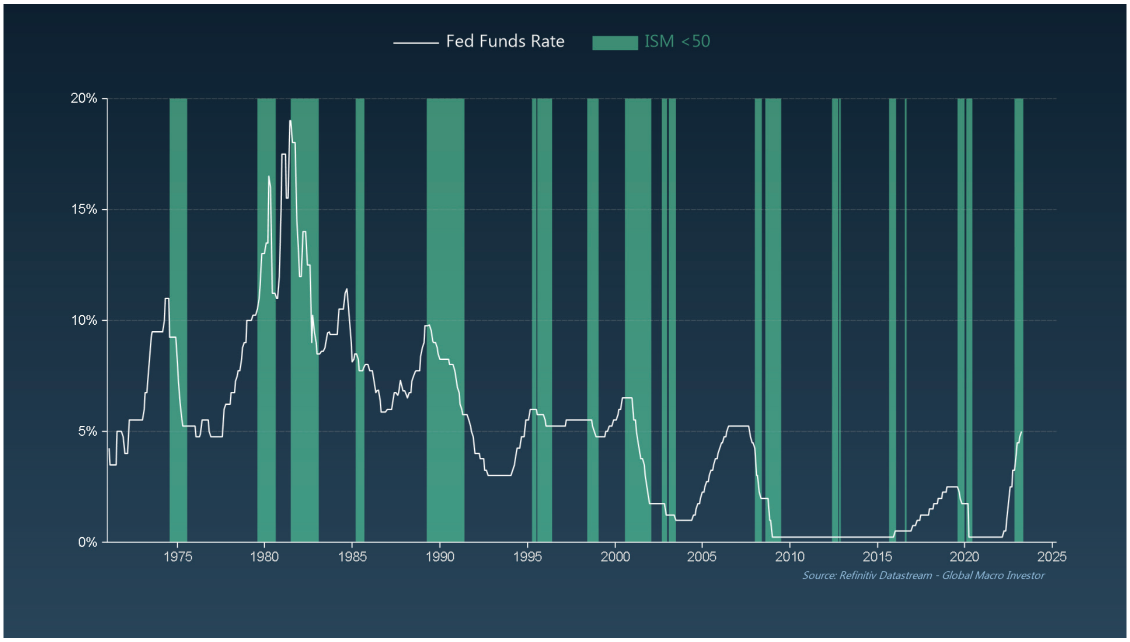
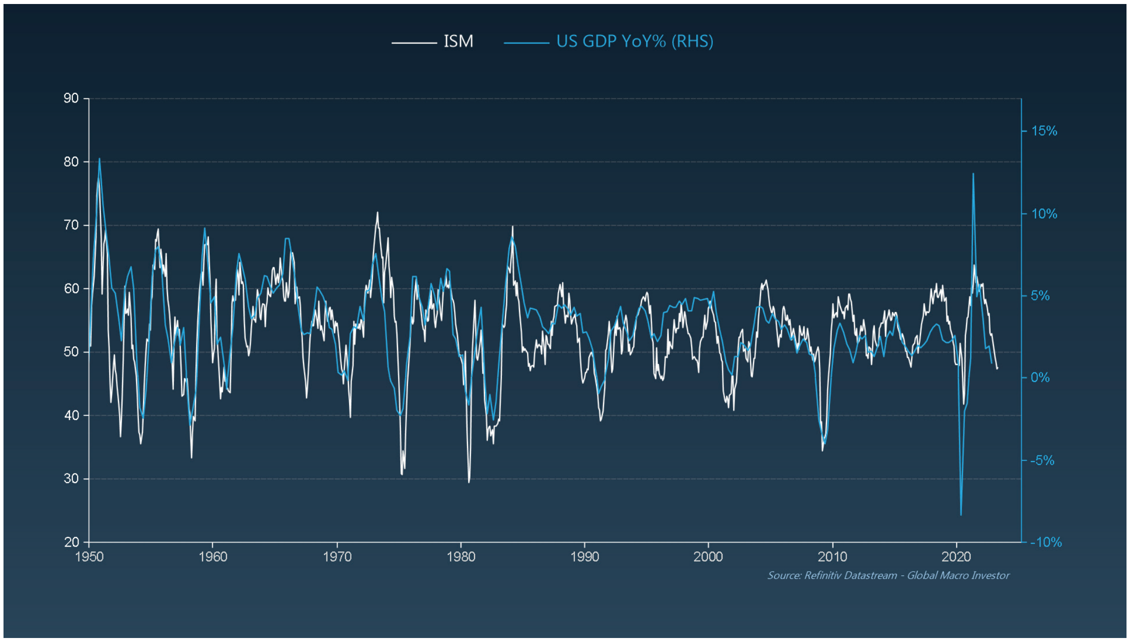
Let's look at more evidence for rate cuts...

The Rate Cut Smoking Gun #1 — the ISM

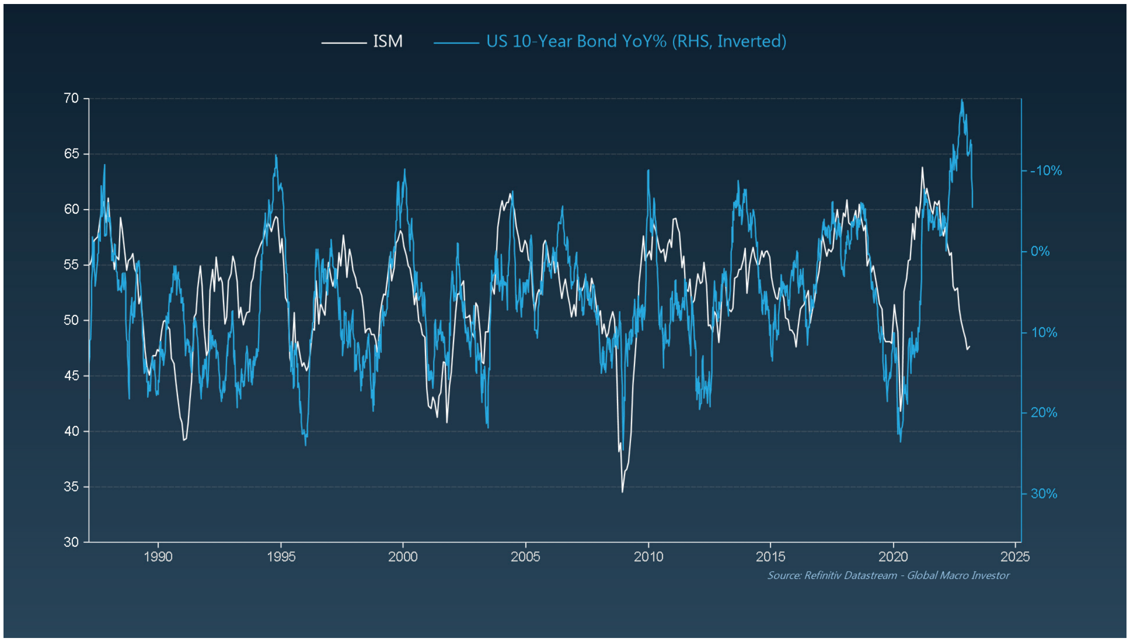
And luckily, the economy is slowing fast enough for them to do so. Every time the ISM falls below 50, rates are cut...



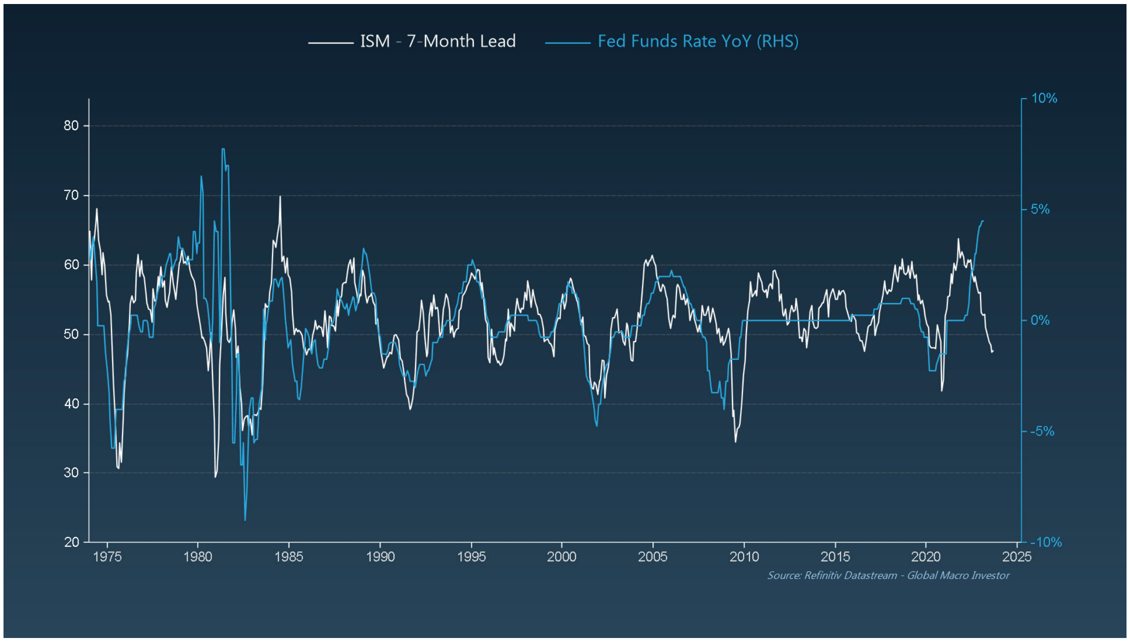
The ISM is pricing GDP growth at near zero... and is expected to fall further...



When you look at 10-Year Bonds versus ISM, they need to fall to 1.4% to reach fair value...



And Fed Funds need to go to zero (plus QE) ...



Sounds crazy?

Nope. Same as what happened in the last rate cycle. Zero is not the aberration, the hikes are. Elevator up, elevator down...

Thus, if the fair value of Fed Funds is zero and the 10-Year is at 1.4%, then the yield curve fair value for the current economic situation is probably around 100bps.

Rate Cut Smoking Gun #2 — the Banks

And this is EXACTLY why the banks are blowing up. The rates are too damned high, and the yield curve is too inverted. The burden on the banks is just too high, and the system is breaking. Regional banks are likely to continue their fall and have probably another 26% to go until the Fed go ALL OUT to save them...

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... and we also risk losing the global Eurodollar banks as funding is too tight. We have already lost Credit Suisse, as I have been predicting, and we will at some point lose SocGen over the Cliff of Death...

... Deutsche Bank...

... and Barclays...

Basically, we are going to lose the entire Eurodollar funding market at some point. And that will create a buying crescendo in the dollar as most key players are taken out of the game of musical chairs. That will, without question, lead to a sharp fall in the US banks and probably the slow death of the Systemically Important Banks (SIBs).

And that means the central banks will ALL be forced to step into save the system again and will lead to the scramble for Central Bank Digital Currencies and a centralisation of the banking system.

Whether that all happens in this cycle or next, I don't know. But it leads to the realisation that the world cannot function with free market interest rates, so expect yield curve control. More on this later.

