

In Gold We Trust
Report

May 24, 2022

Stagflation 2.0



incrementum

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& Mark J. Valek

We would like to express our gratitude to our **Premium Partners** for supporting the *In Gold We Trust* report 2022

Details about our **Premium Partners** can be found on page 390 ff.



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Introduction: of Wolves and Bears

“To ignore the warning signs and continue with the strategies of the past is to ignore the third, crucial cry of wolf.”

“The Boy Who Cried Wolf: Inflationary Decade Ahead?,” Incrementum Inflation Special, November 2020

Key Takeaways

- In our special analysis from the fall of 2020, "The Boy Who Cried Wolf", we warned urgently of the underestimated danger of high inflation. The wolf is now here to stay. The war in Ukraine is exacerbating the inflation dynamic.
- The intractability of supply chain issues, the cost of sanctions, tighter monetary policy, and deglobalization are now bringing the recession bear to the table alongside the wolf.
- The majority of investors have been caught on the wrong foot by entering the inflationary environment. Balanced portfolios have been suffering heavy losses so far this year.
- In addition to de-globalization and decarbonization, there are a number of other structural reasons that argue for a longer-term stagflationary environment in which multiple waves of inflation are likely to occur.
- The freezing of Russian foreign exchange reserves and the new geopolitical realities make gold increasingly attractive as a neutral international reserve asset.

Of Wolves and Bears

Whether the bear beats the wolf, or the wolf beats the bear, the rabbit always loses.

Robert Jordan

The true investment challenge is to perform well in difficult times.

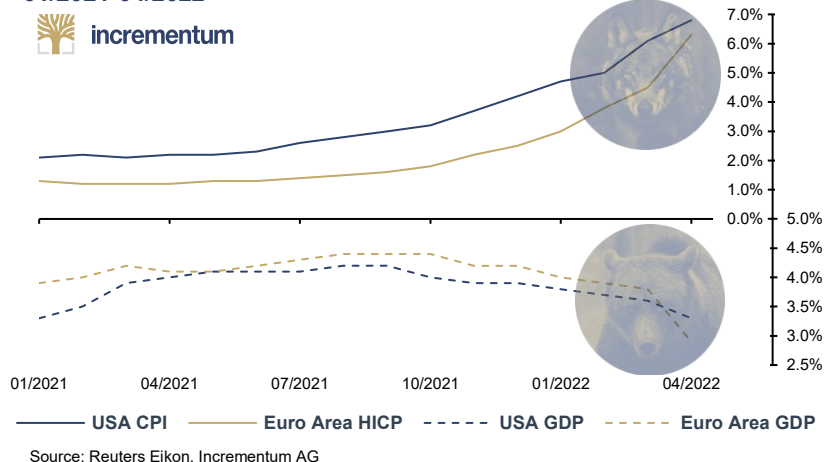
Seth Klarman

In the fall of 2020, in the midst of the second Covid-19 wave, we were prompted to publish a special edition of the *In Gold We Trust* report. In our publication entitled “*The Boy Who Cried Wolf: Inflationary Decade Ahead?*”, we used Aesop’s parable to issue an urgent warning about the danger of inflation creeping up on us. The majority of market participants were no longer familiar with this predator, which was thought to be extinct, since the last period of high inflation was many decades ago.

Now the wolf is here – and it dominates the headlines. But many investors are still unaware of the threats it poses to their portfolios. In many cases, people hide behind the naïve illusion that the wolf will disappear again after a short time – just like that, and without having feasted on any prey.

Now the next danger is already lurking: sneaking up behind the wolf is a bear. This bear symbolizes a striking economic downturn, pushing asset prices down with its paw. Once again, the majority of economists and investors will be caught on the wrong foot.

Monthly Inflation and GDP Polls for 2022, USA and Euro Area, 01/2021-04/2022



After the devastation of the Covid-19 pandemic, everyone hoped for years of recovery. Last year’s record-high growth figures fueled this fire of hope. But these figures were mainly due to a return to a certain economic normality dependent on the base effect.

For those properly prepared, the bear market is not only a calamity but an opportunity.

John Templeton

But what was the real tinder that caused this *growth fire* to burn? In the wake of the global lockdowns and the equity market crash, the US economy contracted by an annualized 9.1% in Q2/2020, while global GDP slumped by 3.1%. An unprecedented flurry of monetary and fiscal policies were implemented in an attempt to limit the economic damage caused by the lockdowns and prevent the looming debt-deflation.

The stock markets reacted with delight, deflation was averted, and just a few months later the financial markets were once again in high

spirits. The S&P 500 rallied from its Covid-19 low to a new all-time high in just 5 months, and the Nasdaq soared 134% from low to high in just 3 months.

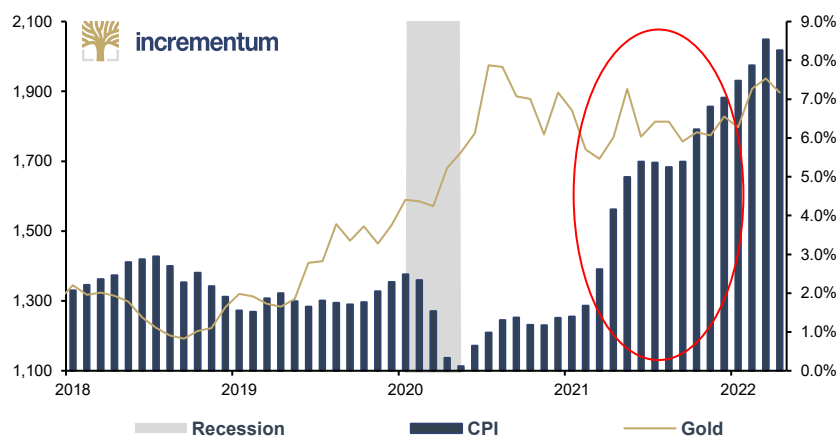
But the inflationary side effects of the brute monetary and fiscal revival measures manifested themselves quietly over the course of the past year. The price paid for rescuing the markets was steadily rising inflation, which broke through the central banks' 2% target in both the US and the euro area in mid-2021.

Many of us smile at old-fashioned fortune-tellers. But when the soothsayers work with computer algorithms rather than tarot cards, we take their predictions seriously and are prepared to pay for them.
Gerd Gigerenzer

But central bankers appeased us. Don't be afraid of the wolf; the howl you think you hear is just your imagination; the surge in inflation is merely *transitory*. Consequently, this appeasement was also to be found in institutions' inflation forecasts. The ECB's inflation forecast is exemplary for its dramatic misjudgment of the situation. In September 2021, an inflation rate of 1.7% was projected for 2022; in December 2021, the forecast was raised to 3.2%; and in March it had climbed to 5.1%. **Even before the outbreak of the Ukraine war, the ECB almost had to double its inflation forecast within the span of three months.**

Initially, the gold price reacted disappointingly to the inflation increase of the previous year. Over the course of 2021, gold holders had to settle for a modest return of +3.6% in EUR or -3.5% in USD.

Gold (lhs), in USD, and CPI (rhs), 01/1970-04/2022



Source: Reuters Eikon, Incrementum AG

The reasons why gold temporarily lost its mojo were:



Courtesy of Hedgeye

- A strong prior performance: 2019: +18.3% (USD), +21% (EUR); 2020: +24.6% (USD), +14.3% (EUR)
- The extremely firm US dollar
- High opportunity costs because of soaring stock markets
- Crypto assets that stole the show from gold
- **Most importantly, market participants believed the *transitory* narrative and did not fear that inflation would remain high in the longer term.**

The longer inflation stayed elevated, the more market participants thought that this must affect the price of gold. **It was not until the beginning of 2022 that the price gradually began to react to the increased inflation and the growing turbulence on the stock and bond markets.**

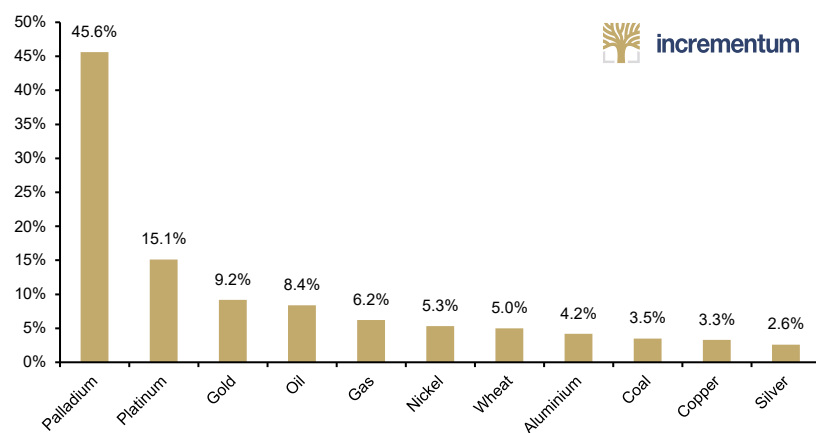
The Russian Bear

February 24, 2022, marks a historic turning point in the history of our continent.

Olaf Scholz

It is obvious that Russia's attack on Ukraine will have a further exacerbating effect on the inflation situation. Russia is one of the major exporters of raw materials, not only in the energy sector. However, what we believe is severely underestimated is the disastrous cost to national economies faced with the substitution of Russian resources. **German Minister for Economic Affairs Robert Habeck** put it succinctly in a discussion on a possible EU oil embargo against Russia: *"This cannot be had without any pain!"* **JP Morgan estimated in mid-April** that an oil embargo would send the price of oil soaring to USD 185. That would be a jump of another 70-80% or so. One does not need to be a great prophet to predict the impact of such a price jump on the economy and inflation rates. **The sanctions spiral will certainly cause not only the wolf but also the bear to run rampant.**

Russia's Exports, as % of Global Production, 2021



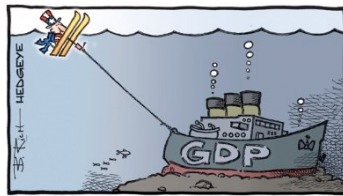
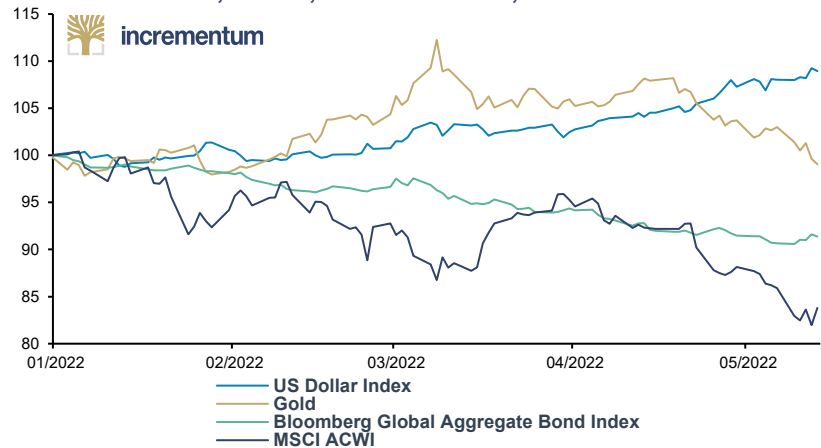
Source: Bloomberg, JPMorgan, Incrementum AG

Markets usually change when beliefs change, not fundamentals.

David Darst

And that bear can already be seen prowling the capital markets. The S&P 500 dropped more than 15% since the beginning of the year, while the Nasdaq is down 25%. The bears have reached the former epicenter of the US bull market: the vaunted technology stocks. **But the ursine brute is also loose in the bond markets.** In Q1/2022, US Treasury bonds posted their worst performance since records began in 1973, according to the Bloomberg US Treasury Total Return Index. And also in the currency markets the bear has appeared, the US Dollar Index climbed to its highest level since 2002. **Gold held up well in this adverse environment, but lost its strength from mid-April onwards.**

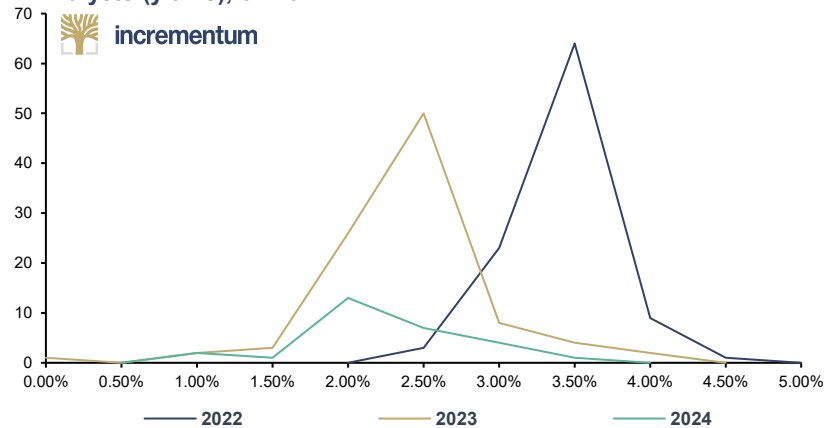
US Dollar Index, Gold, Bloomberg Global Aggregate Bond Index, and MSCI-ACWI, in USD, 100 = 31.12.2021, 01/2022-05/2022



Courtesy of Hedgeye

The bear is also slowly making its presence felt in economic terms. In Q1/2022, the USA probably already recorded a decline in economic output. After annualized quarterly growth of 6.9% in Q4/2021, the economy contracted by 1.4% in Q1/2022 according to the latest GDP estimate of the Bureau of Economic Analysis (BEA), even though the initial estimate was for over 3% growth. Even if growth in the current quarter is again slightly positive and a (technical) recession can still be avoided for the time being, a recession in the next 12-18 months is much more likely than currently assumed by economists and the market.

US GDP Polls, Annual GDP Growth (x-axis), and Number of Analysts (y-axis), 04/2022



The Momentous Freeze of Russian Foreign Exchange Reserves

The status of the US dollar as the global reserve and trade currency is showing unmistakably widening cracks. For many years now, we have been documenting the process of de-dollarization. We are now eyewitnesses to a momentous breach of confidence that is preparing the ground for a move away

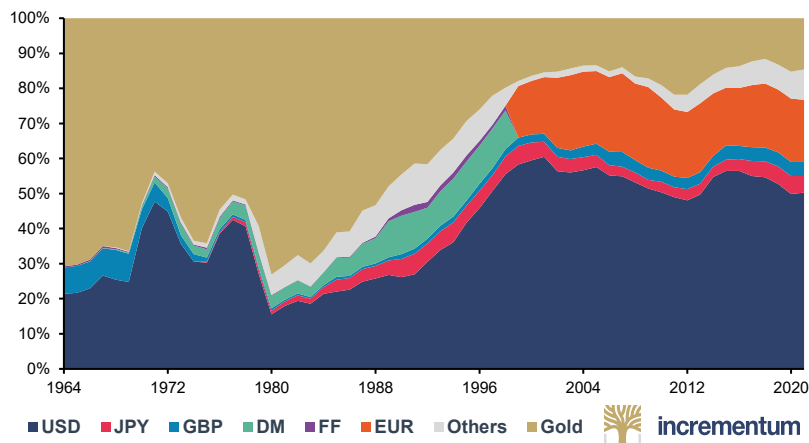
If we can't store [the euro], acquire it; if the ability to settle in this currency with our counterparties, including those in Western Europe, is violated, then why should we trade for this currency? For us, this currency turns into candy wrappers. We have lost all interest in euros and dollars.

Pavel Zavalny

The decision of the G7 and the EU on February 26 to freeze the US dollar and euro currency reserves of the Russian Central Bank, which account for about 60% of its total international reserves, will go down in monetary history. Although there have been sanctions against pariah states such as Venezuela, Iran, or the Taliban's Afghanistan before, they have never before been applied against a state with veto power in the UN Security Council, a former member of the leading economic nations (G8), a nuclear power, and one of the world's most important exporters of raw materials.

With the weaponization of money, however, the US and the EU are unlikely to have done themselves any favors in the medium to long term. **The decision clearly demonstrates to many US-critical nations how quickly US dollar reserves can transform from a highly liquid asset to useless pieces of printed paper. De facto, the US and the euro area have told the world that they no longer want to pay their economic quid pro quo from previous trade deals.**

Composition of Global FX Reserves incl. Gold, 1964-2021



It is hard to overstate the importance of what the US and EU effectively announced: the US and EU effectively just declared that \$12 trillion in FX reserves globally that are the result of prior economic surpluses are subject to political confiscation.