Add all this to all our work in GMI on inflation and unemployment, and we have every element of what is required for drastic rate cuts... it is just a matter of time.

All of this is still a function of 2008, when we hit the limits of debt, without the Fed helping monetise the debts.

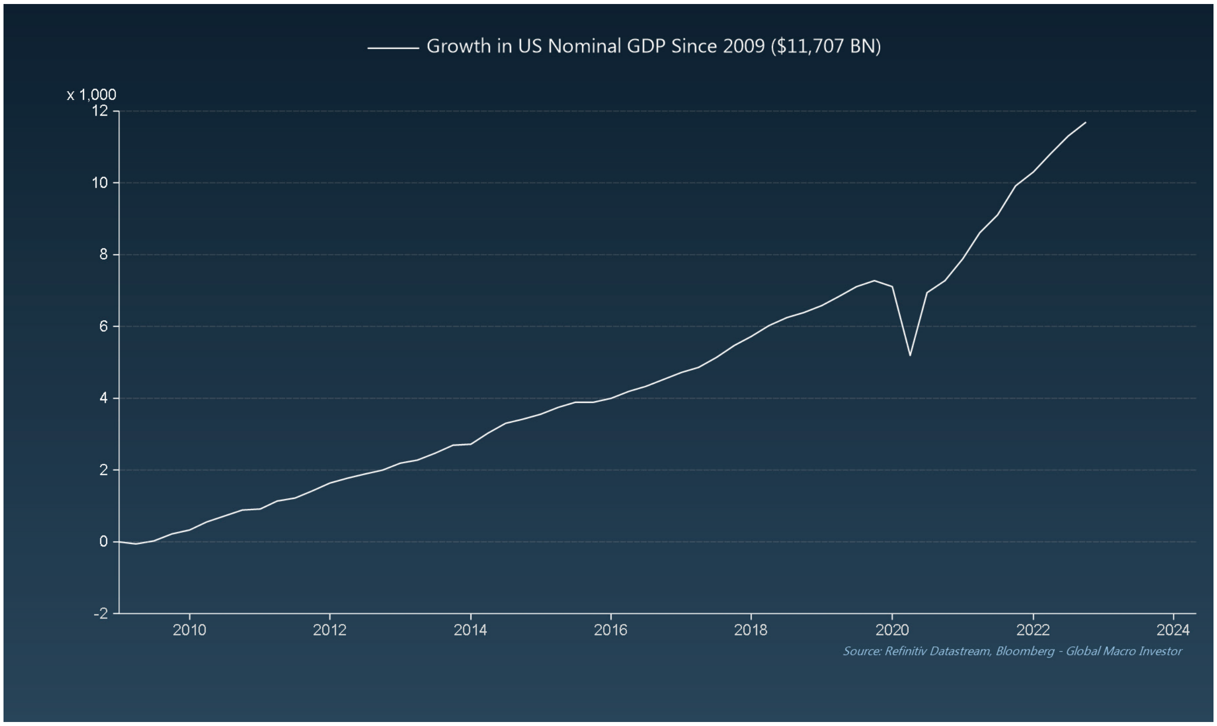
The Government and the Fed — Magic Money since 2009

All the issues described above are really caused by the private sector being over 100% of GDP in debt. It just can't function. But there is another major issue...

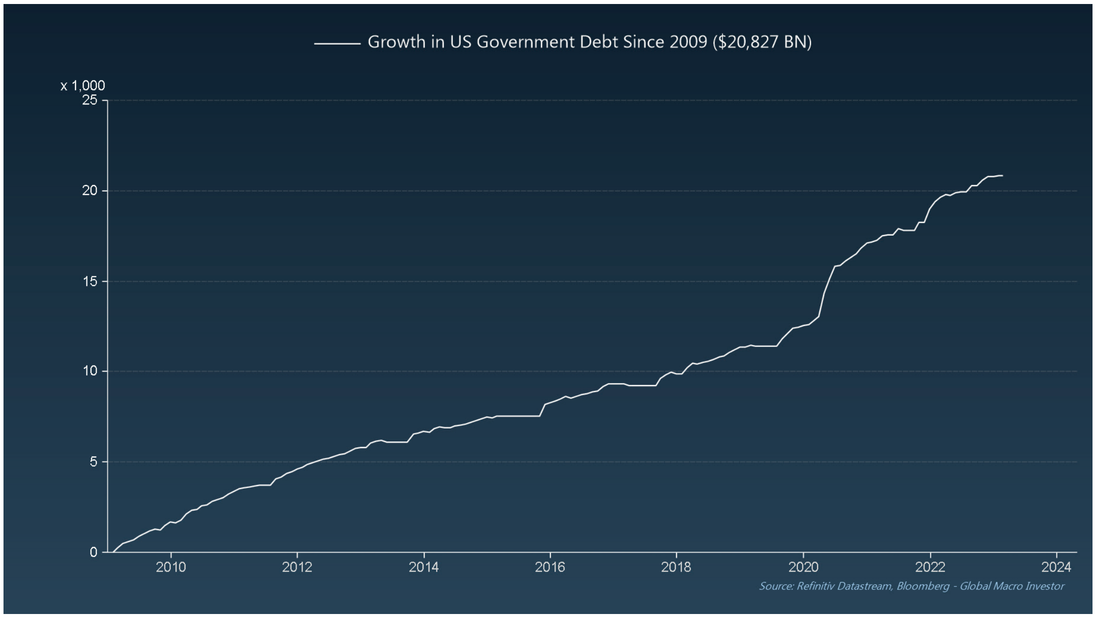
If the private sector eats 100% of GDP growth, then how the fuck does the US Government finance another 100% of GDP in debt?

Answer: The Magic Money Tree, Quantitative Easing.

Since 2009, Nominal GDP has grown $12tn...



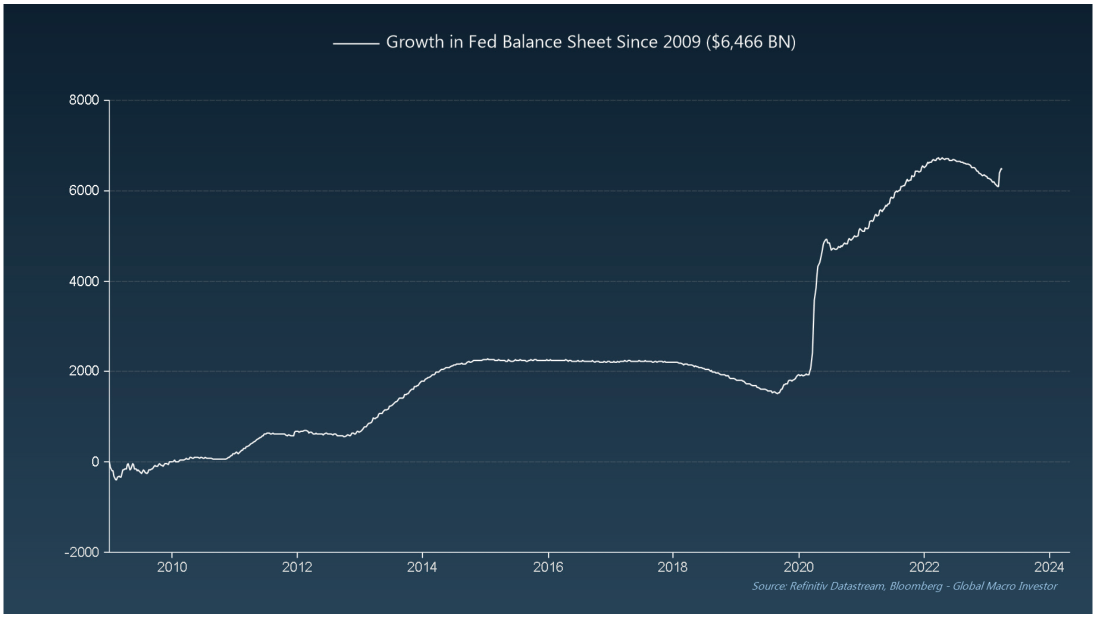
... and US Government Debt has grown $21tn...



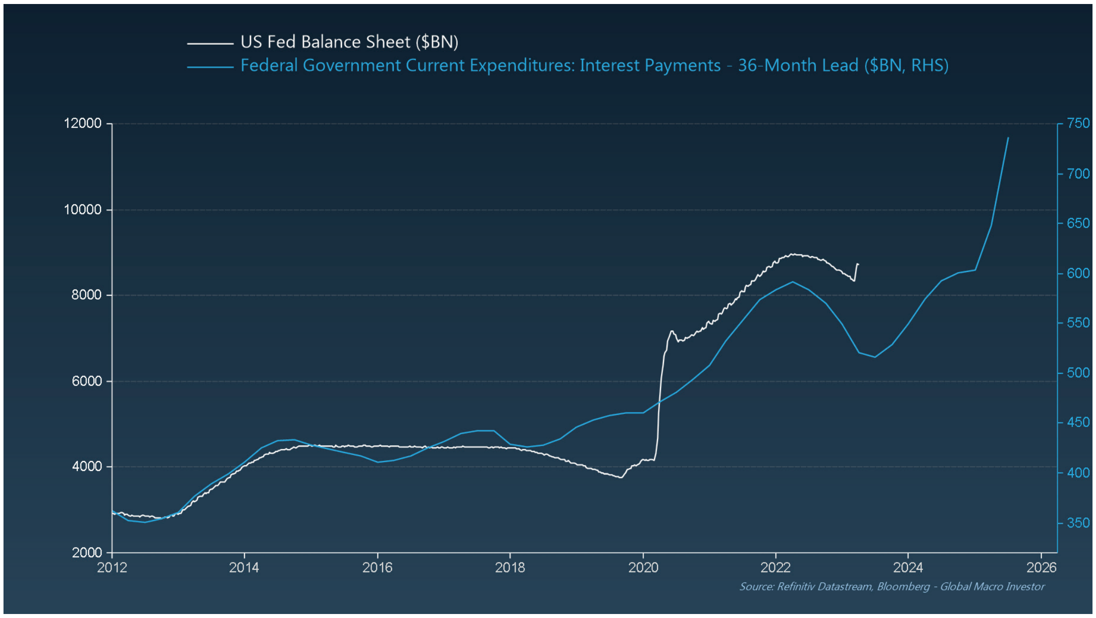
Debt has grown in excess of GDP by $9tn.

So, how can they pay for this? And what is driving this debt growth?

The Magic Money Tree, that's how. The Fed balance sheet grew by $6.5tn at peak. The rest will end up on the balance sheet in due course (after the 3½-year delay) ...



The stunning data I have found is that the ENTIRE balance sheet is basically explained by the interest payments 3½ years later. I have never seen this chart anywhere else, and it could not be any more important...



The Fed is going to have to shove ALL the pandemic extra debt onto its balance sheet. (*Remember the missing $3tn*? Yup, this chart shows it is coming.)

But the new banking crisis is forcing the Fed balance sheet to rise faster than just the interest payments (just as the pandemic did) and we might well tack on another $1tn or $2tn extra, once the banks are bailed out of the mess they are in, along the Commercial Real Estate issues.