Luke Gromen

The volume we are talking about is enormous: The global foreign exchange reserves of central banks amount to around 12trn USD, of which the US dollar accounts for about 60% and the euro for 20%. China, in particular, will have been watching Russia's reserve freeze with a wary eye and will be stepping up its efforts toward monetary sovereignty. In addition, the freezing of currency reserves has a potentially strong deflationary effect.

Remarkable countermeasures were taken to support the collapsing ruble. For example, the Russian Central Bank – after doubling its key interest rate to 20% – announced that it would pay a fixed price of 5,000 rubles per gram of gold from March 28 until June 30. This is equivalent to about USD 1,940 per ounce. This establishes a floor for the gold price in rubles, and since gold is traded in US dollars, it also implicitly establishes a floor for the ruble in US dollars.

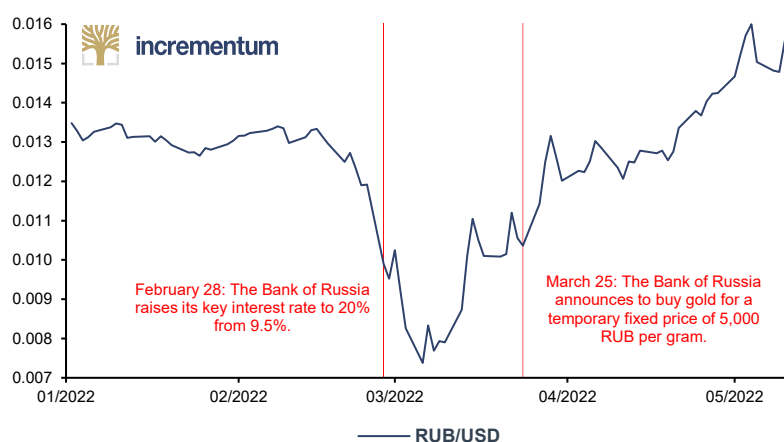
This weaponization of the US dollar was no surprise to anyone – Trump had already weaponised it against Iran in particular.

Russell Napier

Some analysts have mistakenly referred to this mechanism as the new gold standard. However, this is not the case, as the central bank has not committed itself to redeeming rubles for gold, but only issues rubles and accepts gold. **Nevertheless, this example illustrates most vividly that gold can be used at any time not only as a proverbial but as an actual anchor for a fiat currency.**

What is extremely impressive is how the external value of the ruble has developed against the US dollar, which is itself extremely strong. For example, the ruble is trading firmer against the US dollar than at the beginning of the year, despite six waves of tough sanctions already in place.

RUB/USD, 01/2022-05/2022



Source: Reuters Eikon, Incrementum AG

It's one thing to make life uncomfortable for some oligarchs, but the decision to freeze central bank assets is in another league all together. With a stroke of a pen, the West took Russia's FX reserves and made them useless.

Kevin Muir

In addition to the gold price floor, the decision that Russia will no longer accept euros as a means of payment for its exports is likely to have played a significant role in the unexpected strength of the ruble.

The chairman of the energy committee in the Russian Duma, **Pavel Zavalny**, commented on the Russian decision to no longer accept the euro as a means of payment: *“Let them pay either in hard currency, and this is gold for us, or pay as it is convenient for us, this is the national currency.”* (Our emphasis.) From the states classified as **unfriendly** Russia will in future only accept payment in rubles or in gold, and from all others in a freely negotiable currency and possibly even in Bitcoin.

We are concerned that the West may be overestimating its position with regard to its de facto monopoly on international currency reserves. The economic importance of the East – especially Asia – has increased massively over the past 20 years. This power has been highlighted by Sergey Glazyev. He is considered one of Russia's most influential economists and is a member of the National Finance Council and former Minister of Foreign Economic Relations. He was also an economic advisor to President Putin from 2012-2019. **Glazyev explained the role that commodities will play in the emerging multipolar monetary order:**

“The third and the final stage on the new economic order transition will involve a creation of a new digital payment currency... A currency like this can be issued by a pool of currency reserves of BRICS countries... the basket could contain an index of prices of main exchange-traded commodities: gold and other precious metals, key industrial metals, hydrocarbons, grains, sugar, as well as water and other natural resources...”

We think it is plausible that gold, as a neutral monetary reserve, will emerge as one of the beneficiaries of the troubling conflict between East and West. In an increasingly polarized world that is dividing into two blocs, gold can act as a neutral, nonstate monetary intermediary. Meanwhile, the trend of gold enjoying increasing popularity among central banks has continued unabated since 2008. **Thus, while the BRICS countries have significantly increased their gold reserves in recent years, the West, especially the euro area and the US, is still well ahead in this ranking.**

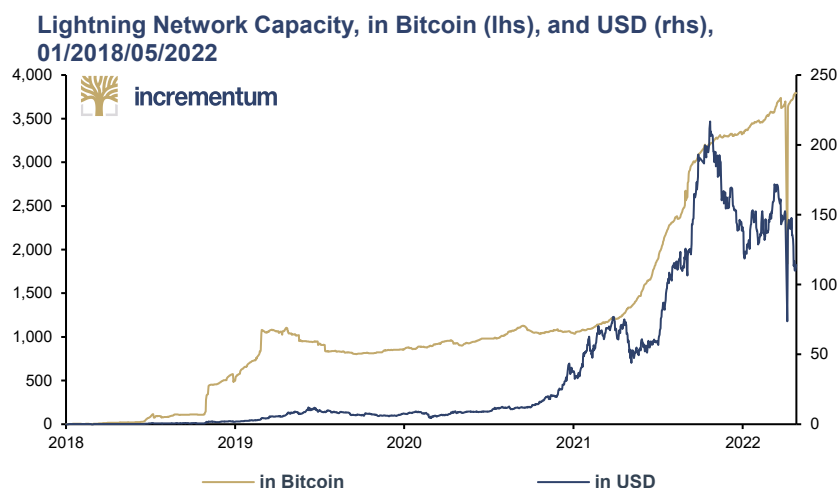
Country	FX reserves, in USD mn.	Total reserves, in USD mn.	Gold reserves, in tonnes	Gold reserves, in USD mn.	Gold reserves/ total reserves	Gold reserves/ GDP
Euro area	499,850	1,141,117	10,270	641,267	56.20%	4.41%
USA	237,182	745,053	8,133	507,871	68.17%	2.00%
Russia	497,946	641,665	2,302	143,719	22.40%	7.86%
China	3,251,626	3,373,282	1,948	121,656	3.61%	0.61%
Switzerland	1,036,009	1,100,949	1,040	64,940	5.90%	7.71%
Japan	1,303,245	1,356,070	846	52,824	3.90%	1.08%
India	563,471	610,952	760	47,481	7.77%	1.44%
Taiwan	549,994	576,446	424	26,452	4.59%	3.14%
Saudi Arabia	441,067	461,240	323	20,173	4.37%	1.94%
Singapore	424,839	434,439	154	9,600	2.21%	2.26%
South Korea	455,833	462,355	105	6,522	1.41%	0.36%
Hong Kong	490,956	491,086	2	130	0.03%	0.04%

Source: IMF, World Gold Council, Incrementum AG (data as of Q1/2022).

If reserves can be negated overnight, are they even reserves? How many other countries must hedge against the possibility of similar sanctions?
Doomberg

In addition to the unique feature that gold has no risk of default or confiscation – provided it is held securely in the country that owns it – central banks now have another argument in favor of holding reserves in gold. Inflation rates, which are markedly beyond their respective inflation targets, are likely to further undermine confidence in government reserve currencies in the coming years. **Gold will probably gain further acceptance as a reserve currency in many countries and increasingly establish itself as an anchor of confidence and purchasing power.**

Even though Bitcoin was mentioned in passing by Russia in this context – which is remarkable – **it does not play a role in the concert of reserve currencies at present.** However, in the oldest of all cryptocurrencies adaptation continues to progress steadily. Worth mentioning, in addition to the integration of Bitcoin as an asset into traditional financial markets, is the increasing use of the protocol for processing payments via the Lightning Network.



Bitcoin has moved beyond the experimentation phase. We're now into the implementation era.

Mark E. Jeftovic

I can't understand why people are frightened of new ideas. I'm frightened of the old ones.

John Cage

Bitcoin is being discovered by a growing part of the population in developing countries and is also being actively used as a means of payment. Thus, a bottom-up dynamic can be seen here. Central banks, on the other hand, still want nothing to do with the decentralized digital currency. But even so, there are always interesting initiatives. For example, at the April 2022 general meeting of the SNB, a request was made by some of the bank's shareholders that it should shift 1 billion francs of its assets per month from Eurobonds into Bitcoin. *As expected, the request was not favored by the central bank.* Consequently, the initiators will probably confront the SNB with the issue every year from now on.

But there are also newsworthy developments at the state level with regard to Bitcoin: Last year, El Salvador introduced Bitcoin as an official means of payment alongside the US dollar. The Central African Republic has recently followed suit. In both cases, the IMF opposed the moves vociferously and warned of considerable risk. That institution, which forbids its member states from pegging their currencies to gold, is obviously strongly opposed to Bitcoin becoming official money. **One cannot escape the impression that the IMF is, at its core, the supreme guardian of the global debt-based monetary system.**

From Monetary Climate Change to Stagflation 2.0

Before we turn to our core topic this year, stagflation, allow us to take a quick look in the rearview mirror. In the *In Gold We Trust report 2021* we talked about what we called *monetary climate change*. With this term, we alluded to a multilayered paradigm shift triggered by the pandemic and the political reactions to it, and shaped by the following five developments:

- Budgetary nonchalance
- Merging of monetary and fiscal policy
- New tasks for monetary policy
- Digital central bank currencies vs. decentralized cryptocurrencies
- The new ice age between East and West

These trends are still present and are further reinforced by the Russian crisis. The budgetary nonchalance continues seamlessly after the Covid-19 crisis has abated. No expense is being spared to develop alternative energy sources, to massively rearm and to finance the costs of sanctions, but also to cushion the wave of inflation through transfer payments. Monetary policy will have no choice but to finance the additional government budget gaps by monetizing public debt. Relations between East and West have cooled down so much that one can already speak of a Cold War 2.0. These are all structurally inflationary dynamics, which have a braking effect on growth on top of everything else.

From a financial market standpoint, the situation remains the inverse of Goldilocks.
Christopher Wood

Wolf and bear, inflation and economic downturn equals stagflation.

This is precisely the insight that is slowly but surely taking hold. No less a person than the president of the renowned German Ifo Institute, **Clemens Fuest**, already surprised us at the end of April (!) with the following statement: “We are in the midst of stagflation, at least in Europe.” In view of the tense geopolitical situation and the dark clouds in the economic sky, we consider stagflation to be very likely in many parts of the world, especially in the USA and the EU.

Just as we predicted the current wave of inflation in 2020 without going far out on a limb, we are also not going out on a limb with our announcement of persistent stagflation. **We will certainly not have to endure a repeat of the stagflation of the 1970s; rather, we’ll see stagflation 2.0, with its numerous peculiarities.** We will compare some of the important characteristics here with a focus on the US.

Factor	Stagflation Phases 1970–1983	Stagflation 2.0
Trigger	- 1973: Oil embargo Yom Kippur War - 1979: Iranian Revolution	- Covid-19 pandemic & lockdowns/ massive stimulus measures - Supply chain issues - War in Ukraine
Duration	Several phases between 1970 and 1983	?
Money overhang	Up to 4.9% (1982)	Up to 21.3% (2020)
Real interest	- Partly positive, partly negative, mostly within a range of +5%/-5% - Strong increase in early 1980s to just under +10%.	Currently strongly negative Positive real interest rates b.a.w. not conceivable
Budget deficit	Up to 5.7% (1983)	Up to 15.0% (2020)
Debt	Low (data for 1970 and 1982) - State: 35.7%; 35.2% - Company: 47.0%; 53.1% - Private households: 44.0%;47.9%	High (data for 2021) - State: 123.4% - Company: 77.2% - Private households: 76.4
Labor market	- High degree of organization; - Growing workforce potential	- Low organizational level - Declining workforce potential as a result of demographic change
International division of labor / geopolitics	- Division of Labor Largely Stable - Geopolitics: Cold War	- After decades of globalization now de-globalization - Slipping into Cold War 2.0
Oil price development (WTI)	- Jun 1973–Feb 1974: +184% - Dec 1978–May 1980: +166%	- Dec 2020–Apr 2022: +116%
Currency regime	Exchange of gold currency standard on system of flexible exchange rates	Increasing departure from the unipolar monetary system with the US dollar as the anchor currency
End	Interest rate hikes, Volcker shock, recessions	- Potential debt crises due to high debt levels - Reorganization of the international monetary order

Source: Incrementum AG

Stagflations and their consequences for the economy, society and financial markets are probably only known to most people from history books, if at all. **Adequate preparation for the simultaneous appearance of wolf and bear, which is even rarer to observe than a German victory in the song contest, will occupy us in all its details in this year's *In Gold We Trust* report.**

Thank you very much!

Year after year, the *In Gold We Trust* report strives to be the world's most recognized, widely read, and most comprehensive analysis on gold. We wholeheartedly thank our more than 20 fantastic colleagues on four continents¹ for their energetic and tireless efforts!

A strong passion for any object will ensure success, for the desire of the end will point out the means.

Henry Hazlitt

Our thanks also go to our premium partners, of course.² Without their support it would not be possible to make the *In Gold We Trust* report available free of charge and to expand our range of services year after year. In 2022, for example, we launched our **Monthly Gold Compass** as well as a **Spanish edition of the compact version**.

Studying and appreciating the past is crucial to preparing for the future. **Understanding and preparing for the *monetary climate change* described last year³ as well as *Stagflation 2.0* are, in our opinion, key analytical challenges of the present. We are pleased to once again provide you, dear readers, with a comprehensive, informative and entertaining guide to gold.**

Now we invite you on our annual parforce ride and hope you enjoy reading our 16th *In Gold We Trust* report as much as we enjoyed writing it.

With warm regards from Liechtenstein,



Ronald-Peter Stöferle and Mark J. Valek



¹ All employees are pictured in the employee gallery at the end of the *In Gold We Trust* report.

² At the end of the *In Gold We Trust* report you will find an overview of our Premium Partners, including a brief description of the companies.

³ "Monetary Climate Change," *In Gold We Trust* report 2021



**EVEN IF WE
DISCOVER
NEW WORLDS.**

**THE FUTURE
IS GOLD.**



Status Quo of Gold as a Currency

“Fiat money will be a passing fad in the long-term history of money. ... Gold is definitely a fiat money hedge.”

Jim Reid, Deutsche Bank

Key Takeaways

- In 2020, gold proved itself, yet again, as a recession hedge, a portfolio stabilizer in times of highly volatile equity markets, and an early inflation hedge.
- After two years of well above average gains of 18.9% and 24.6% in USD terms and a new all-time high in August 2020, in 2021 it was time for consolidation in the gold price.
- Profit-taking, a significantly firmer US dollar, opportunity costs in the wake of the Bitcoin bull market, and rising bond yields caused significant headwinds for the gold price in 2021.
- From 2000 to 2022 gold averaged a 9.3% return. During this period, gold has outperformed virtually every other asset class and, above all, every other currency.
- Gold is especially effective as an asset protection tool in countries where it has a significantly negative correlation with local stock markets.
- Gold’s long-term upward trend is clearly intact. The basis for further price increases seems excellent.

Your time is precious, and we won't beat around the bush: 2021 was disappointing for gold, especially in view of the sharp rise in inflation rates.

Take a deep breath, pick yourself up, dust yourself off, and start all over again.

Frank Sinatra

What were the reasons for this frustrating performance? After record gains in 2019 and 2020, the gold price had to take a deep breath. After two years of well above average gains of 18.9% and 24.6% in USD terms, and a new all-time high in August 2020, it was time for consolidation. Especially as the impressive 80% rise in the gold price from the August 2018 low to the August 2020 high correctly anticipated the rise in the CPI in 2021.

Gold (lhs), in USD, and Silver (rhs), in USD, 01/2016-05/2022



Source: Reuters Eikon, Incrementum AG

In 2020, gold did exactly what it should do in a diversified portfolio: It served as a reliable hedge against the turmoil in the wake of the Covid-19 pandemic, as a recession hedge, as a portfolio stabilizer in times of highly volatile equity markets, and as an early inflation hedge. **In a nutshell, gold has confirmed that it is the Virgil van Dijk of assets. Always on hand when things get really hairy .**

I guess you guys aren't ready for that yet. But your kids are gonna love it.