That suggests that the balance sheet might well grow by $6tn to $8tn by 2025... to $12tn to $14tn.

Now, just for a second ponder on something important...

They know what they are doing, they just won't tell us...

The Fed reportedly has 1,000 PhD economists. None of these are stupid. It is my view that they know EXACTLY what they are doing. They covertly are fully aware that they are monetising all interest rate payments via new debt, which then goes onto the balance sheet.

This is undoubtedly why Janet Yellen left the Fed and went to the Treasury. The Fed and the Treasury are now the same thing. They KNOW that the US economy reached the debt tipping point back in 2008.

They now have one goal – don't let the system go under until you can figure a way out. There is no independent Fed. The Government and the Fed are working together.

The Central Bank Accord

I've begun to realise that it is not only the Fed, but ALL central banks that are in accord.

I now believe that the BoJ figured this all out way before anyone else and, when the world entered the Balance Sheet Recession (which we are still in) some time in 2012 when Europe almost collapsed, all the key central banks decided that they must all do the same, together.

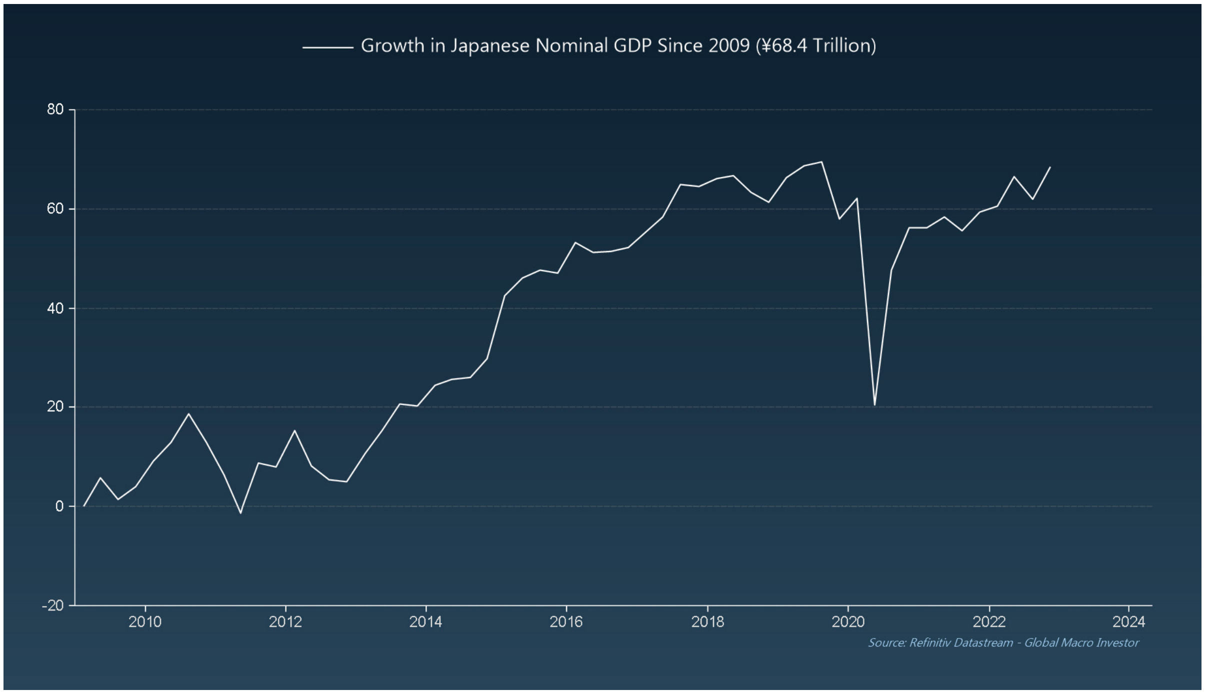
They must all monetise their governments' interest payments or the global system collapses.

It is a global agreement or Accord, and at the end of this lies CBDCs, a government-controlled banking system, and a "shit ton" of fiscal policy to change the productivity dynamic.

I know this sounds crazy, but it is not. These people are not stupid. The central banks are staffed with some very smart people and are faced with a very, very serious problem and the entire system depends on it.

Oh, I can basically prove it too.

Since 2009, Japanese GDP has grown by 68.4tn Yen...



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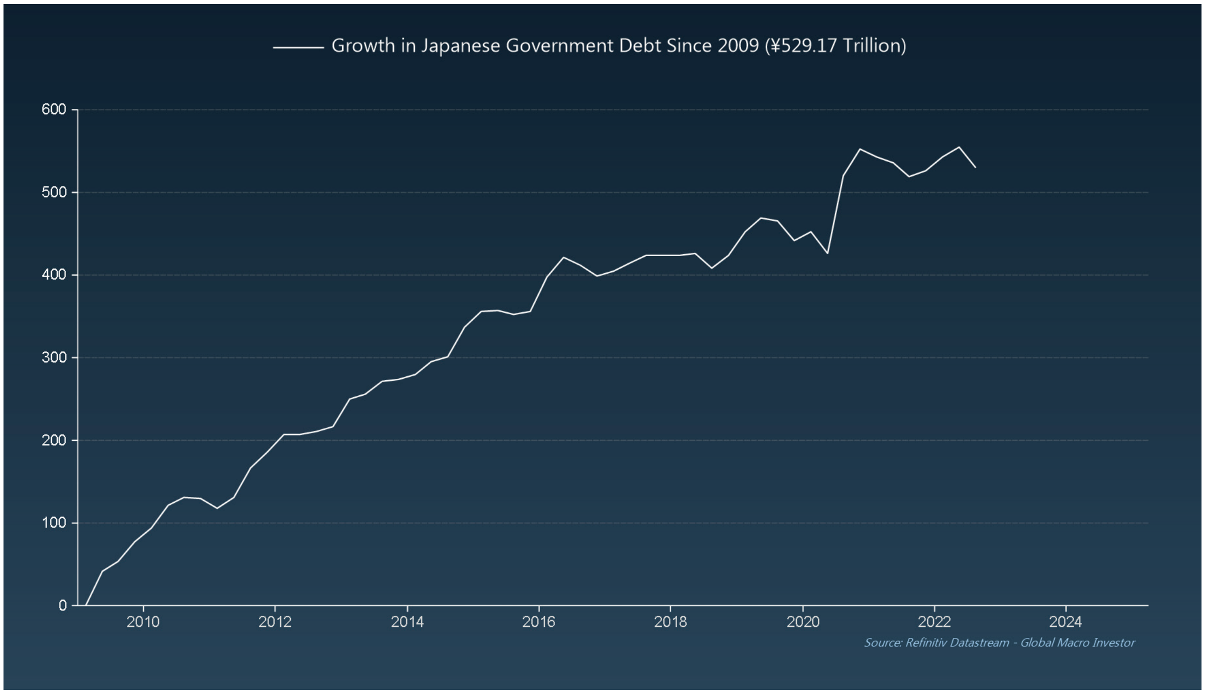
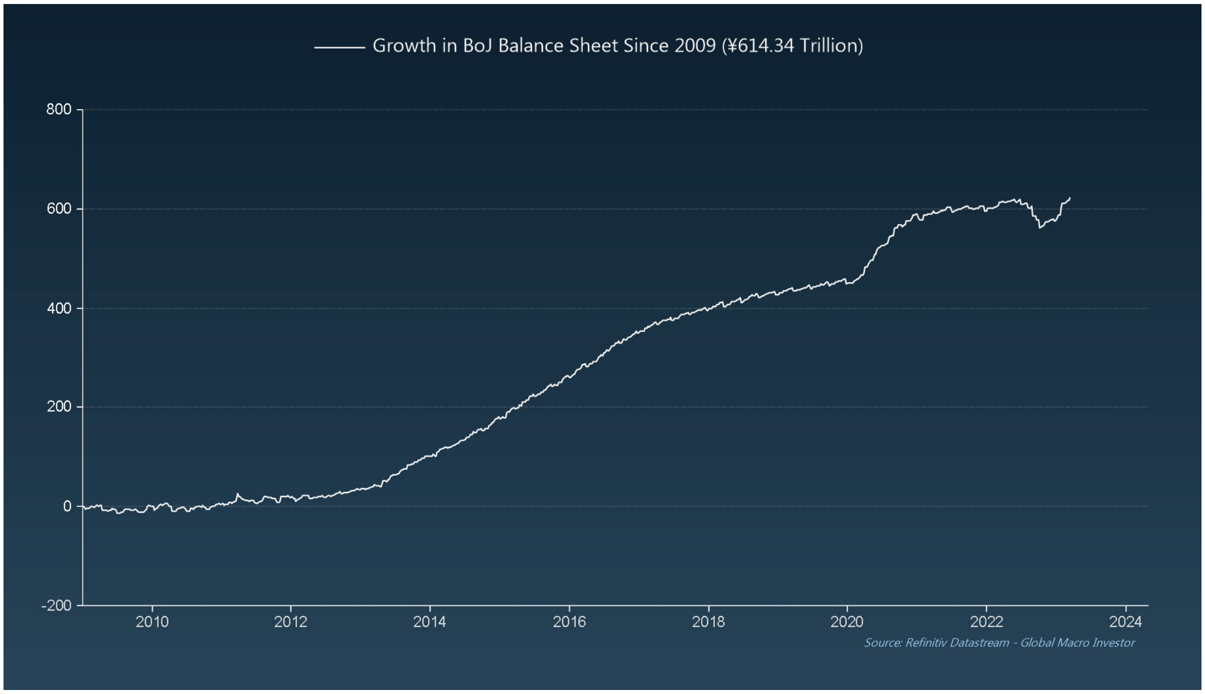
... and Japanese Government Debt has grown by a staggering 529tn Yen...



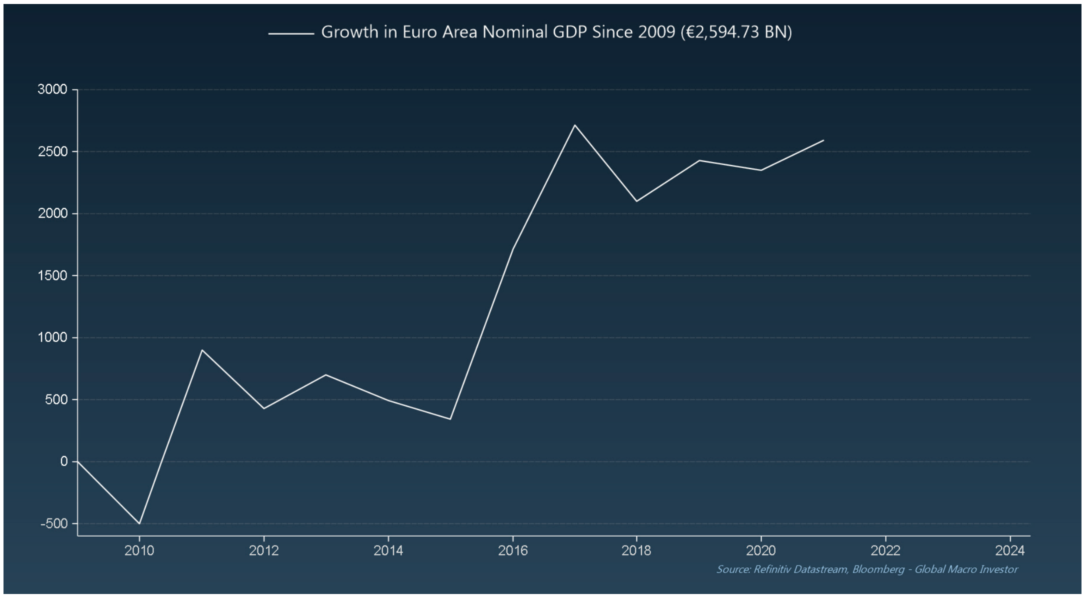
That is a difference of 461tn Yen. And the BoJ balance sheet has grown by 614tn...



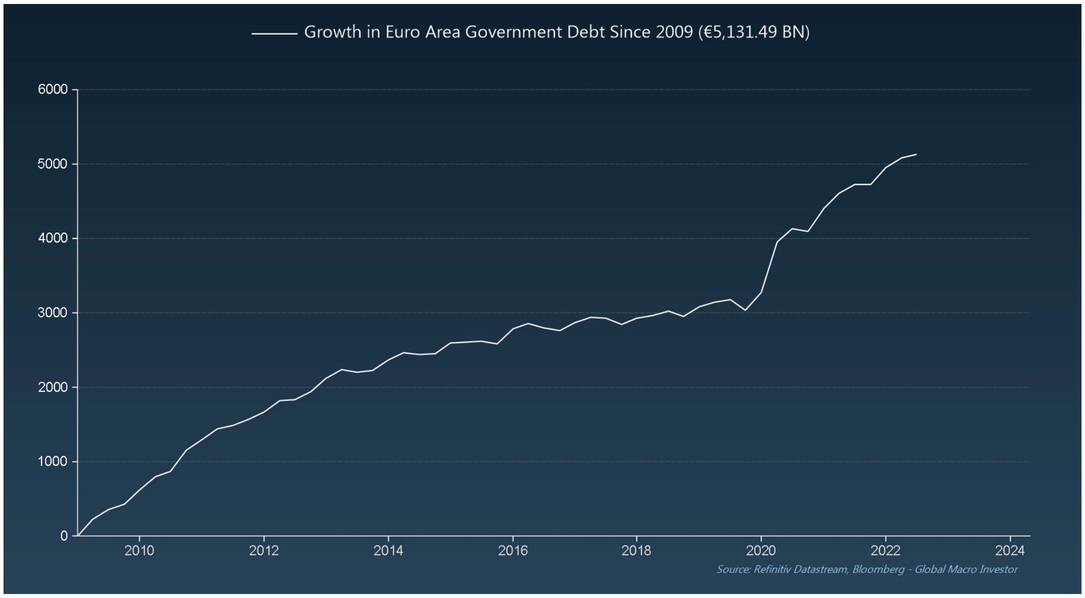
The difference in the balance sheet versus the excess debt growth is simply because the Japanese are 220% of GDP in debt and that is adjusted by the fact that their interest costs are lower due to super low bond yields. The math backs out.

The Japanese are doing the exact same thing as the US. *It's maybe like they agreed that it was the best path forward??!*

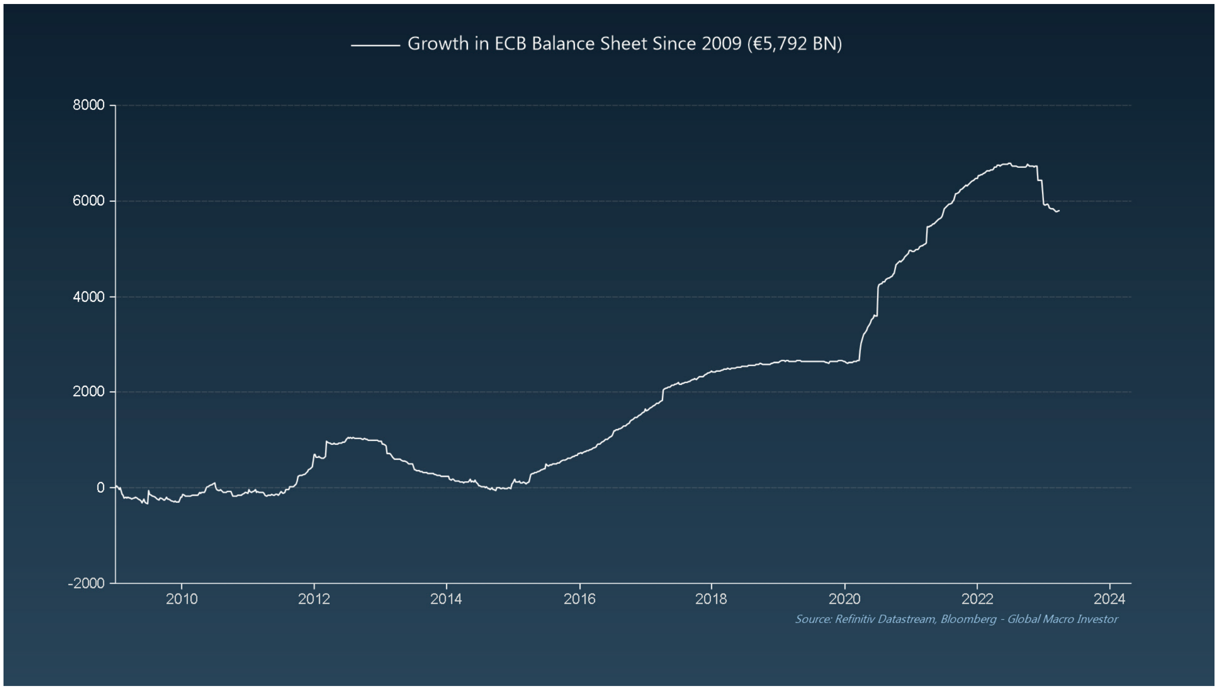
Let's take a look at Europe: GDP has risen by 2.6tn Euro...



Debt has risen by 5tn Euro...



... and the balance sheet has grown by 6tn Euro...



The 2.5tn Euro excess on the balance sheet in Europe (over and above the GDP forecast) is the consequence of the Sovereign Debt Crisis in 2012 and again in 2016. The monetary stimulus ended up directly on the ECB's balance sheet. In addition to monetising interest payments, the Fed will potentially also add an excess of $1tn or $2tn in this crisis to bail out the banks.

Direct injections into the banking system do not have the 3½-year lag as they are not from the Government's borrowing, but from the central banks directly propping up the banks.

I haven't yet looked at the UK, but I *know* it will be the same.

They are all in cahoots and know exactly what they are doing. It is a global central banking accord to keep the system afloat.

The Magic Bullet

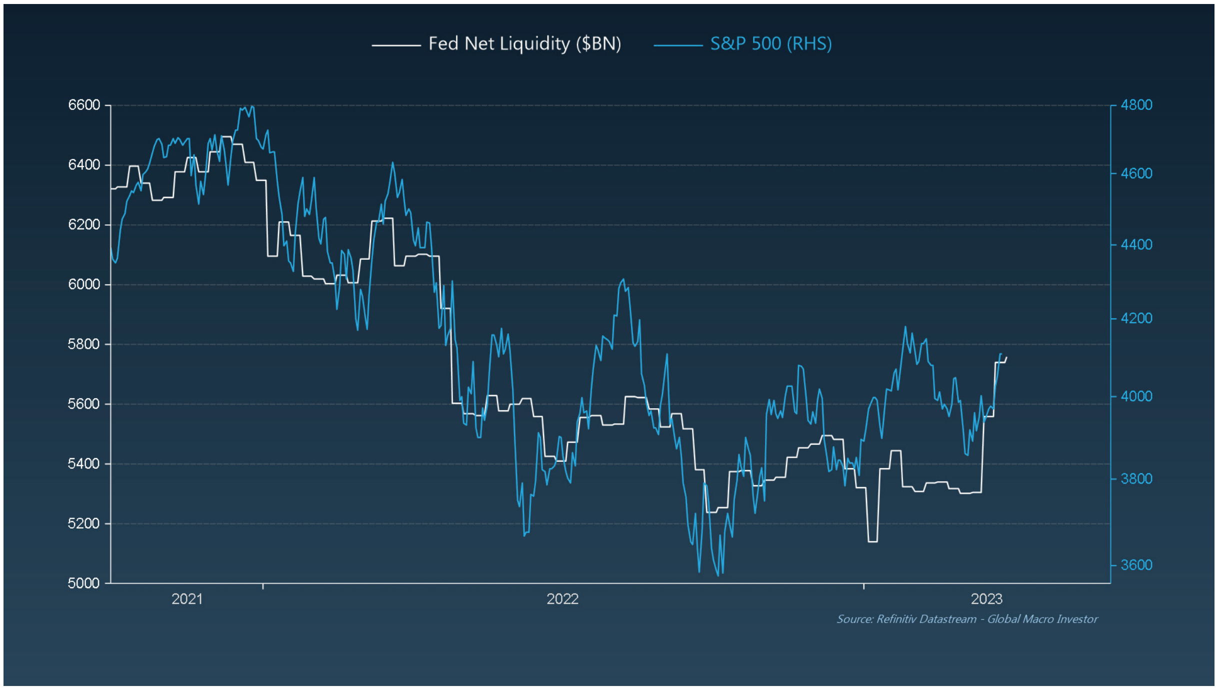
There is a trick being played here and it is a truly special one…

The narrative we are being given is that central banks are injecting liquidity because rates are low, so they need to use QE as their monetary lever when inflation or growth falls.