Marty McFly

But now back to the present – and the future. Since the start of this year, the tide has turned. Gold started superbly. The all-time high of USD 2,075 from August 7, 2020 was almost reached on March 8, 2022 at USD 2,070. Gold posted its highest quarterly close ever in Q1/2022. In contrast, **the US Treasury index posted its worst quarter** since the data series began in 1973, losing 5.58%, and **the S&P 500 posted its first negative quarterly return** since Q1/2020. But from mid-April onwards, a correction set in and the gold price had to pay tribute to the rallying USD as well as the general risk-off sentiment in markets.

The best bulls in rodeo are unpredictable. Trying to outsmart them can lead cowboys to outsmart themselves.

Ty Murray

At the outset, let's look at the development of the gold price in the major currencies. The full year 2021 was divergent for gold in the currencies mentioned below. While the gold price in the (former) safe haven currency JPY posted a gain of 7.5%, gold in the Chinese yuan fell by 6.1%. In contrast to the US dollar, the gold price gained 3.6% in euro terms, once again highlighting the glaring weakness of the euro. On average, the gold price lost 0.6%.

As before, the average performance in this secular bull market remains impressive. The average annual performance from 2000 to 2022 is 9.2%. During this period, gold has outperformed virtually every other asset class and, above all, every other currency – despite significant corrections in the meantime. **Since the beginning of 2022 the development has been clearly positive, with an average gain of 5.4%.**

Gold performance since 2000 in various currencies (%)

Year	USD	EUR	GBP	AUD	CAD	CNY	JPY	CHF	INR	Average
2000	-5.3%	1.2%	2.4%	11.2%	-1.9%	-5.4%	5.8%	-4.2%	1.4%	0.6%
2001	2.4%	8.4%	5.3%	12.0%	8.8%	2.4%	18.0%	5.5%	5.8%	7.6%
2002	24.4%	5.5%	12.3%	13.2%	22.9%	24.4%	12.2%	3.5%	23.7%	15.8%
2003	19.6%	-0.2%	8.0%	-10.7%	-1.3%	19.6%	8.1%	7.4%	13.9%	7.2%
2004	5.6%	-2.0%	-1.7%	1.5%	-2.0%	5.6%	0.8%	-3.1%	0.1%	0.5%
2005	18.1%	35.2%	31.6%	25.9%	14.1%	15.1%	35.9%	36.3%	22.8%	26.1%
2006	23.0%	10.4%	8.1%	14.3%	23.3%	19.0%	24.2%	14.1%	20.7%	17.5%
2007	30.9%	18.4%	29.2%	18.0%	12.0%	22.5%	22.5%	21.8%	16.9%	21.4%
2008	5.4%	10.0%	43.0%	30.5%	28.7%	-1.5%	-14.2%	-0.8%	30.0%	14.6%
2009	24.8%	21.8%	13.0%	-1.6%	7.9%	24.8%	27.9%	21.1%	19.2%	17.6%
2010	29.5%	38.6%	34.2%	13.9%	22.8%	25.1%	13.2%	16.8%	24.8%	24.3%
2011	10.2%	13.8%	10.6%	9.9%	12.7%	5.2%	4.5%	10.7%	30.7%	12.0%
2012	7.1%	5.0%	2.4%	5.3%	4.2%	6.0%	20.7%	4.5%	11.1%	7.4%
2013	-28.0%	-30.9%	-29.4%	-16.1%	-23.0%	-30.1%	-12.6%	-29.8%	-19.1%	-24.3%
2014	-1.8%	11.6%	4.4%	7.2%	7.5%	0.7%	11.6%	9.4%	0.2%	5.6%
2015	-10.4%	-0.2%	-5.3%	0.6%	6.8%	-6.2%	-9.9%	-9.7%	-5.9%	-4.4%
2016	8.5%	12.1%	29.7%	9.4%	5.3%	16.1%	5.4%	10.3%	11.4%	12.0%
2017	13.1%	-0.9%	3.3%	4.6%	5.9%	6.0%	9.0%	8.3%	6.3%	6.2%
2018	-1.5%	3.0%	4.3%	9.0%	6.8%	4.1%	-4.2%	-0.8%	7.3%	3.1%
2019	18.3%	21.0%	13.8%	18.7%	12.6%	19.7%	17.2%	16.6%	21.3%	17.7%
2020	25.0%	14.7%	21.2%	14.1%	22.6%	17.2%	18.8%	14.3%	28.0%	19.5%
2021	-3.6%	3.6%	-2.6%	2.2%	-4.3%	-6.1%	7.5%	-0.6%	-1.7%	-0.6%
2022 YTD	-0.7%	7.9%	8.9%	3.7%	1.3%	5.6%	10.6%	7.5%	3.7%	5.4%
Average	9.3%	9.1%	10.7%	8.6%	8.4%	8.3%	10.1%	6.9%	11.9%	9.2%

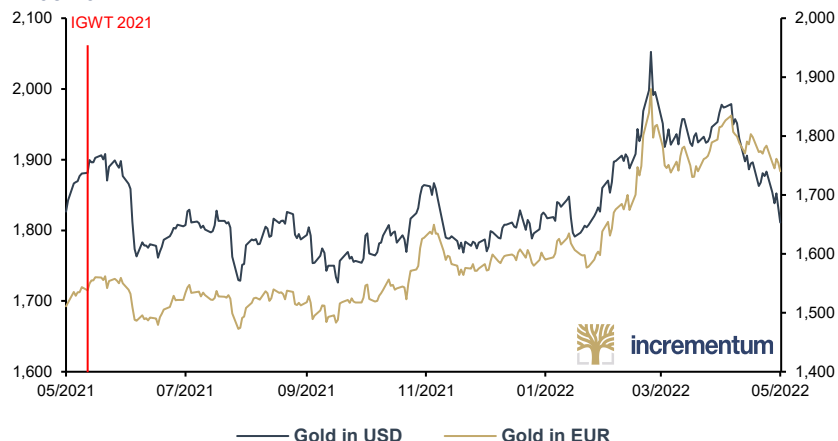
Source: Reuters Eikon, Incrementum AG, figures as of 05/18/2022

Selling gold because UST yields are rising sharply is 100% right in the short term but 100% wrong in the intermediate term.

Luke Gromen

Let's now take a look at the gold price development since the last In Gold We Trust report in US dollars and euros. Shortly after the publication of the last report on May 27, 2021, a consolidation phase of several months set in, which only ended at the beginning of 2022. **In addition to profit-taking, a significantly firmer US dollar, and opportunity costs in the wake of the Bitcoin bull market, rising bond yields were a major trigger for the emerging headwind.**

Gold, in USD (lhs) and EUR (rhs), 1-Year Performance, 05/2021-05/2022



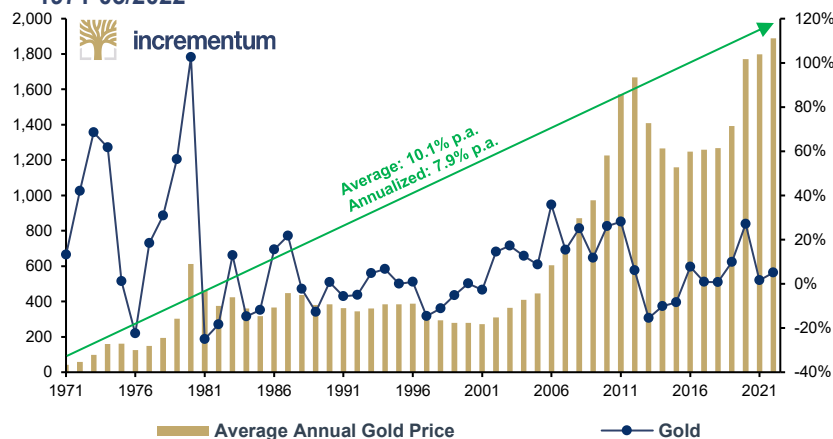
Source: Reuters Eikon, Incrementum AG

Long-term consistency trumps short-term intensity.

Bruce Lee

Let's now flip back even further in the history books. Since the **IPO of gold** on August 15, 1971, the average annual growth rate of the gold price in US dollars amounts to 10.1%. The annualized growth rate (CAGR) is 7.9%. **In the previous year, gold reached an annual average price of USD 1,799, a new all-time high.** Since the beginning of the year, the average gold price has been USD 1,890.

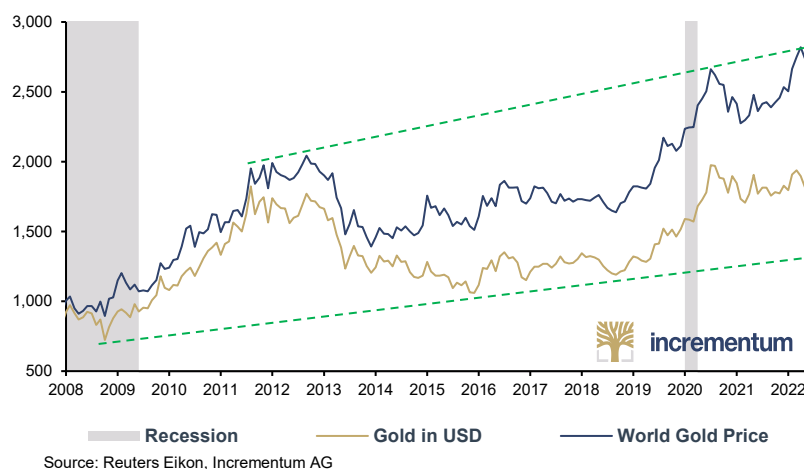
Annual Average Gold Price (lhs), in USD, and Gold (rhs), yoy%, 1971-05/2022



Source: Reuters Eikon, Incrementum AG

Let us now turn back to the more current “big picture”. The world gold price, which represents the gold price in the trade-weighted external value of the US dollar, recently reached new all-time highs again. **Here, too, it seems that the long-term upward trend is clearly intact.**

Gold Price, in USD, and World Gold Price, in USD, 01/2008-05/2022



Why do we actually deal so intensively with the gold price development in different currencies? For years, we have been surprised that the majority of investors primarily focus on the gold price development in US dollars. *In our experience, too few investors ask themselves* whether or not they hedge their currency risks.

Think about currency allocation, not just asset allocation.

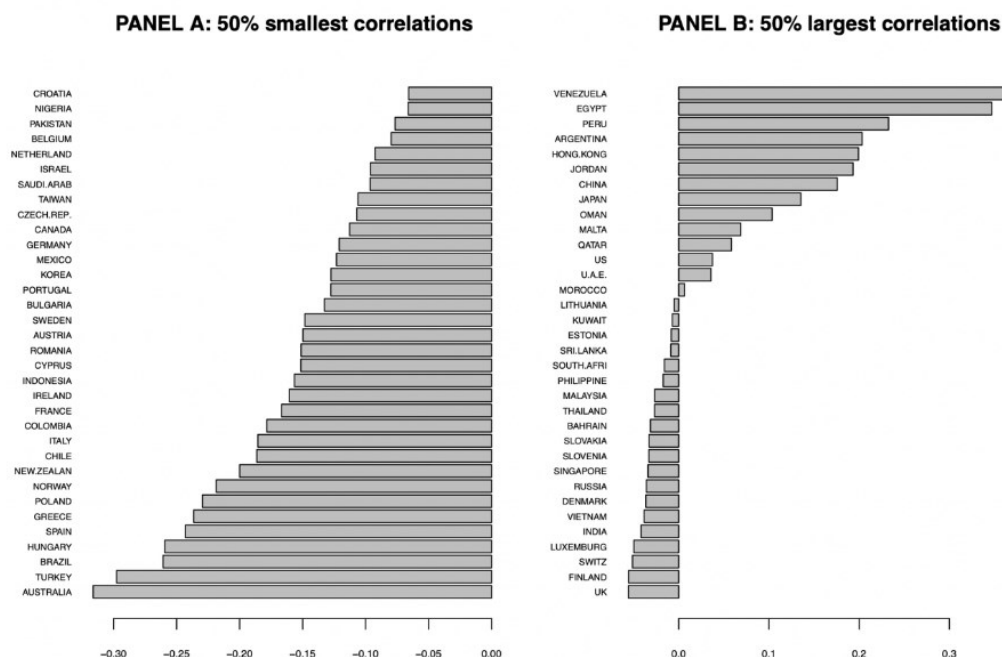
Bridgewater Associates

Thus, gold may rise in US dollars during a crisis but much less in Swiss francs, because the Swiss franc, as a classic safe-haven currency, appreciates against the US dollar and thus retains some of the gains that gold makes in US dollars. For investors from Switzerland, it might therefore be advisable to own gold hedged in Swiss francs in order to also fully benefit from gold's safe-haven properties. For a euro investor, on the other hand, there is no need to hedge gold investments, in our opinion, as the euro tends to weaken in stress and crisis scenarios.

In a study worth reading, Prof. Dirk Baur of the University of Western Australia analyzed the correlation of gold with the local stock market in 68 countries.⁴ For this purpose, he applied the gold price in US dollars and the gold price in the respective local currency. The table below shows the correlations between the local stock markets and the gold price in local currency. Note that Venezuela has the highest positive correlation. This is certainly due to hyperinflation in Venezuela, which led to a devaluation of the Venezuelan bolivar and thus a significant appreciation of gold. Stocks rise sharply in times of hyperinflation, not because companies are doing so well, but because there is a flight to real assets.

⁴ Baur, Dirk G.: "Is Gold a Safe Haven in all Currencies?," October 21, 2021

Correlation stock market in local currency with gold in USD



Source: Baur (2021), p. 14

It can be seen from the chart that for all countries up to Oman and the US, the protective effect of gold is significantly lower, as gold tends to have a positive correlation with the local stock markets. In countries from Oman to Israel or Taiwan, gold has essentially zero correlation with the local equity market, making it quite suitable for diversification. Residents of the countries at the bottom of the list – which include almost all eurozone countries, Sweden, Norway and Australia – should use gold as asset protection due to its significantly negative correlation with the local stock market.

Conclusion

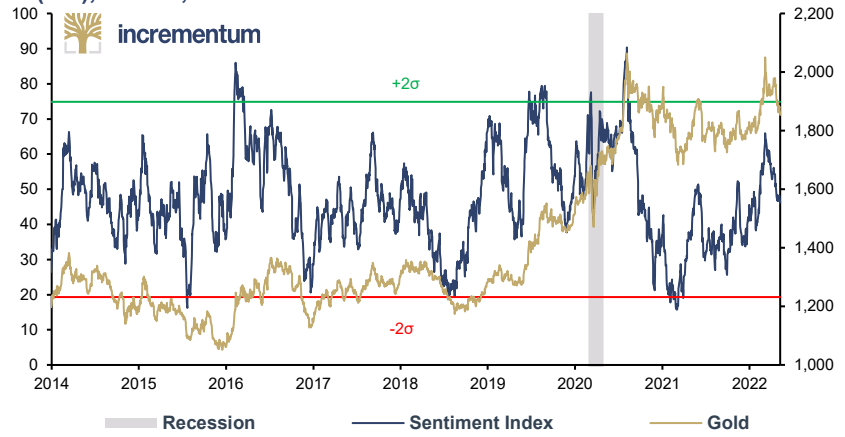
The primary trend is a law unto itself. It will continue until it dies of exhaustion.
Richard Russell

Our assessment of the previous year, according to which gold is in a new bull market, has proved accurate. Even though the gold price performed weaker than expected in the past weeks, the broad, long-term upward trend still seems to be intact.

A look at the Sprott Gold Bullion Sentiment Index⁵ shows that sentiment had reached an absolute low in March 2021. The indicator had fallen even beyond the second standard deviation in the short term. Since then, the index and the gold price have recovered but are still far from the euphoric levels that prevailed in August 2020, for example. **In this respect, the basis for further price increases seems excellent.**

⁵ The data was kindly provided by our premium partner Sprott Asset Management.

Sprott Gold Bullion Sentiment Indicator Index (lhs), and Gold (rhs), in USD, 01/2014-05/2022



Source: Sprott Asset Management LP, Incrementum AG



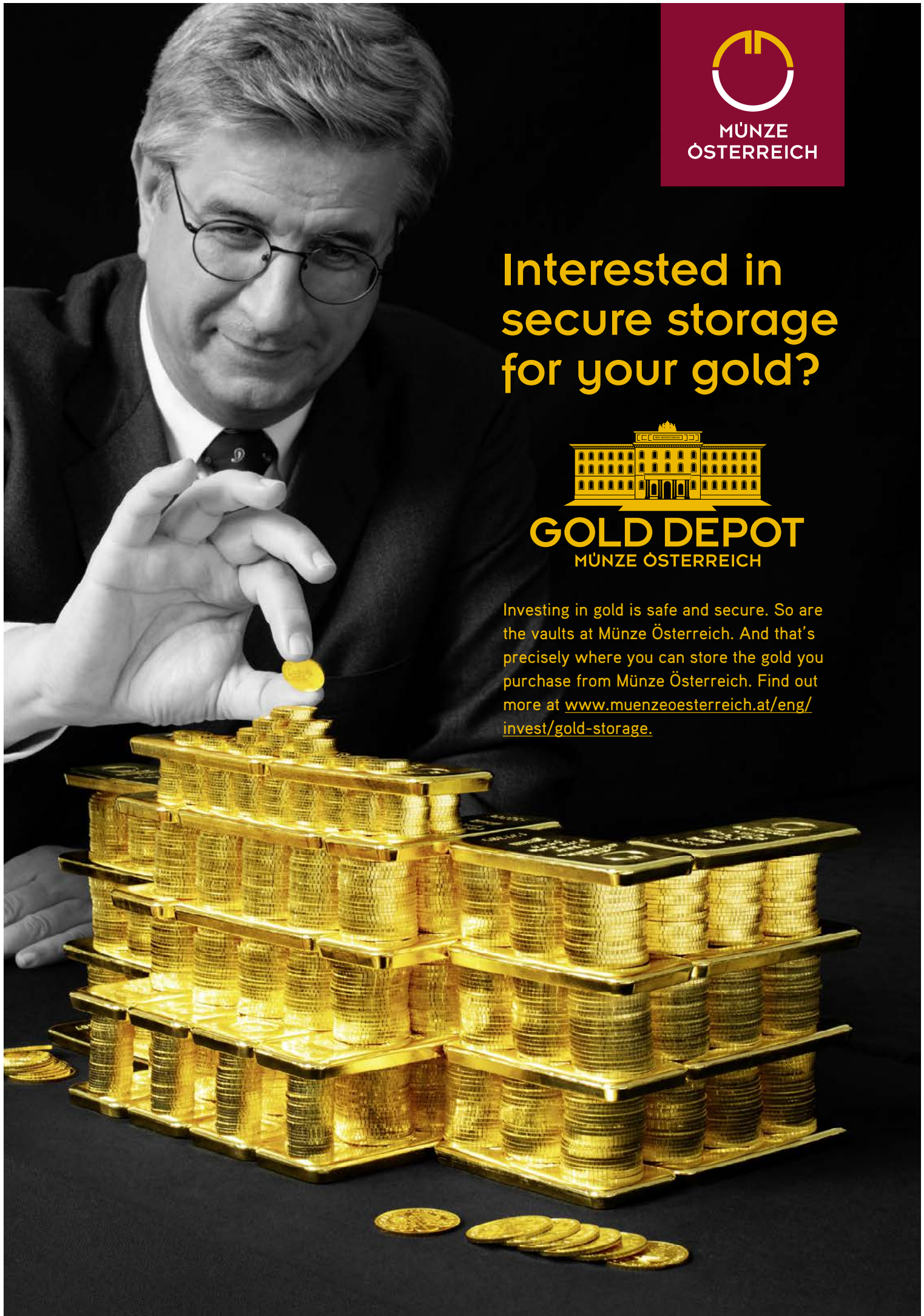
MÜNZE
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Interested in
secure storage
for your gold?



GOLD DEPOT
MÜNZE ÖSTERREICH

Investing in gold is safe and secure. So are the vaults at Münze Österreich. And that's precisely where you can store the gold you purchase from Münze Österreich. Find out more at www.muenzeoesterreich.at/eng/invest/gold-storage.



Status Quo of Gold Relative to Stocks, Bonds and Commodities

“Perfect storms begin when overvalued assets meet unanticipated surprises which are difficult to price.”

Larry Jeddloh

Key Takeaways

- After 2020, gold has once again proved its essential character as a defensive and stabilizing portfolio component, and particularly in 2022 in the course of the Ukraine conflict.
- In the last 90 years, there have been only four years when both US stocks and bonds had negative annual performance in the same year. 2022 could be the fifth year.
- If the joint downward trend in the equity and bond markets that has been underway since the beginning of the year continues, a brash counter-reaction by the Federal Reserve seems to be only a matter of time.
- From surplus to scarcity is how one could summarize the situation in the commodity market. As we predicted last year, the commodity sector has risen like a phoenix from the ashes.
- The lack of investment in the raw materials sector, especially in the oil and gas industry, could lead to a supply shortage in the medium and long term. This will have a significant impact on inflationary pressures.

The deeply negative correlation of stocks and bonds that has persisted for most of the last two decades is not a permanent feature of markets but in fact is contingent on a certain macro regime of low and not volatile inflation.

Inigo Fraser Jenkins

Robert F. Kennedy said in his “Day of Affirmation” speech in 1966, “There is a Chinese curse which says ‘May he live in interesting times.’ Like it or not, we live in interesting times.” Today, 56 years later, many investors may be experiencing first-hand that this Chinese saying is indeed a curse. The status quo that investors have come to love as a matter of course over the past few decades is undergoing fundamental change. Old certainties are being lost, and new ones have yet to emerge.

It is no different when it comes to the strengths and weaknesses of the various asset classes and how they interact with each other. **The last few months have shown inflation to be the Achilles heel of many portfolios. Yes, times are getting interesting for investors.**

With this in mind, in the following pages we will examine the relative valuation and relative trend strength of gold compared to other asset classes to better understand the opportunity cost of investing in gold.

Gold Compared to Stocks

“The Fed is launching a triple-faced policy agenda of simultaneously ending QE4, commencing QT balance sheet runoff, and hiking rates 25 or 50 basis points at seven consecutive FOMC meetings? And equity investors remain unconcerned? We have never observed a strong disconnect between indisputable liquidity fundamentals and detached market sentiment.”

Trey Reik

Last year we pointed out that the markets were in a hysterical mania phase, fed by ultra-loose monetary and fiscal policy.⁶ Confidence among market participants seemed as boundless as liquidity just a few weeks after the historic Covid-19 crash in February/March 2020.

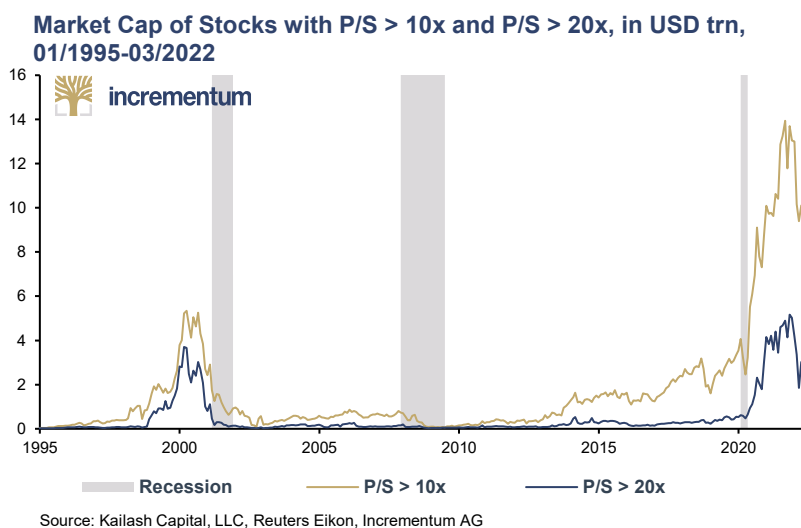
The fundamentals and market data already gradually clouded over in 2021, and the air was becoming increasingly thin. Even if many market participants were surprised by the downturn on the markets, similar to the way car drivers are surprised year after year by “unexpected” onset of winter in December, the signals towards the end of 2021 were clear:

- A Shiller P/E of almost 40 (vs. 34 currently) meant a 3-standard-deviation event. In the last 100 years, the Shiller P/E ratio has been higher only 2% of the time, most recently in November 2000, when the market fell 18% in the following year.
- In 2021 only 5 stocks were responsible for half of the total return of the S&P 500. Market concentration was thus even higher than in 1969 and 1999.

⁶ See “The Status Quo of Gold,” In Gold We Trust report 2021

The subsequent years were difficult in both cases. In those years, the S&P 500 posted annual performances of -0.1% and -10.1%, respectively.

- In the case of corporate bonds, spreads of just over 300 basis points were well below the historical norm of 530 basis points and had only been this low in 10% of cases in the past. This low yield spread only seems plausible in the context of an accelerating economic boom. However, the flat yield curve, which recently inverted in some segments, speaks against this.
- Midterm election years are often demanding and have often been accompanied by a monetary policy reversal. 2010: termination of QE1 in March 2010; 2014: termination of QE3 in October 2014; 2018: QT.
- The next chart illustrates that the total market capitalization of all companies trading at 10 or 20 times sales per share or more rose from a negligible size to almost USD 13trn (10x P/S) and to USD 5trn (20x P/S) recently. These are levels that make the dotcom bubble look like a deep-value party.



The vacuum is nothing more than a space full of energy, and even if we empty it and there is nothing left, according to the Heisenberg uncertainty principle, that nothing has a weight.

Salvatore Garau

Looking at this fantastic chart from Kailash Concepts reminded us of the legendary statement of Scott McNealy, the former CEO of Sun Microsystems, who described in his inimitable way why it is hare-brained to pay 10 times sales for a share:

“At 10 times revenues, to give you a 10-year payback, I have to pay you 100% of revenues for 10 straight years in dividends. That assumes I can get that by my shareholders. That assumes I have zero cost of goods sold, which is very hard for a computer company. That assumes zero expenses, which is really hard with 39,000 employees. That assumes I pay no taxes, which is very hard. And that assumes you pay no taxes on your dividends, which is kind of illegal. And that assumes with zero R&D for the next 10 years, I can maintain the current revenue run rate. Now, having done that, would any of you like to buy my stock at \$64? Do you realize how ridiculous those basic assumptions are? You don’t need any transparency. You don’t need any footnotes. What were you thinking?”

And the wind has indeed changed (very) quickly. Around the turn of the year, market behavior gradually changed from *buy the dip* to *sell the rally*. Former

highflyers such as Peloton, Robinhood, and also Cathie Wood's highly successful *ARK Innovation ETF*, whose tech stocks are also referred to as *Wood stocks*, fell quickly and deeply from their highs. The most telling anecdote for us regarding the speculative bonanza in the US stock market, however, came from *Rivian Automotive*, a car manufacturer and purported Tesla rival that had delivered just 156 cars by the time it went public in November – and these were distributed exclusively to its own employees. Yet Rivian was temporarily the US automaker with the second-highest stock market value. With a capitalization of USD 100bn, the company was at times valued higher than Ford or General Motors.

The art market was also affected by monetary insanity, **so we rubbed our eyes at the sale of the invisible sculpture *Io Sono* by Salvatore Garau for an unbelievable EUR 15,000. As a special service to you, dear reader, we present the sculpture on the left.**



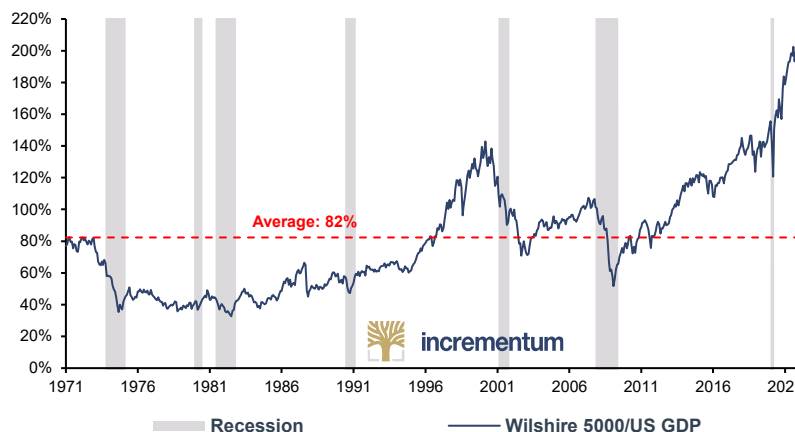
Courtesy of Hedgeye

The starting position for stocks at the beginning of the year was therefore already fragile. And it came as it had to come. In Q1/2022, the S&P 500 lost 4.9%, the MSCI World 5.5%, the Nasdaq 9.0% and the Euro Stoxx 50 9.2%. And the slump in stock markets continued unabated in April and May. There is no doubt that valuations of many markets, sectors and individual stocks remain far from bargain levels. In an environment of low interest rates and strong growth, this would not be a problem. But the headwind on the equity markets is no longer a lukewarm breeze but a stiff one. We would like to point out the following risk factors:

- “Don’t fight the Fed” – The Federal Reserve is no longer an investor’s friend.
- The fiscal tailwind has turned into a headwind.
- The firm US dollar is putting pressure on US corporations’ earnings abroad.
- Geopolitical risks justify higher risk premiums.
- Households and portfolio managers remain fully invested.
- Inflation is reducing consumers’ real incomes and squeezing corporate profit margins.

In this respect, we doubt that the macroeconomic and political environment and, in particular, the earnings growth outlook justify such high valuation levels – especially in US markets.

Wilshire 5000/US GDP, in %, 01/1971-05/2022



Source: Reuters Eikon, Incrementum AG

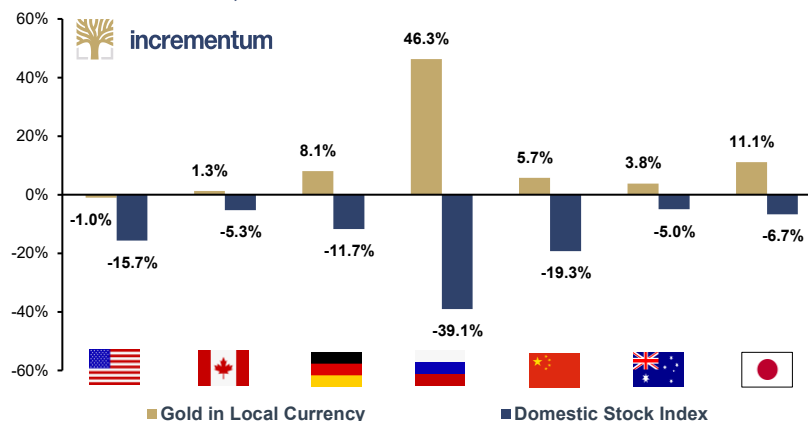
A significant and recent recovery of equity inflows also is boosting shares due to 'fomo' (fear of missing out), and for professional asset allocators 'fomu' (fear of meaningfully underperforming).

Tobias Levkovich

Now what does this market environment mean for gold? We view the stock market performance as a key opportunity cost of gold. In 2021, the opportunity costs of being invested in gold were still enormously high due to the bullish equity markets. Gold competed with a rapid 28% rise in the S&P 500. The record run was so pronounced that the S&P 500 set a new all-time high on 70 of the 252 trading days. This was second only to the 77 daily highs in 1995. We think it is understandable that gold is little sought after when the world's most important stock index reaches a new all-time high on average every 3.5 days.

But the opportunity cost has vanished into thin air since the beginning of the year. After 2020, gold in 2022 has once again proven its essential character as a defensive and stabilizing portfolio component in the course of the Ukraine conflict; gold is, so to speak, the Robert Pecl⁷ of the portfolio. **Confidence arises from the repeated fulfillment of expectations.**

Gold in Local Currency, and Domestic Stock Index, Annual Performance in %, 2022



Source: Reuters Eikon (as of 12th of May 2022), Incrementum AG

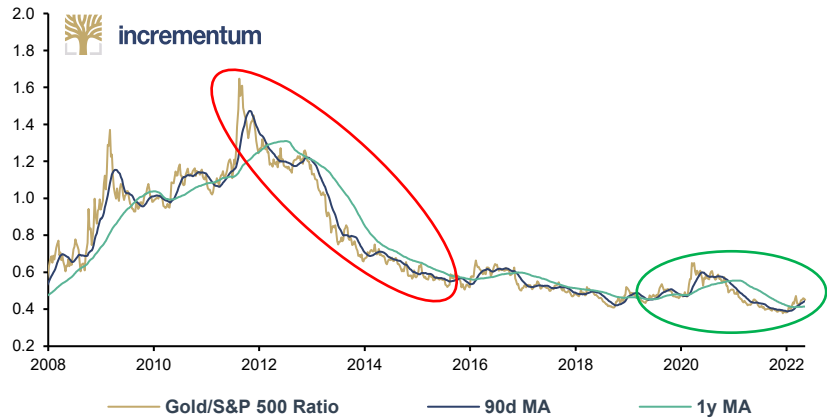
⁷ Robert Pecl was an Austrian footballer who played exclusively for SK Rapid Wien. His playing style is aptly characterized on Wikipedia as follows: "The defender held the nicknames 'Ironfoot' and 'Red Robert' due to his relentless style of play towards himself and opponents." Wikipedia: [Robert Pecl](#), our translation



Courtesy of Hedgeye

The following chart shows the gold/S&P 500 ratio since 2008. The downward trend, whereby one ounce of gold buys fewer and fewer shares of the S&P 500, was broken in 2018, and since then the ratio has been bottoming out. Currently, it appears that gold is slowly building relative strength again. The ratio is now slightly above the 90-day and the 1-year moving averages.