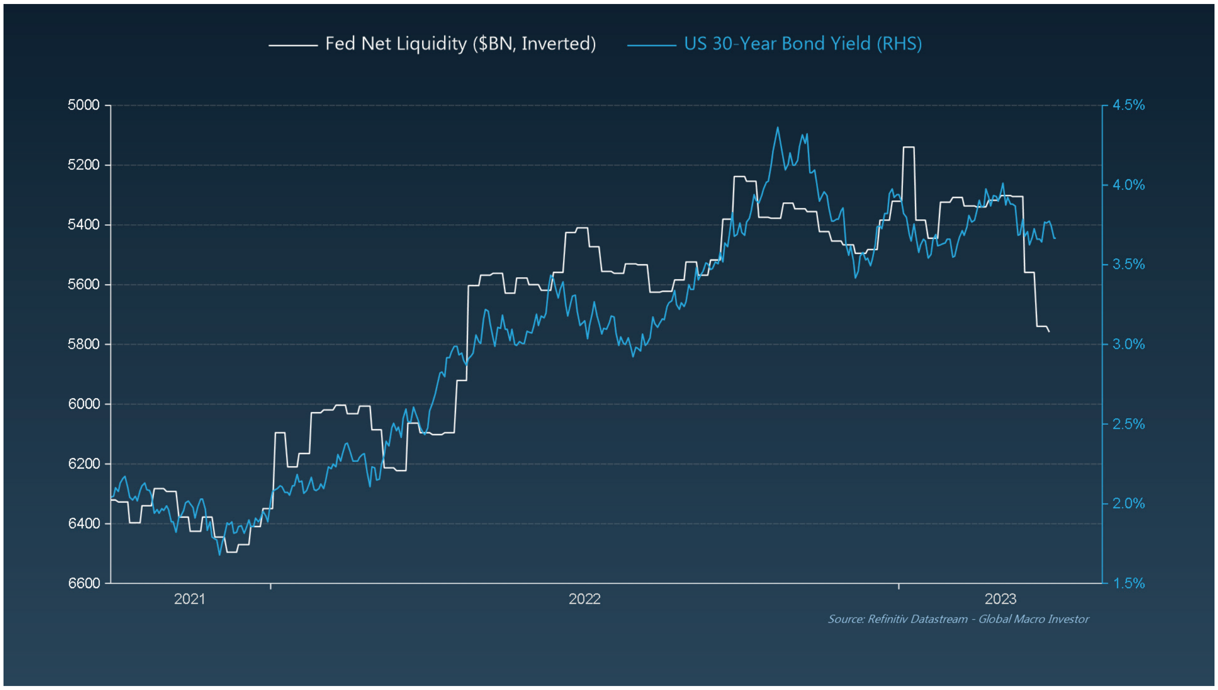
Yes, that is true, but what they are really all doing is monetising all debt above GDP growth and ALL their debt growth is just the interest payments on the existing debt.

The narrative in the markets is that this liquidity is finding itself into asset prices and that it is therefore all a game of liquidity…

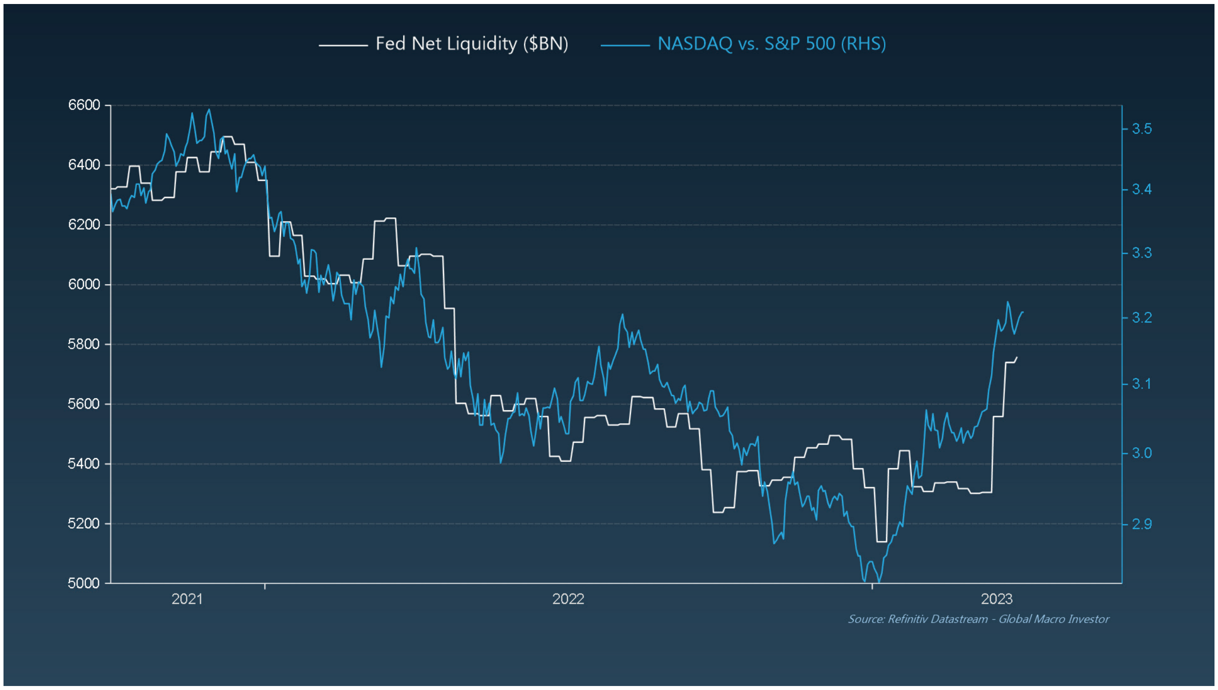
You can see the SPX vs Fed Net Liquidity…



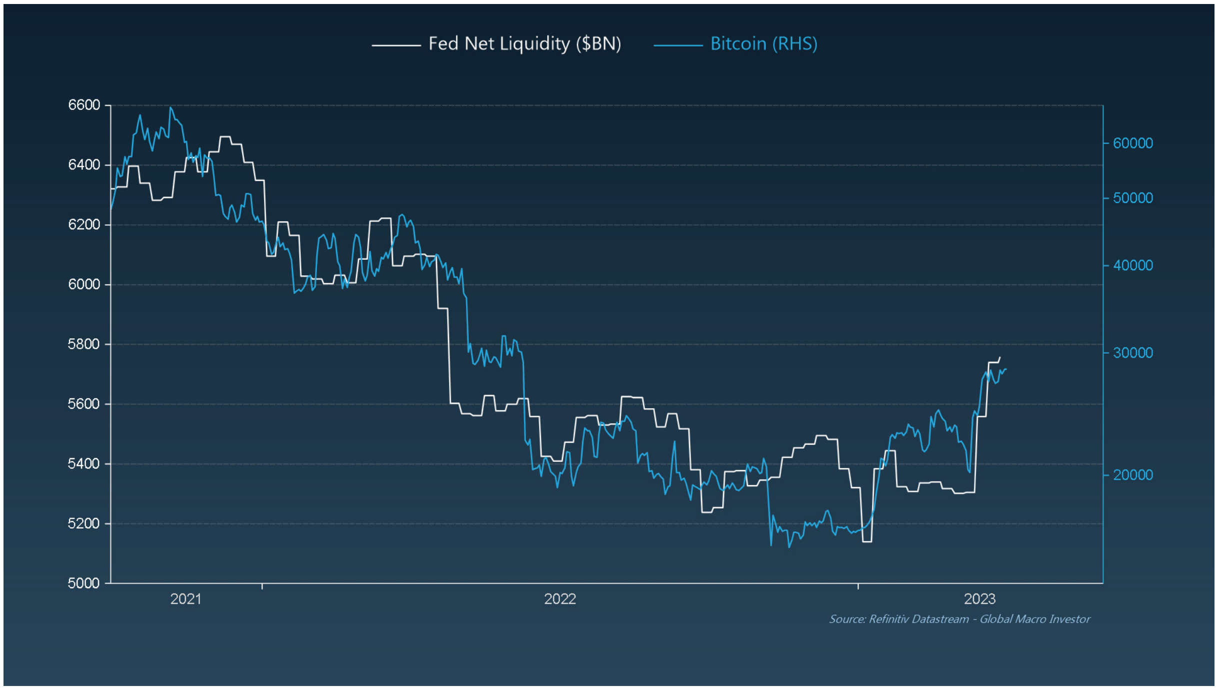
... or Bond Yields...



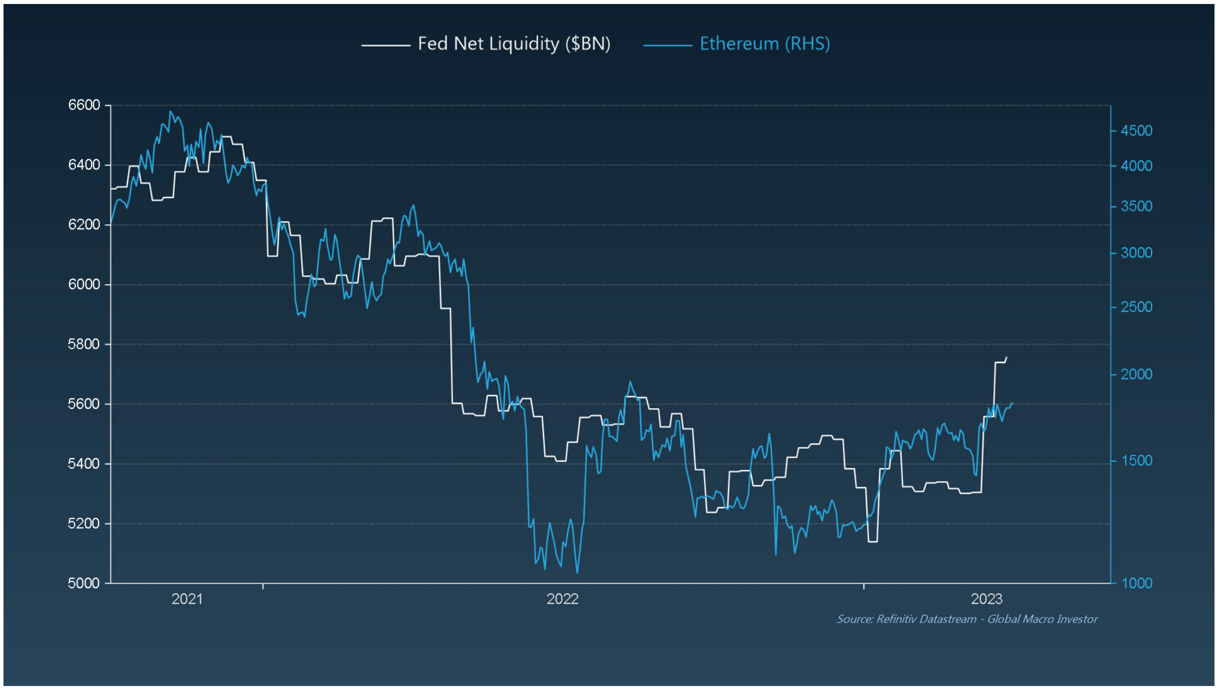
... or the Nasdaq outperformance of the SPX...



... or Bitcoin...