Gold/S&P 500 Ratio, 01/2008-05/2022



Source: Reuters Eikon, Incrementum AG

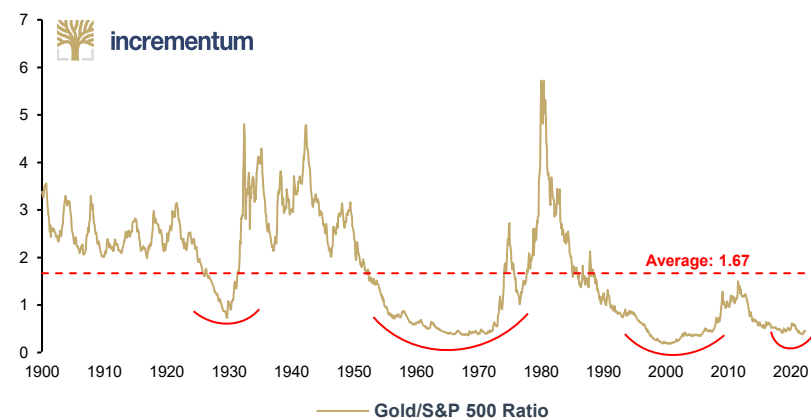
The reality is that diversification has not been a good risk strategy, because correlations tend to spike just when you least want them to.

Mark Spitznagel

Let's now look at the relationship over the longer term – since 1900.

Gold looks attractive compared to US equities and may have made a secular turnaround. The gold/S&P 500 ratio is trending to a mean of 1.67. The downtrend appears to have been broken, and the moving average has stabilized and is now pointing slightly upward again. Based on the previous counter-trend rallies, gold could more than triple against the S&P 500 if it reaches its 122-year median over the next ten years.

Gold/S&P 500 Ratio, 01/1900-05/2022



Source: Reuters Eikon, Incrementum AG

Gold Compared to Bonds

“Oil is the wrecking ball that will crush every CUSIP, because the Fed will eventually panic. Look at bonds. They’re getting smashed along with equities today. This will blow up the risk parity boys. Their model says that bonds are supposed to hedge out risk-off periods in equities. As expected, their model stops working when inflation explodes.”

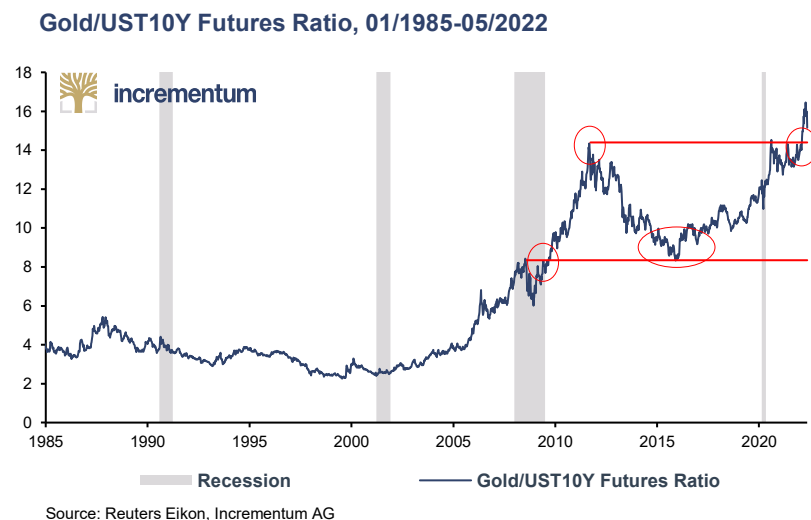
Harris Kupperman (Kuppy)

Over the past four decades, bonds have been a natural ballast to a stock portfolio. In the coming decade(s), bonds will no longer be negatively correlated to stocks and save your portfolio in times of stress, but will instead become the anchor that drags your portfolio lower.

Kevin Muir

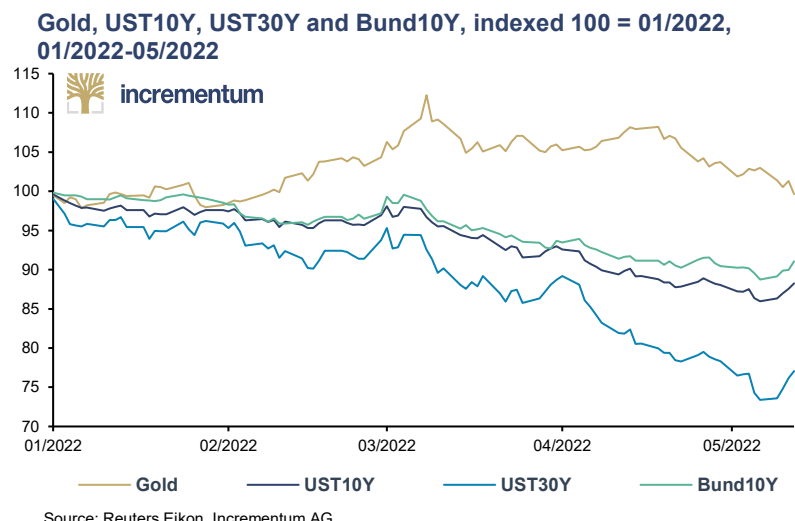
Gold also faced headwinds from bond market yields last year. The yield on 10-year Treasuries increased 65.07% in 2021, from 0.92% (12/31/20) to 1.51% (12/31/21). Perhaps more importantly, the average 10-year Treasury yield in 2021 was 1.44%, up 62.49% from the 2020 average of 0.88%. This contributed, among other things, to the DXY Index posting a gain of 6.37% in 2021. Since the beginning of the year, the US dollar has appreciated by a further 8.95% against the DXY currency basket. **However, the gold price showed increasing resilience to rising yields and the rallying US dollar.**

The chart below shows the ratio between the gold price and the price of 10-year Treasuries. It can be seen that gold recently broke out of a 10-year consolidation phase.

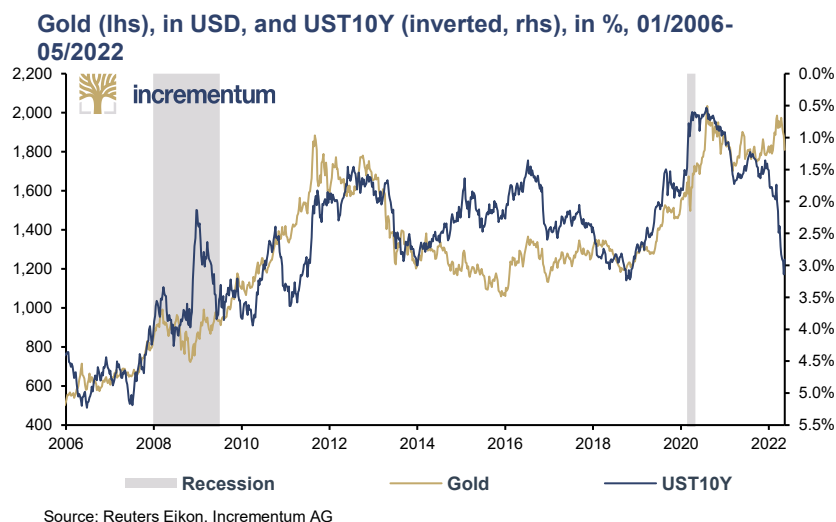


Has the great bond bear market now begun? The signs have been pointing to a storm since the beginning of the new year. According to the [always readable Jim Bianco](#), the bond markets experienced a Waterloo in the first week of January. The 10-year US Treasuries ended their worst week in 42 (!) years with a total loss of 4.24%. Only in the wake of the Volcker Shock and the February 1980 hike in the federal funds rate to 20% was the loss in a calendar week greater. The 30-year bond lost 9.35%, which meant the worst weekly performance in the last 49 (!) years. Currently, 30-year US Treasuries are already 35.8% below their 2020 peak, the 10-year 17.5% below. Also, the German Bunds, which have fallen

14.9% from their peak. **One of our central theses of past years is now likely to come true: (government) bonds are no longer the antifragile portfolio foundation they have been over the past 30 years.**



The decoupling between gold and bonds that we anticipated has taken place in recent months. **The bond market and the gold market are sending the same message: Deflation or disinflation are no longer the biggest threat to portfolios; inflation is the new reality.**



Bonds have never performed well in inflationary times, but it will become even more problematic if bonds are held as an equity hedge.

Paul Wong

One underappreciated reason for the acceleration of the sell-off in bonds with long maturities may be investors’ realization that policymakers’ proposals to address price pressures are fueling inflation rather than reining it in.⁸ Whether in Italy, France, Germany or California, the most common proposal to combat high energy prices is fuel subsidies or tax cuts to cushion the shock voters feel in their wallets. To fund these subsidies and tax cuts, some politicians are calling for a tax on energy companies’ windfall profits or special dividends – all measures unlikely to encourage investment in future production. **The market recognizes that the measures**

⁸ See “The Fixed Income Market Meltdown,” GaveKal Research, March 28, 2022

adopted to combat inflation – whether fiscal, monetary, regulatory, or geopolitical – guarantee that the inflationary environment will continue.

One day, central banks will decide that they need to support their currencies instead of supporting their bond markets. In this scenario, bond markets will implode.

Gavekal

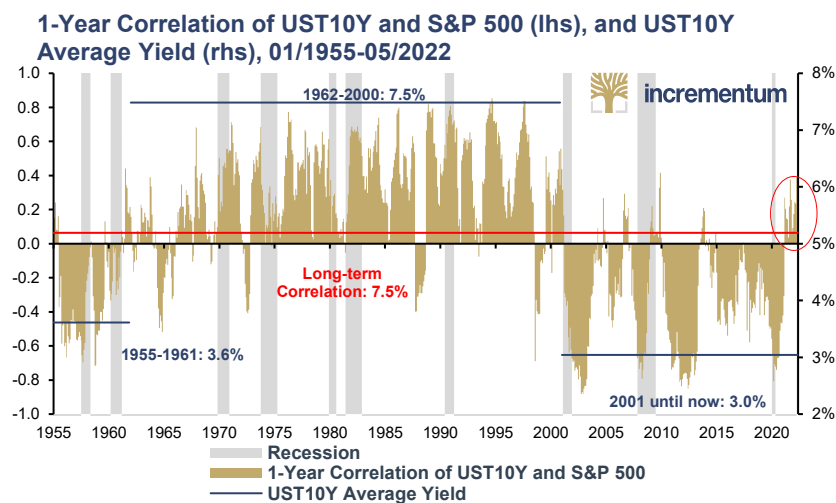
But what would the consequences be, e.g. for mixed portfolios or risk-parity investment strategies, if the positive correlation between stocks and bonds continues? As discussed last year, correlation regimes are stable for long periods of time, but can quickly reverse. The majority of today’s market participants can hardly imagine the impact of a possible reversal of the correlation, because many investment concepts are built on low or negative correlation between the two main asset classes.

However, the negative correlation is the exception rather than the rule when viewed over the long term. For example, the correlation between stocks and bonds in the USA has been slightly positive in 70 of the last 100 years.⁹ The decisive factor for the negative correlation in the last 30 years was primarily the low inflationary pressure or the decreasing inflation volatility in the course of the *Great Moderation*.

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

Henry Maxey

The following chart shows the one-year rolling correlation between 10-year US Treasury bonds and the S&P 500, as well as the average yield of 10-year Treasuries. It can be clearly seen that the 1-year correlation has recently turned into positive territory. Since 1955, the correlation coefficient between stocks and bonds in the US has been around 0.075, which, when looking at the entire period, indicates that there is virtually no correlation between the two asset classes. However, between 1960 and 2000, when high (nominal) interest rates influenced market activity for long periods, the correlation coefficient was mostly above 0.2, while in an environment of low inflation and interest rates it was mostly below -0.2. **Currently, inflation is thus again positively influencing correlation, which is probably causing heated discussions at asset allocation committees and sleepless nights for portfolio managers.**



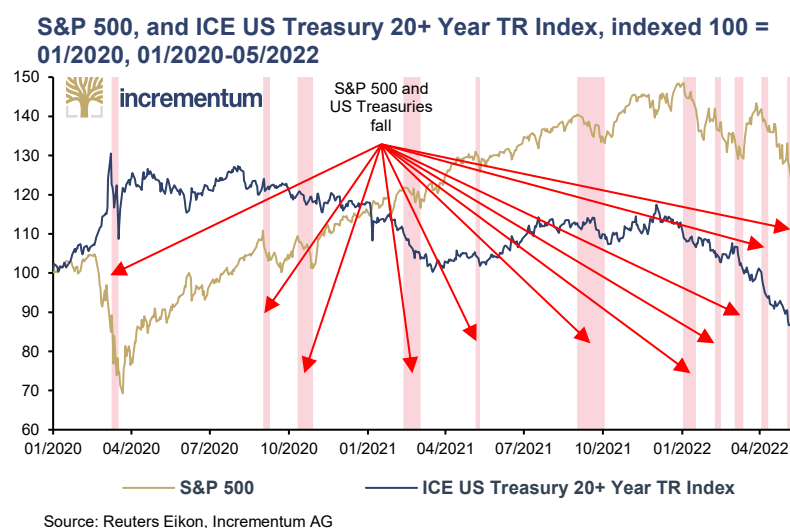
⁹ See “Portfolio for the high seas,” Variant Perception, July 2020

In inflationary periods such as the US in the 1970s, the 60/40 portfolio suffered greatly. Nominal returns optically looked good, but real returns were abysmal. Commodities and cash easily outperformed equities and bonds, representing a failure of standard portfolio diversification over this period.

Variant Perception

Let us now take a closer look at the development of gold relative to Treasuries. In the Covid-19 crisis, the biggest economic shock since World War 2, both asset classes were among the few reliable safe havens. Both gold and US bonds reached their interim highs for the year on March 9, 2020, then sold off briefly in the general panic and rallied soon after. On August 4, 2020, US 10-year Treasuries bottomed at a yield of 0.52%, and gold followed with its all-time high just four days later. **So, both have fulfilled their antifrangible role in exemplary fashion – at least superficially.**

But if we look a little deeper beneath the surface, we see that Treasuries suddenly became strongly positively correlated to equities in the darkest days of March 2020.¹⁰ This represents a significant difference from past cycles, when bonds compensated for losses on the equity side and smoothed out volatility. **The chart also shows that the red bars are becoming more frequent.** If the relationship is now actually reversed, the basis of the 60/40 portfolio – namely a negative correlation between equities and bonds – will be removed. **Will Treasuries then have to hand over the scepter to gold?**



Gold and Commodities

“I’ve been doing this [for] 30 years and I’ve never seen markets like this. This is a molecule crisis. We’re out of everything, I don’t care if it’s oil, gas, coal, copper, aluminum, you name it – we’re out of it.”

Jeff Currie, Head of Commodities Research, Goldman Sachs

From surplus to scarcity – is how one could summarize the situation in the commodity market. As predicted in the *In Gold We Trust* report 2020, the commodity sector has risen like a phoenix from the ashes.¹¹ It is amazing how

¹⁰ See “Desperately Seeking Anti-Fragility: Part I,” GaveKal Research, August 28, 2020

¹¹ See “The Status Quo of Gold,” *In Gold We Trust* report 2021

firm the commodity bull market has been, even though the Chinese economic engine is sputtering, and the US dollar is so prone to strength. The main reason is that this bull market is not so much driven by rapid demand as by a lack of supply, which has been further exacerbated by the Russian crisis.