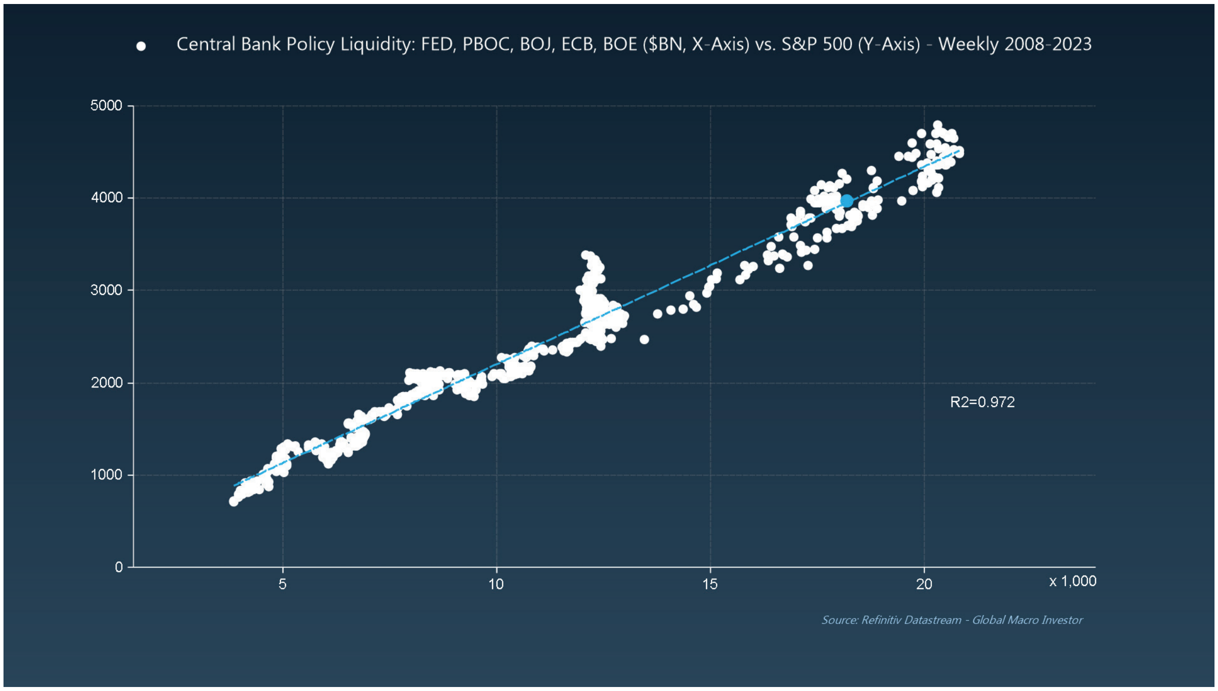
... or ETH...



But this analysis is wrong.

Liquidity is a *partial* driver of assets but it's not the KEY driver. The KEY driver of asset prices is the G5 central bank balance sheets combined. Everything they are doing in consort is driving asset prices, and provably so.

97% of the movements in the SPX can be explained by the G5 balance sheets... this is STUNNING...

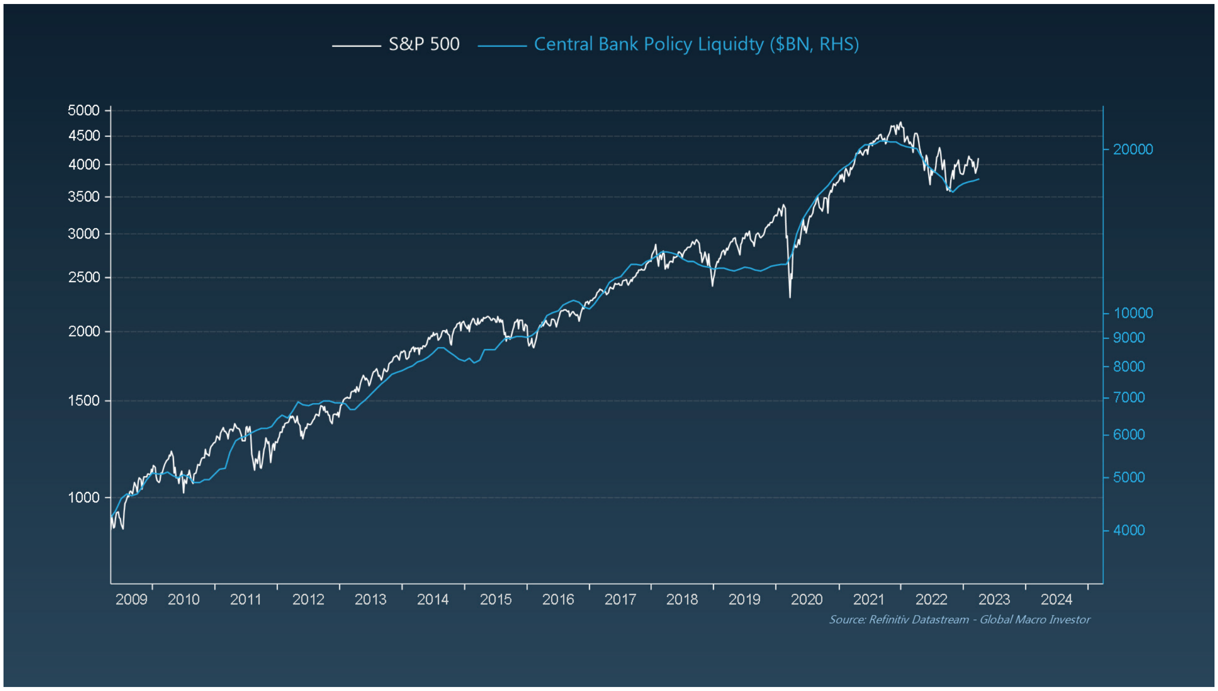


The deviations from fair value are the effects of liquidity, i.e., small.

The game is much bigger than first meets the eye.

The Poison Pill — Debasement

The magic trick that the central banks discovered is that when they all monetise their interest payments and debt growth, the price of US assets rises. The Fed, when it monetises, debases the world's reserve currency and the key denominator of assets...



This relationship is mind-blowing. This is the only reason US assets (outside of tech) outperform global asset markets and is one of the main reasons that the dollar keeps rising (along with the fact that most of the world's debts are in dollars).

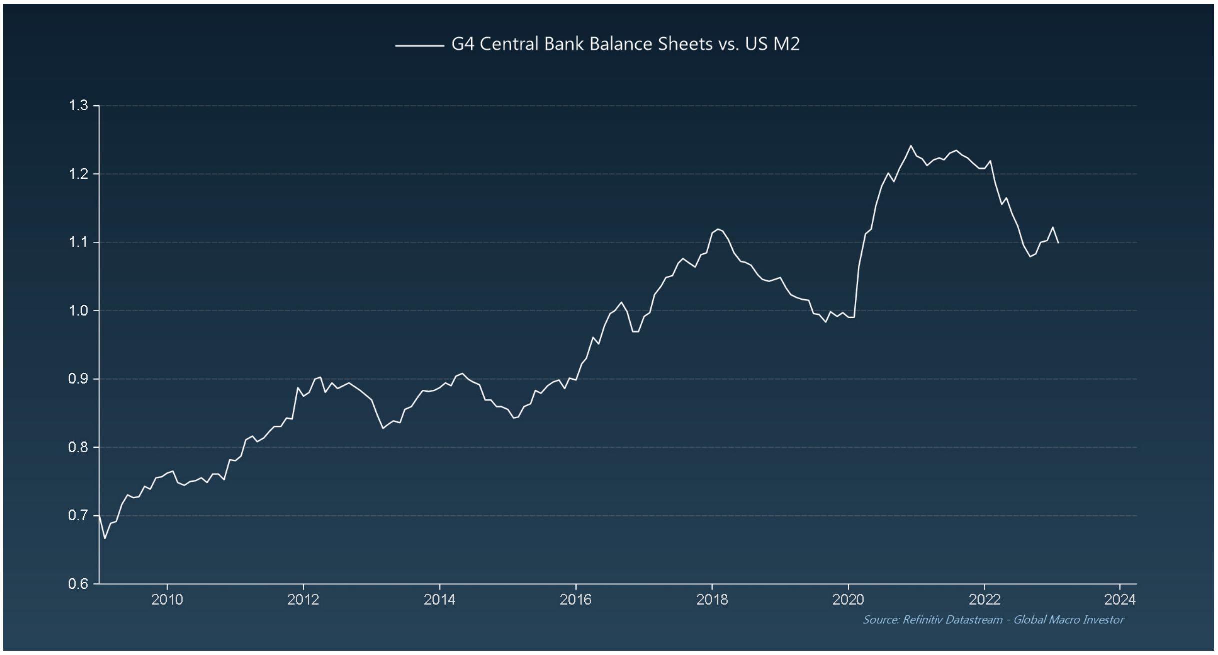
This is also (I believe) the reason why the Swiss National Bank bought equities (mainly tech) when they printed Swiss Francs. They fully understood that the game was debasement (and were probably part of the Central Bank Accord) and instead of buying bonds, like others, they bought stocks to protect themselves. Fucking genius.

Scarce supply vs variable supply

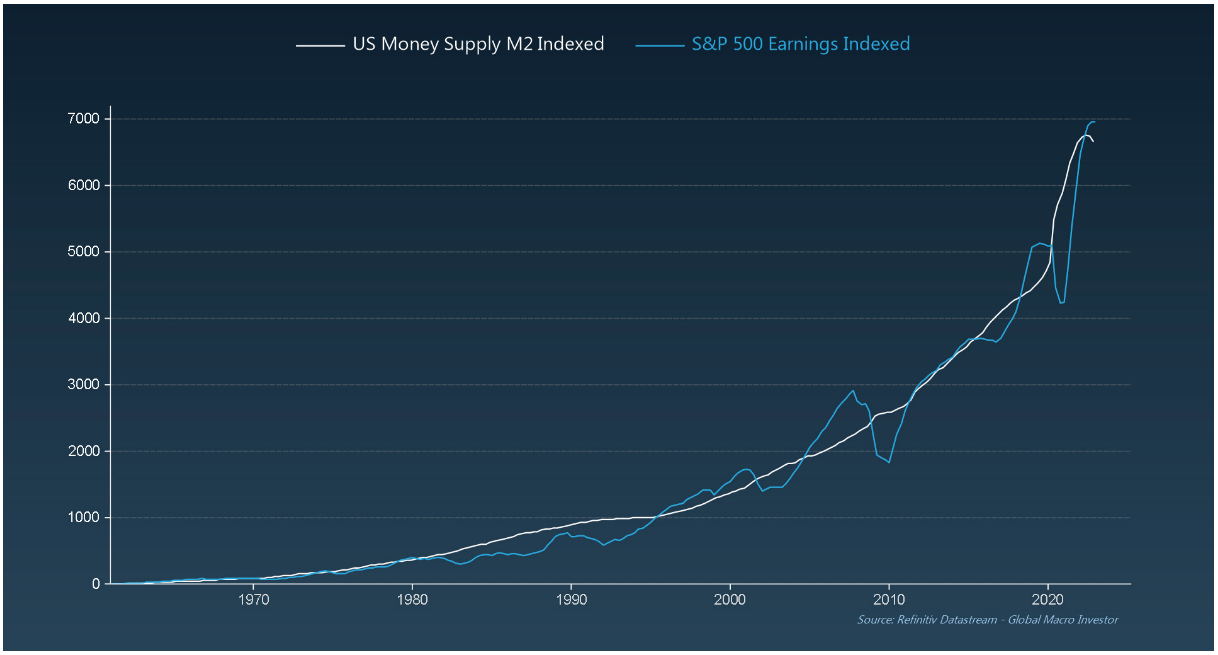
But again, there is more to it...

Debasement optically makes scarcer assets rise: US equities (due to buybacks and near-zero IPOs, US equities are in short supply), gold, real estate, and crypto. Variable supply assets such as commodities, don't rise with QE (they just rise and fall with the business cycle).

Crucially, earnings don't rise in line with assets as they are variable. They rise in line with M2 growth, which in turn rises less than the Central Banks' Balance Sheet...