	Bloomberg Industrial Metals Subindex	Bloomberg Precious Metals Subindex	Bloomberg Agriculture Subindex	Bloomberg Energy Subindex	Bloomberg Livestock Subindex
ATH	266.76	306.85	143.33	516.66	131.99
Date ATH	05/04/07	08/22/11	05/29/97	09/29/05	10/04/93
Low	-32.9%	-30.6%	-45.7%	-89.4%	-83.4%
Date Low	53.90	49.66	34.15	15.47	16.21
YTD	11/07/01	04/02/01	06/26/20	04/27/20	04/13/20
% Above Low	232.1%	329.0%	128.0%	254.2%	34.8%
YTD	3.5%	-2.8%	28.1%	77.4%	-2.5%
2021 Performance	30.3%	-6.1%	26.6%	52.1%	8.6%

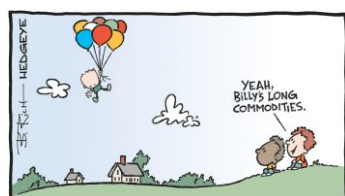
Source: Reuters Eikon, Incrementum AG, figures as of 05/18/2022

Those who know it best, love it least, because they have been hurt the worst.

Don Coxe

The tide now seems to have really turned in favor of commodities. The question arises: Are we now on the threshold of a new commodity supercycle? A number of factors speak in favor of this:

- For ten years, commodities were in a bear market, resulting in a significant lack of investment activity and declining production volumes.
- The increasing focus on fiscal stimulus and the energy transition (infrastructure projects, ...) will stimulate the commodity sector much more than was the case in the pure QE paradigm.
- Russia and Ukraine are significant commodity producers and exporters.
- (Institutional) investors are still underweighted or not invested in commodities at all. We firmly believe that commodities – and real assets in general – will resume their historical role as a safe haven.
- Growing inflation concerns will continue to provide a tailwind for commodities.
- Geopolitical tensions will encourage resource nationalism and demand geopolitical risk premiums.
- In our view, the US dollar could be facing a secular bear market as its reserve currency status gradually fades. Historically, the US dollar and commodity prices have been strongly negatively correlated (-0.86). However, in 2021, commodities were able to decouple from the strength of the US dollar, which we believe is a clear sign of the forcefulness of the commodity bull market.



Courtesy of Hedgeye

Fortunes are made by buying low and selling too soon.

Nathan Rothschild

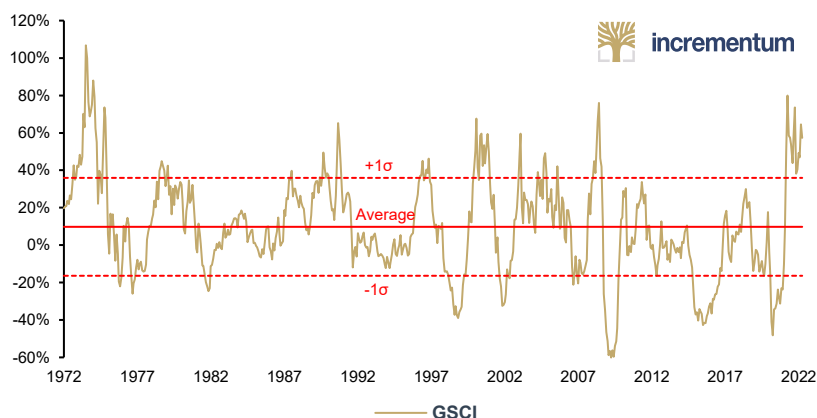
But isn't the commodity boom possibly already overdone in the short term? Attention should also be focused on China, which is now responsible for almost half of commodity consumption. China's stubborn adherence to its zero-Covid policy, weak stock market performance, sluggish credit growth, and Beijing's increasing deleveraging efforts should by no means be disregarded, despite all the euphoria over the commodity supercycle.

Positioning has also shifted in favor of the commodity sector recently.

According to a Bank of America survey, the commodity weighting of global fund managers recently reached its highest level since the survey began in 2006. Moreover, the futures market, various sentiment indices, and the year-on-year rate

of change of the GSCI, shown below, confirm this hypothesis. **In this respect, a strong breather of the commodity segment would not be surprising in our opinion.**

GSCI, yoy%, 01/1972-05/2022



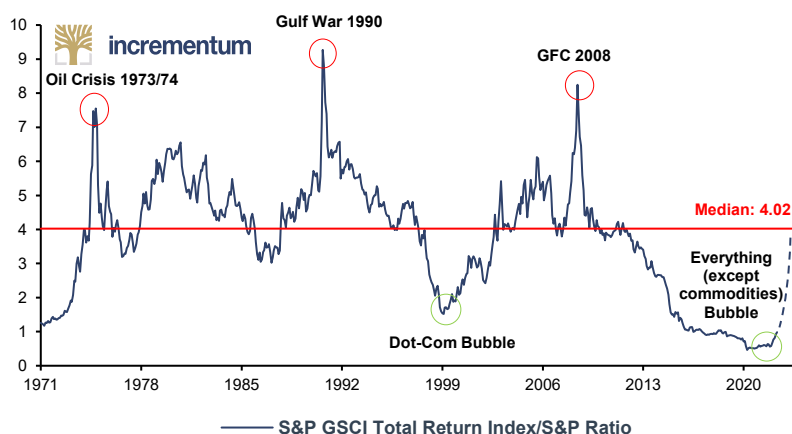
Source: Reuters Eikon, Incrementum AG

In bull markets, people have faith; in bear markets, doubt. The other way around might be more profitable.

Jim Grant

Let's now look at the performance of commodities relative to the stock market. Loyal readers know the following chart, which has been by far the most cited chart of the *In Gold We Trust* report in recent years.¹² It impressively shows that the relative valuation of commodities compared to equities remains historically extremely cheap and has just stabilized. Compared to the S&P 500, the GSCI Commodity Index (TR) has since April 2020 been near its lowest level in 50 years. The ratio is currently 0.87, much lower than the long-term median of 4.02 and miles away from the highs.

S&P GSCI Total Return Index/S&P 500 Ratio, 01/1971-05/2022



Source: Lynkeus Capital LLC, Dr. Torsten Dennin, Reuters Eikon, Incrementum AG

But even in absolute terms, it seems that the commodity cycle still has further potential. According to long-term analysis of commodity bull markets, the average price gain is 202% and the average duration is 13.9 years. In this respect, we would only be at the beginning of the development.

¹² We would like to take this opportunity to again thank Prof. Dr. Torsten Dennin, who came up with the idea for this chart.

Commodity Bull Markets (NDR Commodity Composite)

	Percentage gain	Duration (years)
1802-1814	68.5%	12.0
1843-1864	200.0%	21.4
1896-1920	267.6%	23.9
1933-1951	329.9%	18.0
1972-1980	168.4%	7.9
1999-2011	270.0%	12.1
2020-2022	125.0%	2.0
Average	202.9%	13.9

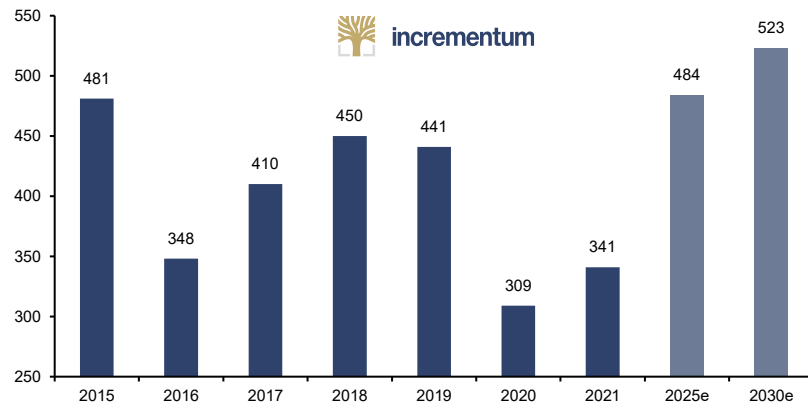
Source: Ned Davis Research Group, Incrementum AG, as of March 2022.

As a man sow, shall he reap.
Bob Marley

Lack of capital expenditure in the resource sector

The saying goes that you must sow before you can reap, while another adage reads that you can reap only what you sow. There has been a severe lack of capital expenditure, or sowing, in the resources sector over the last few years. This is especially true for the oil and gas sector. **In a report published in December 2021, the International Energy Forum warns that capital expenditure in the oil and gas sector was depressed for the second consecutive year at nearly 25% below 2019 levels.** This while oil and gas demand is back to pre-pandemic highs, with demand expected to rise in the next several years, particularly in developing countries.

Global Upstream Oil and Gas Capex, in USD bn, 2015-2030e



Source: IEF, IHS Markit, Incrementum AG

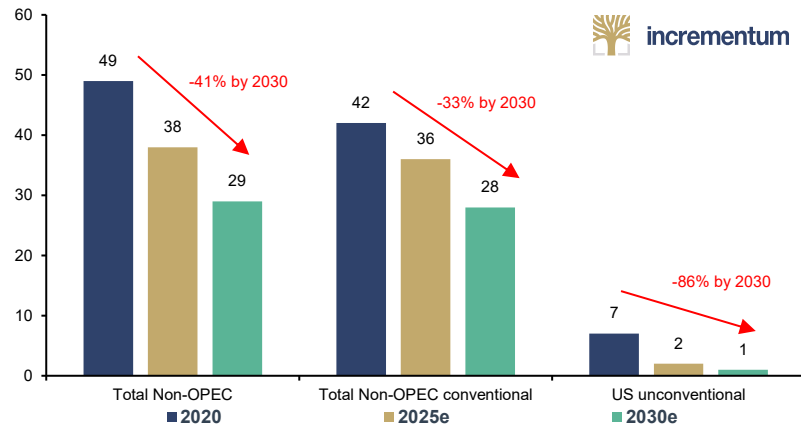
Hope is not a strategy. Luck is not a factor. Fear is not an option.

James Cameron

The next two years (2022 and 2023) will be critical for allocating

capital toward new projects to ensure that adequate oil and gas supply comes online in the next 5–6 years. As this lack of capex becomes evident, concerns about lower future output and increased uncertainty surrounding sources of supply could add a premium to prices. Even if demand stays flat over the coming decade, a steady stream of investment is needed to offset declines in existing oil and gas fields.

Projected Declines in Non-OPEC Production Assuming No Additional Drilling, in mn. barrels per day, 2020-2030e



Source: IEF, IHS Markit, Incrementum AG

Rystad Energy announced that in 2021 the world had the lowest level of new oil and gas discoveries in 75 years. Analysts at Moody’s said that global annual upstream spending needs to increase by as much as 54% to USD 542bn if the oil market is to avert a supply crunch in the medium term. Greg Hill, president of US oil producer Hess Corp, said the oil industry is “massively underinvesting” in supply to meet growing demand.

Why is the rum gone?
Jack Sparrow

This while Saudi Aramco sees healthy demand growth as spare capacity shrinks. Aramco CEO Amin Nasser said that the geopolitical situation, a lack of investment in the hydrocarbons sector, and a “totally unrealistic energy transition plan” is making for a tight market.

Copper and other base metals

Similar situations are being observed in other parts of the resource sector. In an April 2022 report, analysts at Goldman Sachs warned that copper is heading towards a major supply shortage. The report states that:

“ESG, geopolitics and chronic underinvestment (are) all driving copper fundamentals far more than overall global growth”, and “while the near-term supply outlook may be weakening, more concerning is the near total absence of new investment in long-run mine supply”.

Green Copper Demand by Technology, in Kilotonnes

Green Demand	2021	2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e
Solar	459	586	651	757	828	863	938	993	1,045	1,094
yoy%		27%	11%	16%	9%	4%	9%	6%	5%	5%
Wind	409	497	514	584	664	634	707	760	751	810
yoy%		21%	3%	13%	14%	-4%	11%	8%	-1%	8%
Stationary Energy Storage	10	15	21	27	32	39	47	55	64	75
yoy%		39%	42%	30%	19%	22%	20%	18%	17%	16%
Electric vehicles	465	816	1,046	1,270	1,518	1,832	2,158	2,458	2,729	3,044
yoy%		75%	28%	21%	20%	21%	18%	14%	11%	12%
Charging Infrastructure	19	29	40	53	68	86	106	128	153	180
yoy%		49%	40%	33%	28%	26%	24%	21%	19%	18%
Total	1,364	1,942	2,272	2,691	3,110	3,454	3,956	4,395	4,743	5,203
yoy%		42%	17%	18%	16%	11%	15%	11%	8%	10%

Source: BNEF, ICA, Goldman Sachs Global Investment Research

The report goes on to state that they have observed **no new greenfield project approvals in the last year, that the current situation will leave the copper market in deficits for the next decade**, and that the only meaningful outcome would be a substantially higher copper price in order to stifle demand and entice greater production. Goldman put price targets for copper at USD 13,000 per tonne in 12 months' time, compared to the current price of USD 9,000.

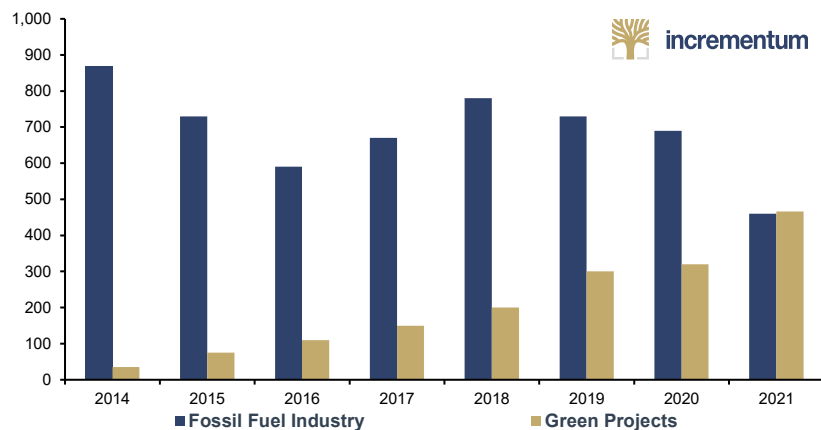
I'm trying to be as green as I can. As an airline pilot, I have a carbon footprint that's a size 10, so it's pretty hard.

**Bruce Dickinson,
Iron Maiden**

ESG, geopolitics, and popular opinion

The UN-convened **Net Zero Banking Alliance** brings together banks worldwide, representing over 40% of global banking assets, which are committed to aligning their lending and investment portfolios with net-zero emissions by 2050 by combining near-term action with accountability. Members include JP Morgan Chase, Wells Fargo, Bank of America, Morgan Stanley, Goldman Sachs, and in total 93 global institutions controlling USD 66trn, each of which signed a commitment to “reinforce, accelerate and support the implementation of decarbonization strategies”. They aim to provide an international framework and guidelines by which to operate, and they recognize the vital role of banks in supporting the global transition of the real economy to net-zero emissions. To put it bluntly, these financial institutions committed themselves to attempt to reduce emissions by starving oil and gas producers of capital. The International Energy Association (IEA) released their **Net Zero by 2050 report** last year. One of the recommendations reads: “No new oil and gas fields approved for development after 2021”.

Bank Issued Bonds and Loans, in USD bn, 2014-2021



Source: IEF, Bloomberg, Incrementum AG

It seems that the true end goal of these institutions is to **raise the price of fossil fuels high enough to encourage the transformation to other forms of energy**. Society seems to be trying to resolve climate change by **focusing on supply, rather than demand**. Ignoring economic consequences in favor of social and environmental goals will have a far-reaching impact on global energy markets.

Knock-on effects

The true cost of ignoring economic reality often lies in the unintended consequences. Global fertilizer prices have skyrocketed amidst shortages, with farmers in Kenya, Nigeria, Cameroon, Ghana, Senegal, Mexico, Guatemala, Peru and Greece, to name a few, reporting price increases of as much as 500%, if supply can be found. This in turn will have severe effects on food prices in those nations.

Fertilizer is in part a byproduct of fossil fuels, and many countries are dependent on phosphorus and other fertilizer components from Russia, Ukraine and Belarus. This dependency is, at least partially, caused by longer-term lack of capital investment in other parts of the world. Current economic policies in the West will definitely not help to alleviate the situation.

Resource investment cycle

The extraction of raw materials is an extremely cyclical business, characterized by a long-term investment cycle. Tight energy markets lead to a price rally, and companies then generate above-average profits and attract investor capital. The market rewards growth and incentivizes companies to use their newfound capital to drill more wells or develop new mines. Supply begins to grow and eventually exceeds demand. The cycle reverses when resource prices fall, company profitability collapses, stock prices decline, and capital flees the industry. Over time, depletion occurs, supply inexorably falls, and the cycle repeats. **Messing with this carefully choreographed cycle has consequences.**

Now, this is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning.

Winston Churchill

The world is going to end in twelve years if we don't address climate change.

Alexandria Ocasio-Cortez
January 22, 2019

The exodus of capital in the energy sector exemplifies what is occurring in the entire commodities sector. Exploration and production (E&P) spending in the U.S. **peaked in 2014 at USD 140bn**. From there it successively fell. Before the Covid-19 pandemic this figure stood at only USD 70bn, and in 2020 it went down further to only USD 30bn, the lowest level in decades and a drop of 80% from the peak. US E&P companies are budgeting to spend only USD 45bn in 2022. To put this in perspective, the oil price averaged USD 90 in 2014, and that year E&P capital spending amounted to USD 140bn, almost four times the amount expected this year.

The cure for high prices is high prices

From our point of view, the resource sector faces a significant triple challenge. The multi-year bear market in commodities has caused severe underinvestment and a lack of capex. This needs to be offset by increased upstream investment, especially in exploration and the development of new greenfield projects sectorwide. The market needs more supply, but the normal market mechanism is being blocked by ESG policy.

Worldwide focus on ESG – especially by governments and the banking sector – supply chain issues and the supply crunch caused by the unfolding situation in Ukraine and Russia, exacerbated by sanctions and export bans, have ushered in unprecedented uncertainty and risk. This makes it difficult for resource companies to access the capital required for development.

Lack of appetite from large banks and governments will force producers to find alternate sources of funding, resulting in higher costs of capital, which in turn will lead to higher commodities prices.

Conclusion

Pessimism sells. For reasons I have never understood, people like to hear that the world is going to hell, and become huffy and scornful when some idiotic optimist intrudes on their pleasure.

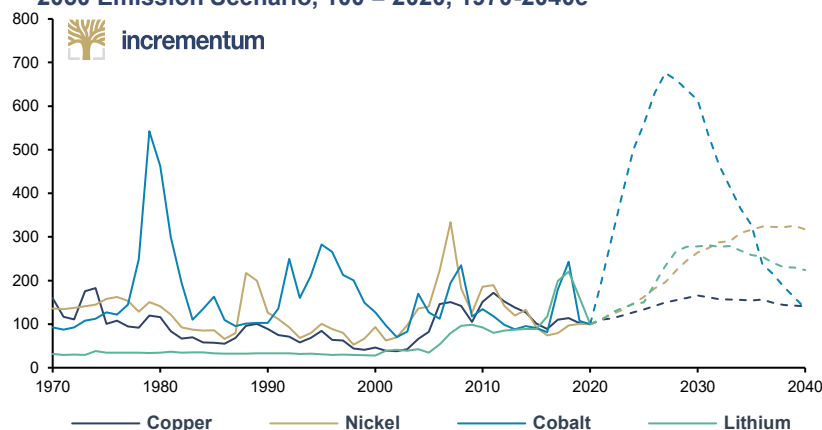
Deirdre McCloskey

Last year we concluded: “The grueling bear market in commodities may have come to an end last year. Not only are we facing a renaissance in the sector, but we are also already in the midst of one.”¹³ With a clear conscience, we can now reaffirm this statement and emphasize that the Ukraine crisis is merely an accelerant of a fundamental trend reversal. Even if the war ends soon and sanctions are lifted, this would by no means mean an end to the bull market in commodities.

Global efforts to increase the security of supply of raw materials as well as to decarbonize continue to gain momentum and will definitely increase the demand for raw materials. The IMF has published, in the *World Economic Outlook – October 2021*, an estimate of how the prices of important raw materials will develop, both based on projects already adopted and on the implementation of “net zero” by the year 2050.

¹³ “The Status Quo of Gold,” *In Gold We Trust* report 2021, p. 38

Copper, Nickel, Cobalt and Lithium Price for the IEA's Net Zero by 2050 Emission Scenario, 100 = 2020, 1970-2040e



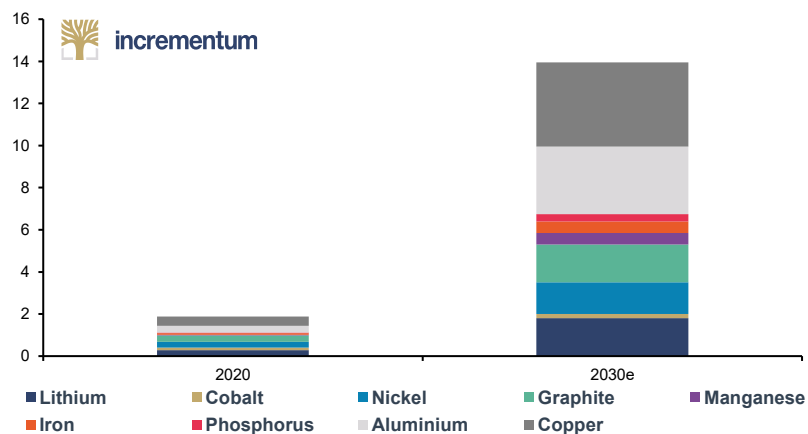
Source: IEA, Schwerhoff & Stuermer, BLS, USGS, Incrementum AG

In a world of ongoing pressure for policymakers across the globe to print and spend, zero interest rates, tectonic shifts in where global power lies, and conflict, gold has a unique role in protecting portfolios. It's wise to hold some gold.

Ray Dalio

According to the IMF, the price of cobalt is expected to increase almost sevenfold, peaking in 2027. The price of nickel is not anticipated to peak until 2039 but may more than triple by then. Lithium is forecast to nearly triple in price, with 2031 as the peak year. The price of copper is projected to increase at a much slower rate and to be 65% higher by 2030. **These price estimates assume that demand for these essential elements will increase drastically: copper will almost double, nickel will almost quadruple, cobalt will more than quadruple, and lithium will nearly quadruple.**

Demand for Battery Materials, 2020-2030e



Source: IRENA, Incrementum AG

There is no training, classroom or otherwise, that can prepare for trading the last third of a move, whether it's the end of a bull market or the end of a bear market.

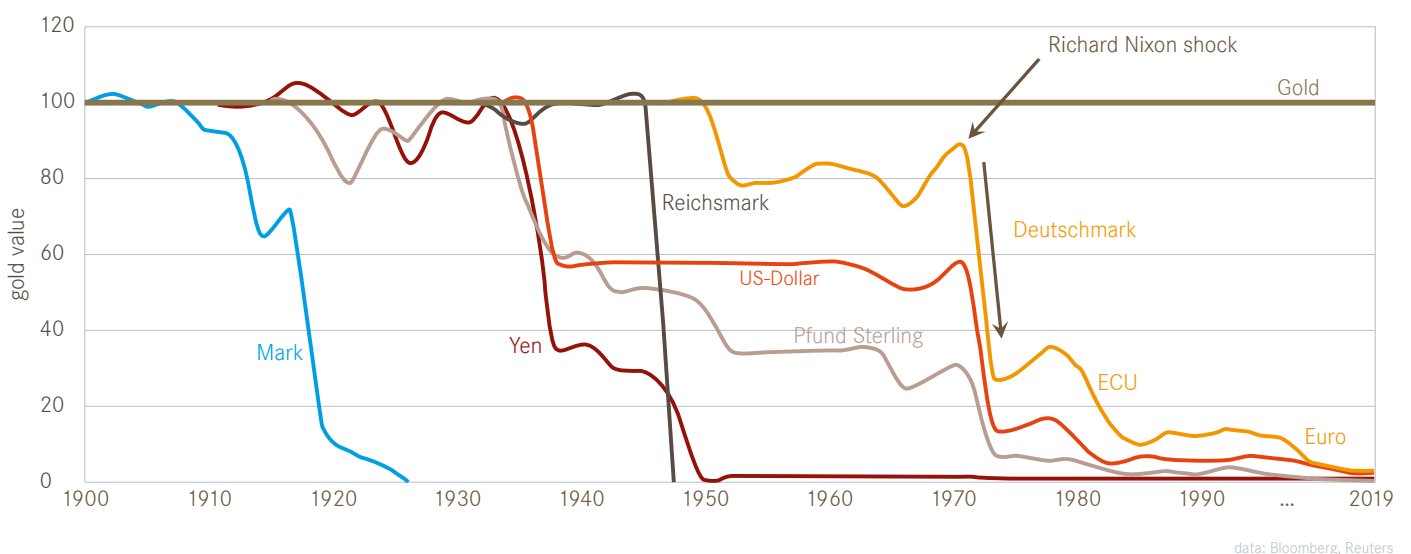
Paul Tudor Jones

In our opinion, decarbonization and ESG-compliant investing will become structural drivers for the supply and demand of many green commodities. We see positive impacts especially for copper, nickel, and battery metals but also for silver.

The *green wave* is not the central reason for our positive outlook on the commodity sector. **There is no doubt that this trend is an additional factor that is now swinging the pendulum in favor of commodities (and inflation).**

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THE TOXINE

In order to destroy the bourgeoisie, one has to wreak havoc on its monetary system.



Vladimir Ilyich Lenin

THE ANTIDOTE

In the absence of the gold standard, there is no way to protect savings from confiscation through inflation.



Alan Greenspan, Chairman of the Federal Reserve 1987-2006 ("Gold and Economic Freedom", 1966)

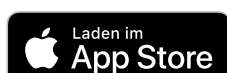
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Solit

Status Quo of Debt Dynamics

“The fragile wants tranquility, the antifragile grows from disorder, and the robust doesn’t care. Debt always fragilizes economic systems.”

Nassim Taleb

Key Takeaways

- At first glance, it might seem as if the global debt situation has taken a turn for the better, but this is largely due to exceptionally high nominal economic growth last year.
- The base effect in economic growth makes things look much better in the short term than they actually are. Because in reality, economic output has barely recovered to pre-pandemic levels.
- All these factors, combined with low real growth rates and government budgets continually running at large deficits, lead us to conclude that it is highly unlikely we will see significant interest rate hikes in the coming decade.
- It is likely that more central banks will engage in yield curve control in addition to classic interest rate policy as a way of indirectly managing debt levels.
- Especially for highly indebted countries, higher inflation rates are a means of debt reduction. This is at the expense of existing bondholders and the population, especially recipients of transfer payments.

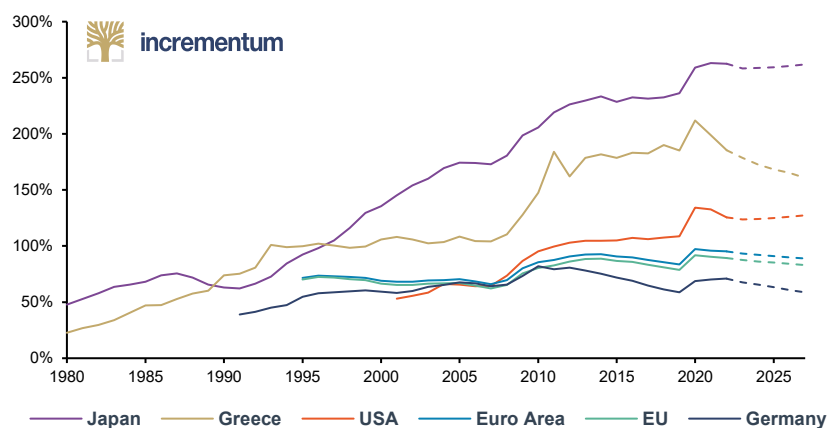
Debt has a time function – bringing forward consumption from the future into the present – in a sense “buying time”. Rising debt ultimately acts as a tax on growth.

Paul Mylchreest

“Appearances are deceptive” – this is how the development of the public debt ratio in 2021 can be summarized. According to data from the **Institute of International Finance (IIF)**, the global debt-to-GDP ratio fell by around 10 percentage points to 351%, having jumped by 13.3% of global GDP in 2020. And just as in 2020, the striking economic slump in global GDP of 3.3% further fueled the increase in the public debt ratio due to the extraordinary reduction in the denominator, last year the effect was reversed due to the exceptionally high nominal economic growth of 13.0%.

This effect was also seen in government debt in 2021. In advanced economies, the public debt ratio fell from 123.2% to 119.8% in 2021 and is expected to fall further to 115.5% in 2022.

Government Debt, as % of GDP, 1980-2027e



Source: IMF, Incrementum AG

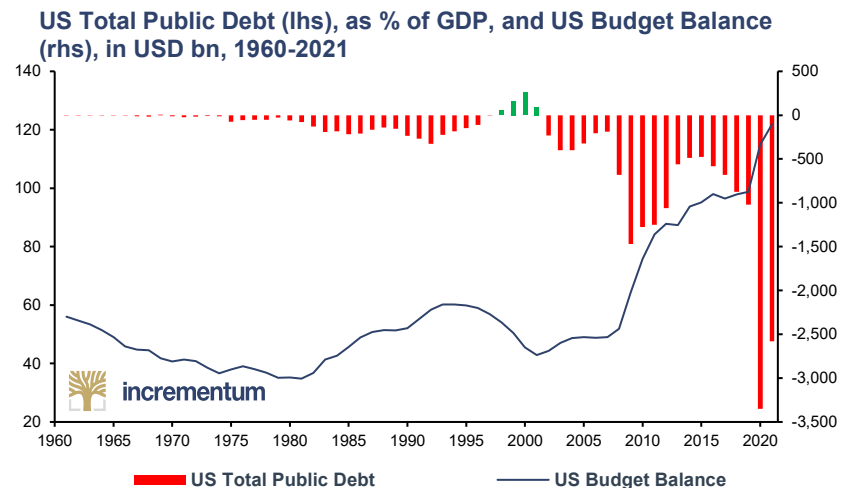
But this decline is not due to sustained savings in government budgets.

It is largely due to above-average nominal GDP growth last year. In the US, nominal GDP grew by 10.1% in 2021, the highest increase since 1984. But this exceptional growth is also not the result of structural reforms, but can be explained almost exclusively by the gradual (with some setbacks) return to ordinary life after the sharp Covid-19 restrictions.



Courtesy of Hedgeye

Due to countless other pandemic-related support measures, government deficits were still extremely high in 2021. For example, the US again posted a double-digit deficit of 12.4% in fiscal year 2021, down from 14.9% in fiscal year 2020. In absolute terms, the deficit decreased from USD 3.1trn to USD 2.8trn. The corresponding figures before Covid-19 were around two-thirds lower at “only” 4.7% or USD 984bn.



It's clearly a budget. It's got a lot of numbers in it.

George W. Bush

In absolute terms, nominal total global debt of all economic sectors rose even further in 2021. The USD 300trn mark was breached for the first time last year.

The – Largely Ignored – Base Effect in Economic Growth

Facts are stubborn things, but statistics are pliable.

Mark Twain

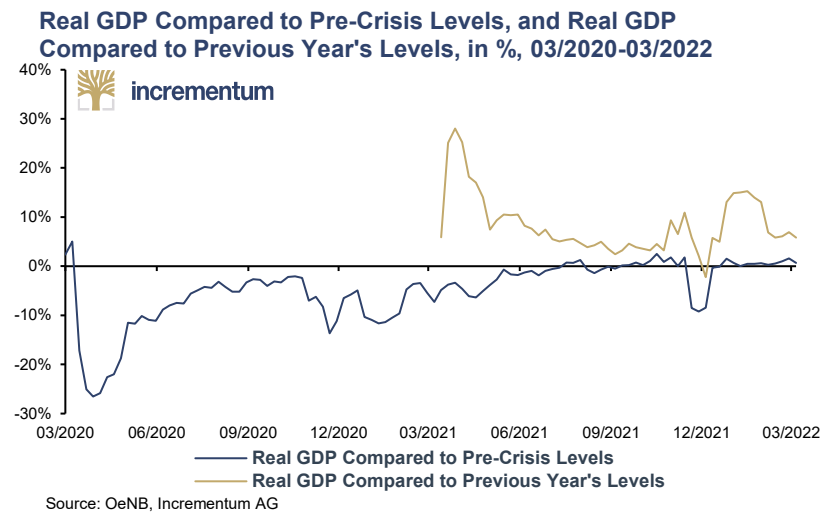
The economic growth of last year and also this year is largely due to the base effect in growth figures; after all, many sales simply could not be made due to lockdowns, contact restrictions, event cancellations, and similar non-pharmaceutical measures to contain the Covid-19 pandemic. This particularly affected the service sector. The easing and, even more so, the withdrawal of these measures allow the industries affected by the measures to operate more or less normally, which has naturally increased economic output. However, this economic growth is not new, additional prosperity but is largely due only to the reopening of the economy, i.e., the return to the *status quo ante*. **The negative supply shock of forced closings was followed by the positive supply shock of reopenings. However, both these shocks were only temporary in nature.**

There's no trick to being a humorist when you have the whole government working for you.