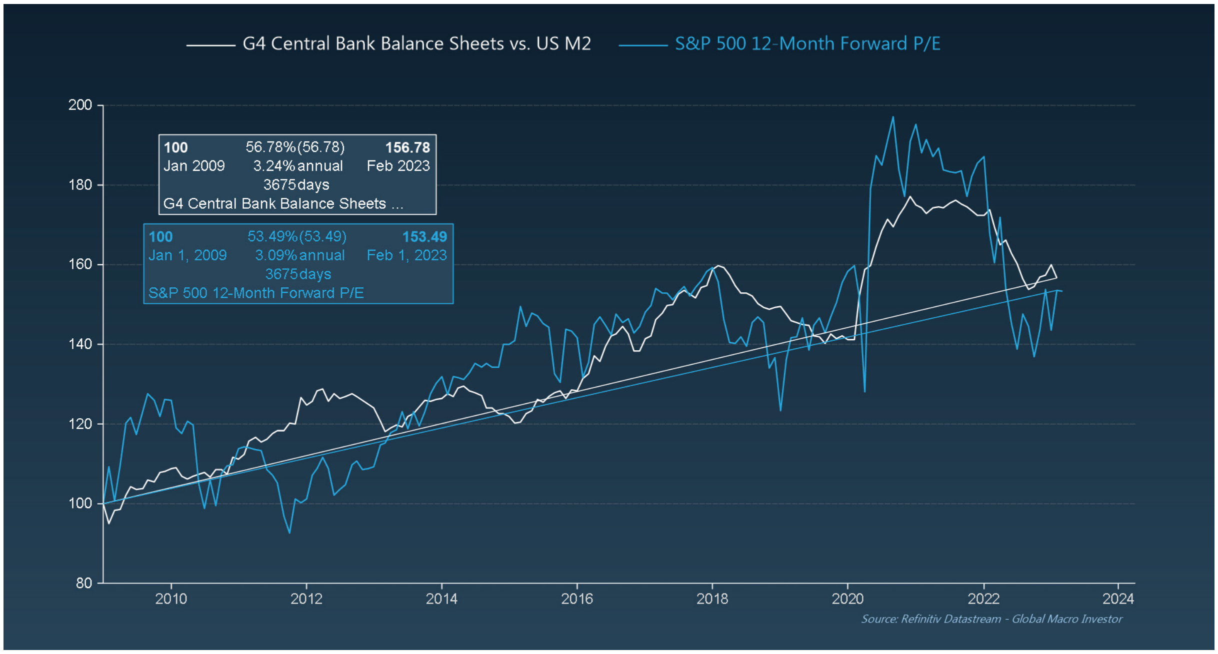


You can see that earnings are driven by M2 in this incredible chart...

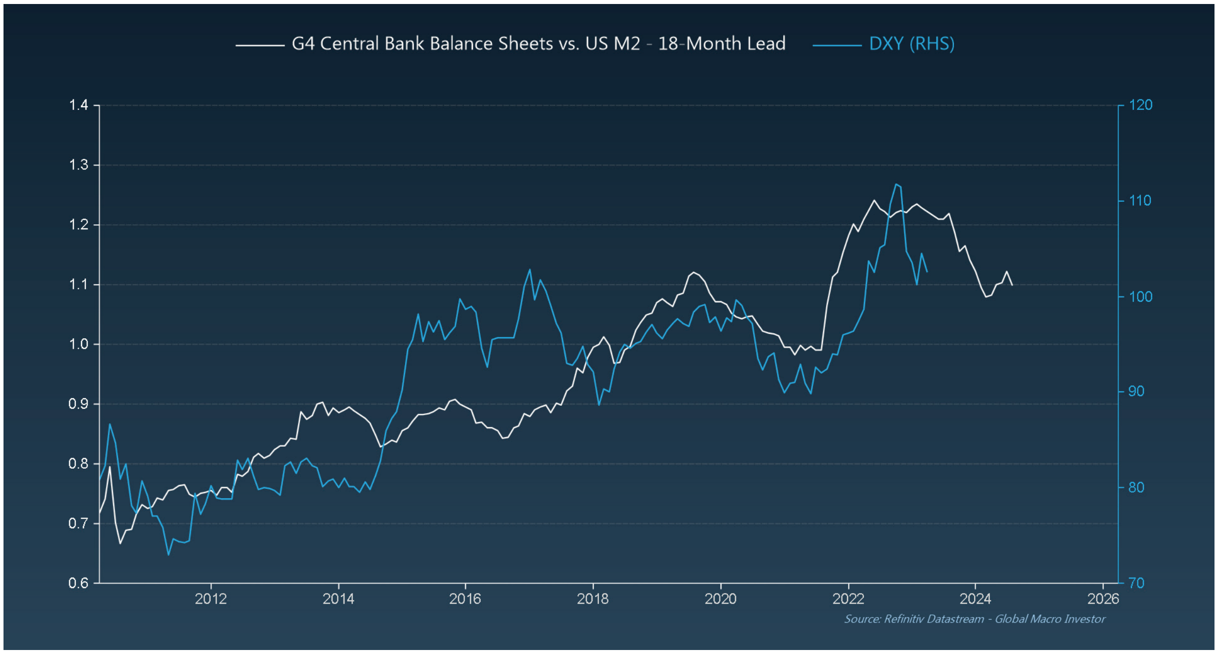


Additionally, the relationship between the *price* rising due to the balance sheet and *earnings* rising in line with M2 growth, gives you the rise in the P/E ratio of the SPX over time.

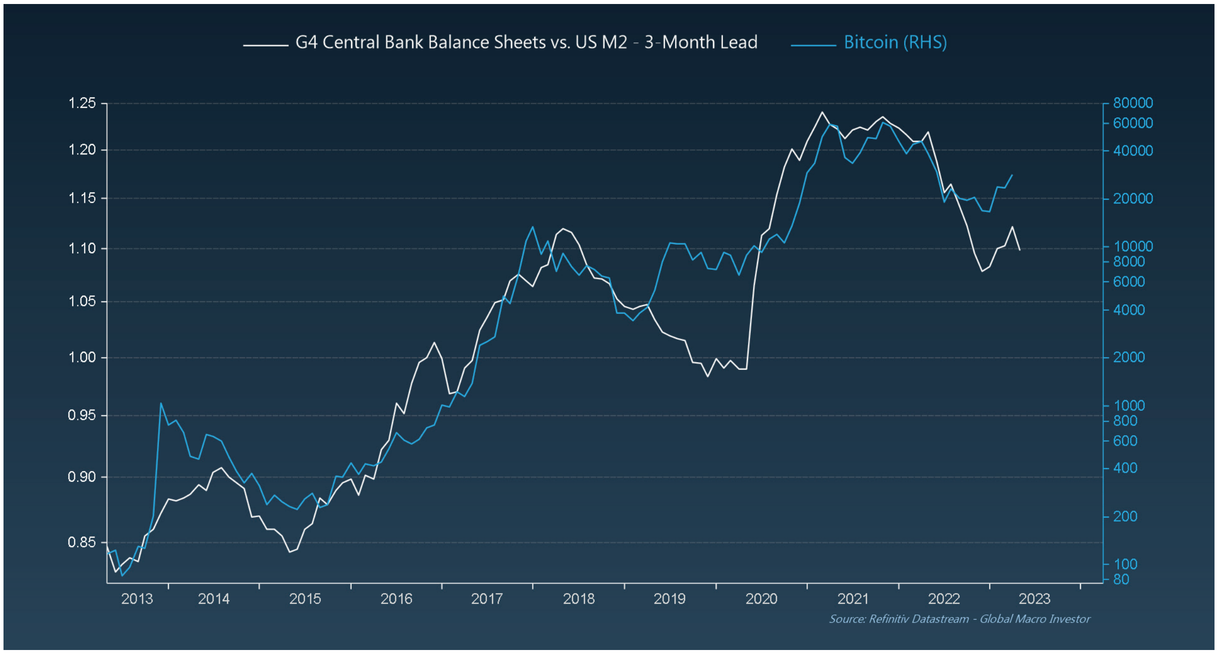
P/Es are not valuations anymore but monetary indicators. You need to understand this, or you will lose money...



... and that also drives the dollar (with an eighteen-month lead) ...



... and Bitcoin...



It has NOTHING to do with market valuations anymore. It is ALL to do with the monetary conditions. This is why value investing doesn't work.

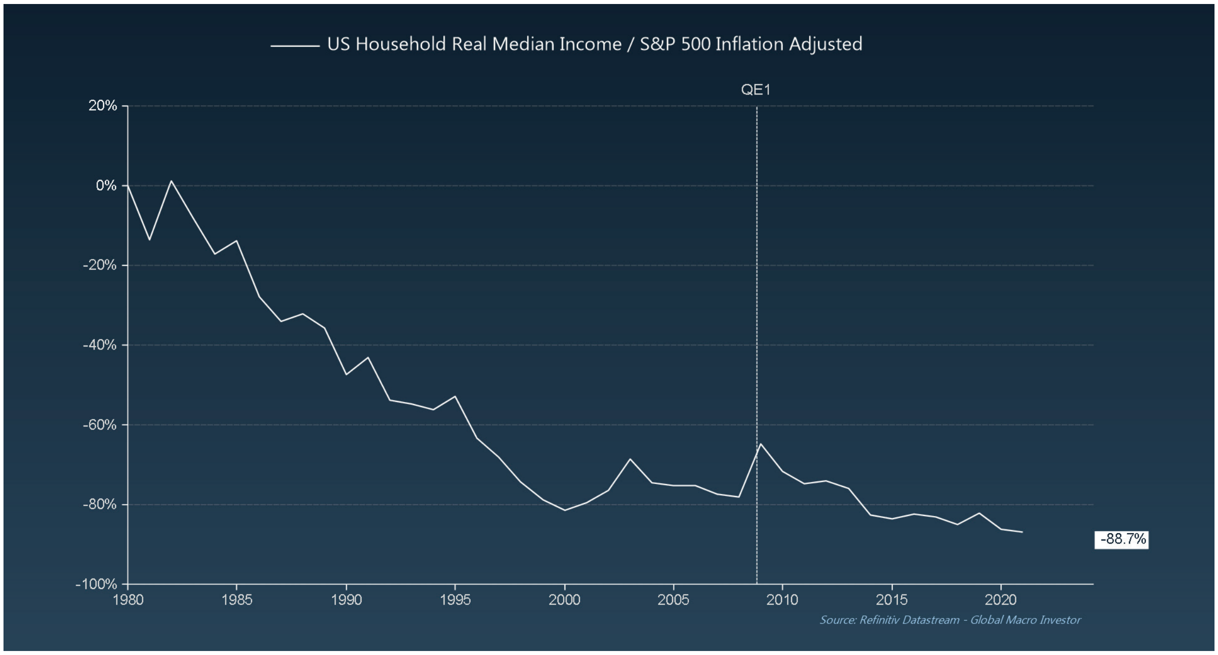
Everything changed when QE arrived, and old metrics will not work because it is ALL down to the Central Bank Balance Sheets.

We are all getting rich!

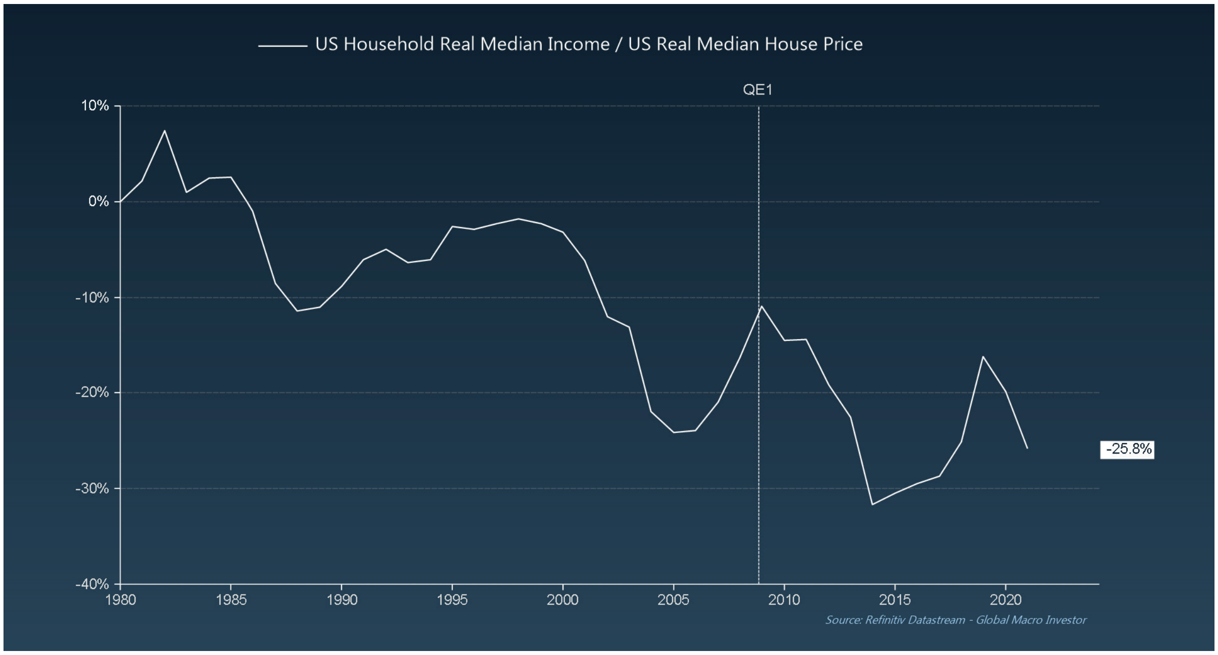
Doesn't it sound amazing that assets magically rise... makes us all rich!

But no, most people can't afford assets and those people, the median Americans, are getting poorer in asset-purchasing terms every year. Incomes have only risen in line with inflation due to the demographic issues I discussed earlier in this article. Assets are deferred consumption. People are therefore getting poorer in the future.

This is why they are ANGRY. *It is the Death of the American Dream*. Their wages never went up and they got left behind, only to die poor. The median American can buy less of the S&P 500 (89% less than in 1980) ...



... as well as 26% less in terms of housing...

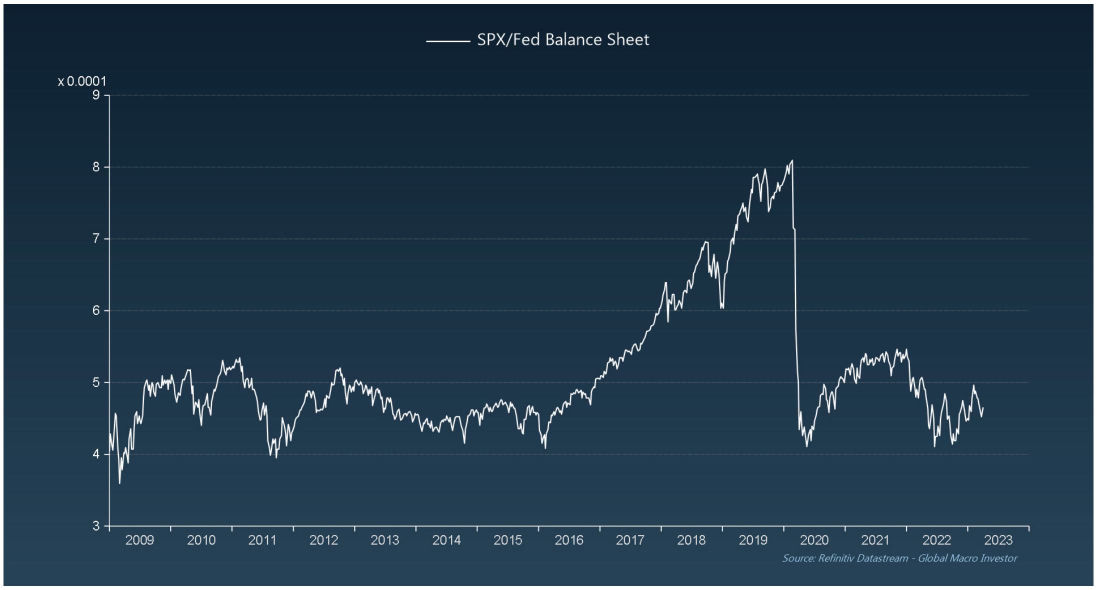


REAL VISION™

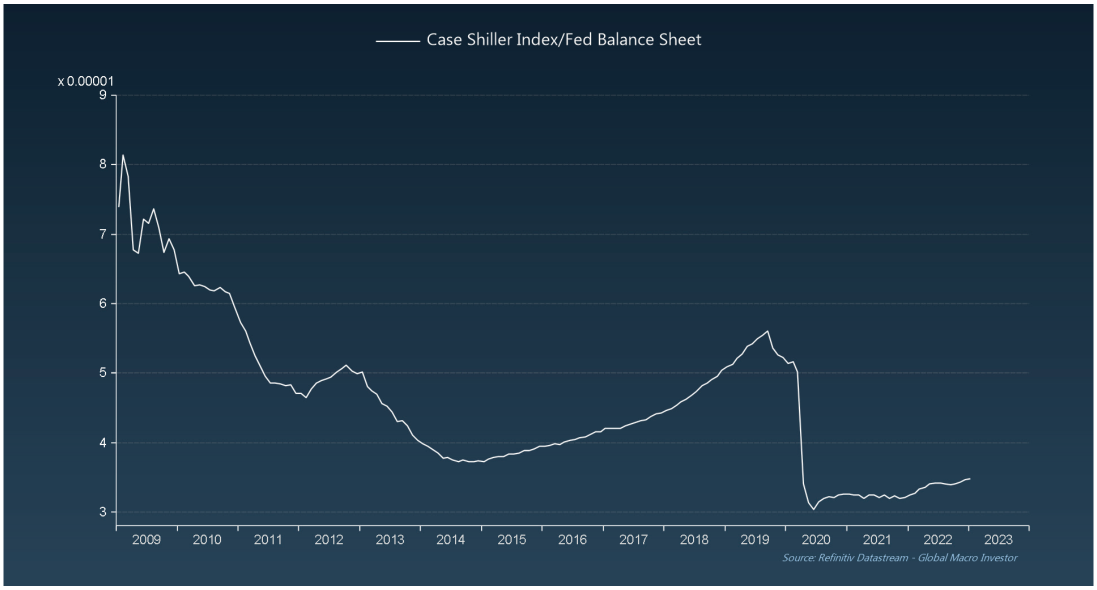
Money illusion

If the central banks are debasing the denominator (the purchasing power of fiat currency) then we need to assess assets in those terms to see if anything is creating *real* wealth, or if it's all a money illusion.

The SPX is just a money illusion: zero wealth creation...



Property is worse but most people buy it on 5x leverage so it's likely to be flat too...



Gold has been an awful hedge against debasement...

The only things that matter...

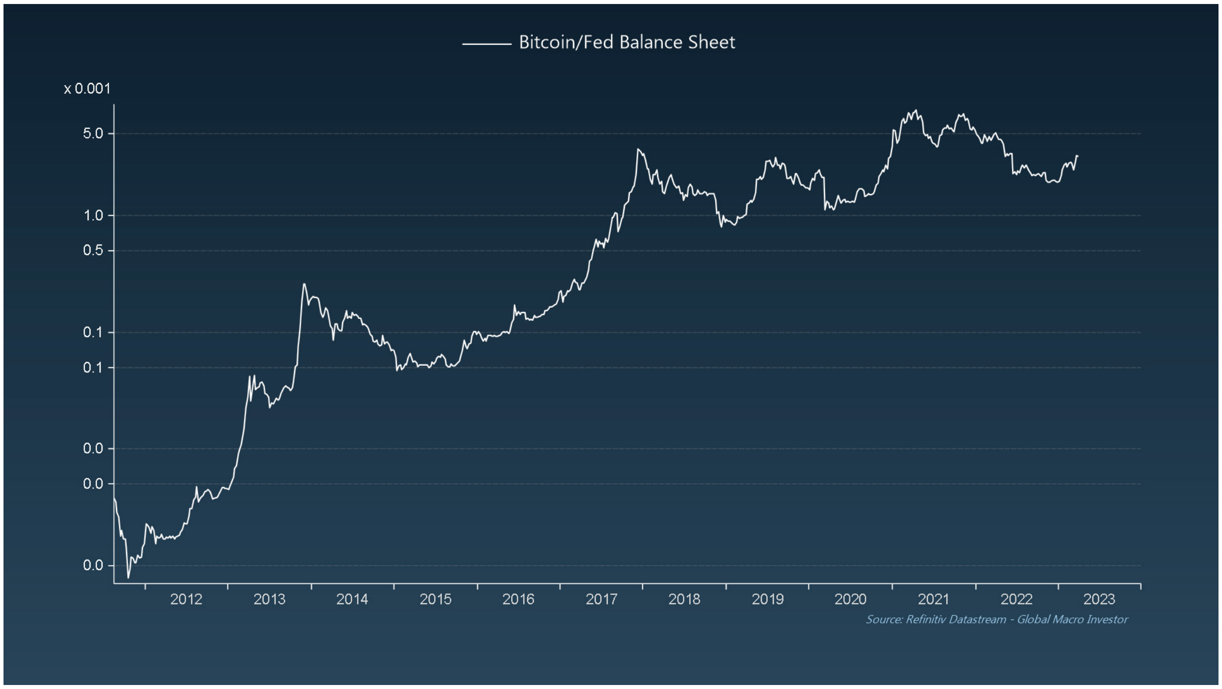
Only two assets have outperformed. These are the only assets that will save us all.

Tech

Tech has done very well. In a world of 1.75% GDP growth, growth assets are the scarcest of all. *I expect this trend to accelerate as The Exponential Age kicks in and consumes the world's investable capital...*

Crypto

But even if tech accelerates, it simply cannot outperform crypto, which has both hyper-scarcity and technological adoption combined in one powerful rocket ship...



Coming Next... Part 3: The Everything Code

Now that we have an appreciation of what's going on and why, I'm going to bring it all together next week... with Part 3, *The Everything Code*.

Let me know what you think of *The Set-Up* in the comments, or at pro@realvision.com.