Will Rogers

But because politicians like to bask in high growth figures and sell them as their own successes, the influence of the base effect on economic growth has been largely ignored, in contrast to the base effect on inflation figures. This may be considered successful PR, but that's all it is. In other words, if you have an accident with your car, your car will not be in better condition after repairs than it was before the accident. With the Ukraine war caused by Russia and the resulting spiral of sanctions, the next "accident" has already occurred on the supply side.

How much the base effect has distorted growth figures upward since March 2021 is shown in the next chart for Austria.



A realistic view of economic developments is therefore sobering. For example, despite real growth of 3.7% year-on-year (Q1/2022), the German economy is still 0.9% below its pre-crisis level (Q4/2019). The auto sector has been particularly hard hit by supply chain problems in chips, and since Russia's attack on Ukraine, more key supplier factories have had to close. Since 2017, domestic car production has been falling, and at just over 3 million units in 2021 was almost 50% below the 2017 level.

Italy, and the spring and first love all together should suffice to make the gloomiest person happy.

Bertrand Russell

It is therefore no surprise that Italy, which was highly acclaimed in 2021 – the *Economist* even voted Italy Country of the Year – will fall back again significantly in 2022. According to the current forecast of the World Economic Outlook, Spain and Portugal will overtake Italy this year, whose growth of 2.3% is expected to be significantly lower than the 2.8% forecast for the euro area. In 2021, by contrast, Italy was still a (statistical) growth locomotive, with growth of 6.6%, while the euro area stood at 5.5%.

Debt Relief Through Inflation?

The most important thing is to understand that inflation is not an act of God, it is not a natural disaster, and it is not a disease. Inflation is a political strategy.

Ludwig von Mises

In addition to the short-term effect of strong nominal economic growth (owed to the base effect) on reducing the debt burden, the marked rise in inflation will also contribute to the real deleveraging of sovereigns, indeed of all debtors, for as long as nominal economic growth – or nominal corporate and household incomes – grows faster than existing or new debt. Increases in transfer payments by less than the rate of inflation is therefore a simple and obvious method, but at the expense of the weaker members of society. **To put it bluntly, transfer recipients restructure the national budget by being forced to forego consumption as a result of a real decline in transfer payments.**

However, this automatism is not as strong as it may seem at first glance. Statutory inflation adjustments of expenditures diminish this effect. In the US, for example, the automatic increase in payments from Old-Age, Survivors and Disability

Insurance (OASDI, Social Security) to remain in line with the CPI, is prescribed by law.

Above a certain level of inflation rates, the debt-relief effect of inflation on government budgets is even reversed. This is because real tax revenues erode as inflation rises, since the time at which tax liabilities are established and the time at which they are paid can differ significantly in the case of some high-yielding types of tax, such as income tax. **This fiscally significant effect is known as the *Tanzi effect*.**¹⁴

Calculations by DZ Bank show that, using the GDP deflator as a measure of inflation, inflation of 3% per year would significantly reduce the debt ratio in those countries with a low primary deficit or possibly even a primary surplus and a comparatively high debt ratio. Italian government debt could thus fall by 20 percentage points to 136% of GDP by 2026. At an inflation rate of 5%, which is more in line with current reality, the decline would amount to 32 percentage points. The corresponding figures for Germany show a decline from 69% to 58% in 2026 in the 3% scenario and to 53% in the 5% scenario. This would put German government debt well below the 60% debt ceiling again.

I have tried to lift France out of the mud. But she will return to her errors and vomitings. I cannot prevent the French from being French.

Charles de Gaulle

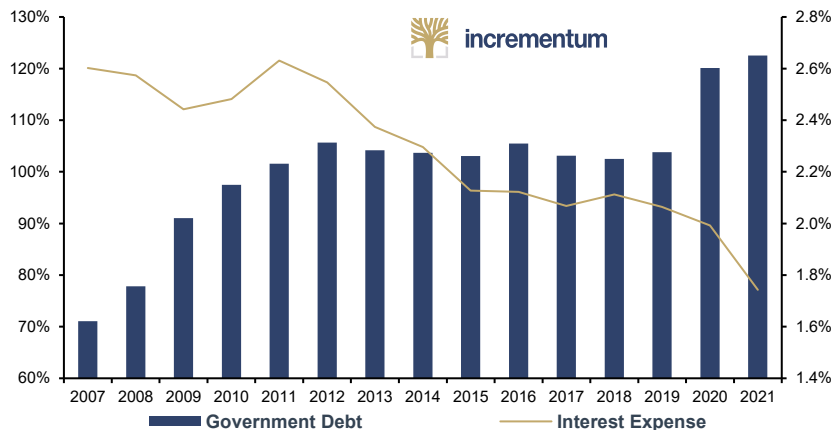
The problem child in the euro area, however, is France. Because unlike much-maligned Greece and no less heavily criticized Italy, France has been running stubborn primary deficits, i.e. a current deficit even excluding debt service expenses (interest payments and net borrowing), even before the Covid-19 pandemic. The 6% decline in the 3% scenario can be described as insignificant in view of France's public debt of 117.8% (2021).

For the US, whose national debt swelled from 105.2% to 124.8% in the 2020 and 2021 Covid-19 years, the CRFB calculates that inflation would have to be 12% for nearly a decade to cut US national debt in half, as it did after World War 2. Alternatively, real economic growth of 6% or cumulative spending savings of more than USD 20trn would be required, i.e. 61% of GDP.

Another key tool for achieving debt relief through inflation is keeping interest rates artificially low, as central banks around the globe have done in recent years. This has allowed interest expenditures on government debt to be steadily reduced, even during periods of rising government debt ratios.

¹⁴ See "Hyperinflation: Much Talked About, Little Understood," In Gold We Trust report 2019

Advanced Economies, Government Debt (lhs), as % of GDP, and Interest Expense (rhs), as % of GDP, 2007-2021



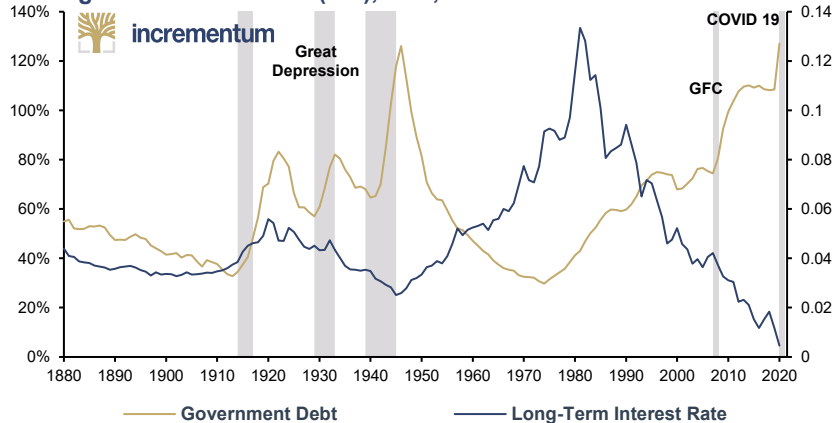
Source: IMF, Incrementum AG

Blessed are the young, for they shall inherit the national debt.

Herbert Hoover

The following long-term chart shows the historically low level of interest rates. It is worth noting that until the mid-1930s, interest rates and government debt were positively correlated. Since then, there has been a negative correlation, which supports the thesis that artificially low interest rates are an invitation to create debt. Indeed, while long-term interest rates have been in free fall since the Volcker shock in the early 1980s, government debt in industrialized countries has been rising steeply. In the US, the previous record of 126.1% from 1946 was surpassed in 2020 at 127.1%, this despite the fact that we are living in relatively peaceful times, whereas in 1946 industrialized countries were badly affected by the devastation of World War 2, with high military spending and a post-war recession.

Advanced Economies, Government Debt (lhs), as % of GDP, and Long-Term Interest Rate (rhs), in %, 1880-2020



Source: IMF, Incrementum AG

Yield Curve Control as a New Central Bank Tool?

The US is as far from a balanced budget as Joe Biden is from puberty.

The QT timebomb is ticking. When it goes off there will be emergency liquidity operations, and we will move to the Yield Curve Control (YCC) end game.

Joseph Wang

The faster interest rates rise today, the more financial repression will be required in the coming decades and the more the United States will come to resemble Japan.

Joachim Klement

Don't worry about the world ending today, it's already tomorrow in Australia.

Charles M. Schulz

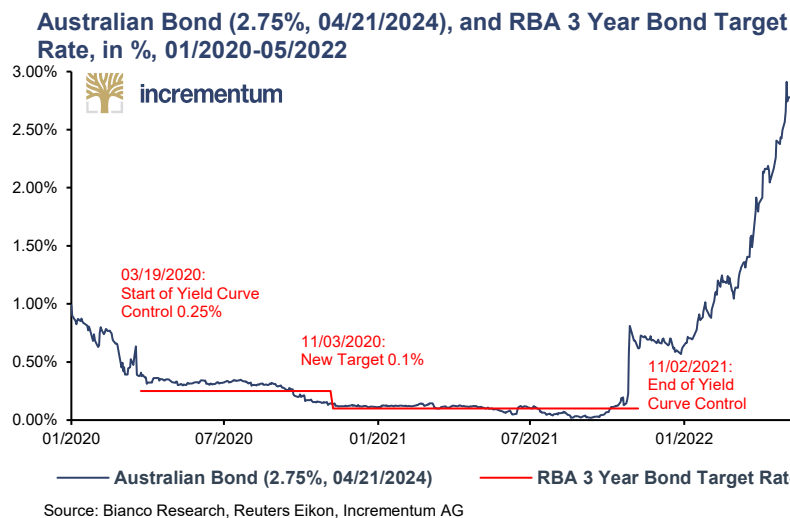
One tool the Federal Reserve used to facilitate wartime financing was yield curve control (YCC). After World War 2, this policy was continued until the Treasury-Fed Accord of 1951, which greatly facilitated the reduction of national debt.¹⁵ Actively supporting the Federal Reserve's financially repressive monetary policy at the time were nearly balanced budgets and strong economic growth. **But the US is as far from a balanced budget as Joe Biden is from puberty.** Even before the outbreak of the coronavirus pandemic, **the CBO's forecast for the US budget deficit from 2022 onward** was more than USD 1trn each year, or at least 4.4% of GDP.

However, the central banks' interest rate capping policy to limit the nominal interest rate level means that, as a result of an inflation premium that is too low, demand on the market for bonds is correspondingly restrained. Therefore, significant bond purchases by central banks are inevitable in such a scenario, with the corresponding impact on total assets. Capping bond rates was the explicit goal of the Federal Reserve in the 1940s; it has been the goal of the Bank of Japan (BoJ) since September 2016. In late March, the BoJ reaffirmed its YCC policy. This was prompted by the fact that on March 28, yields on the 10-year Japanese government bond (JGB) threatened to breach the 0.25% level that the BoJ had issued as a ceiling. **In response, the BoJ announced that it would buy JGBs in unlimited quantities.**

Given Japan's national debt of more than 250%, this decision comes as no surprise. However, the attempt to protect the Japanese budget from higher interest payments by capping the debt comes at a price. On the inflation front, the risk is still manageable. At 2.5% (April 2022), the inflation rate in Japan has surpassed the BoJ's inflation target of 2% for the first time in 7 years. To achieve this, the BoJ had introduced YCC 2016 in addition to quantitative and qualitative easing (QQE). Unsurprisingly, the YCC policy is weakening the external value of the yen, and dramatically so. **In March and April alone, the yen lost more than 10% against the US dollar. In mid-April, as yields again scratched the 0.25% ceiling, the BoJ reiterated that it was ready to buy unlimited amounts of JGBs in defense of the interest rate ceiling.**

In contrast, the Reserve Bank of Australia (RBA), Australia's central bank, capitulated to market pressure. **At the end of October 2021, it abandoned the YCC introduced at the beginning of the Covid-19 pandemic.** Initially, it capped the yield on the 3-year Australian government bond at 0.25%, and on November 3, 2020, it lowered the cap to 0.10%. By the time the RBA ended its YCC policy on November 2, 2021, it had already lost control over yields. At the end of October 2021, the yield rallied to 0.775%, and by mid-April it had already exceeded the 3% mark. As could be expected, the YCC caused the RBA's total assets to explode. Within less than two years, total assets more than tripled, and **the share of Australian government bonds held by the RBA increased more than 15-fold to over 35%.**

¹⁵ "The Status Quo of Gold," *In Gold We Trust* report 2019, pp. 43–45

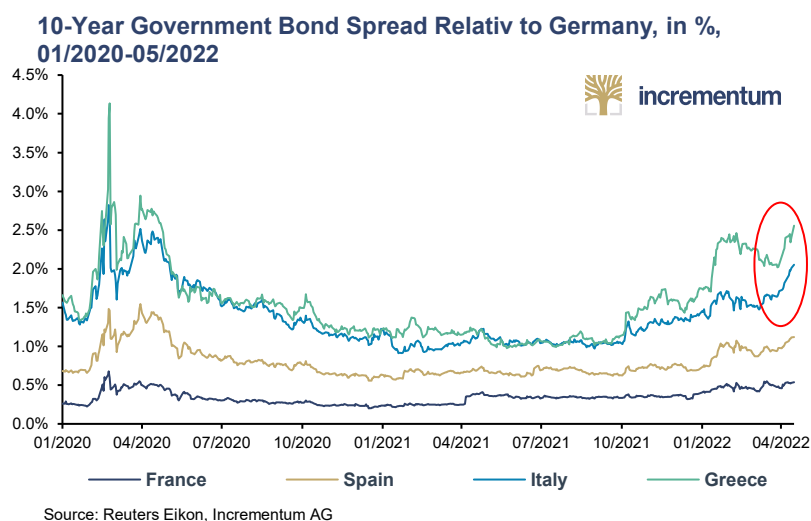


The ECB engages in a special form of interest rate capping by promising all euro member states, which have varying levels of debt and highly divergent ambitions in terms of debt reduction, “favorable financing conditions”.

I’m not in the business of reading tea leaves. I don’t have a crystal ball.

Christine Lagarde

The question of whether the ECB should keep spreads within a certain range came up in March 2020, i.e. at the beginning of the Covid-19 pandemic. In the Q&A-session following the announcement of the results of the March 12, 2020 Governing Council meeting, ECB President Christine Lagarde caused an uproar. She stated – correctly in terms of content – that “to close spreads” is not the task of the ECB. **Italian politicians reacted indignantly to this statement.** After all, following Lagarde’s statement, the already high spread between German and Italian 10-year government bonds shot up from 191 bps to 252 bps, or by 32%. To make matters worse, this discussion took place against the backdrop of the first Covid-19 wave, in which Italy was hit early and particularly hard.



In an interview for CNBC following the press conference, however, Lagarde immediately made a 180-degree turn:

“I am fully committed to avoid any fragmentation in a difficult moment for the euro area. High spreads due to the coronavirus impair the transmission of monetary policy. We will use the flexibility embedded in the asset purchase program, including within the public sector purchase program. The package approved today can be used flexibly to avoid dislocations in bond markets, and we are ready to use the necessary determination and strength.”

Markets love volatility.

Christine Lagarde

Many economists (including Fed Vice-Chairman Lael Brainard) promote yield curve control as a legitimate policy tool. The problem is it works until it blows up.

Jim Bianco

With this, Lagarde publicly stated that the ECB wanted to exercise control over spreads. Only a few days after this regular Governing Council meeting, the introduction of the **Pandemic Emergency Purchase Program (PEPP)** was decided and **presented to the public** in an emergency Governing Council meeting on March 18, 2020. Both in the presentation of the PEPP and in countless other press conferences and speeches, the special flexibility of the PEPP was emphasized, which allows the ECB to conduct bond purchases not strictly according to the capital key, but to deviate from it – temporarily.

The fact that controlling bond spreads has become a central target of monetary policy is confirmed by a project leaked to Bloomberg at the beginning of April 2022. According to information from an ECB employee who wished to remain anonymous, the ECB is said to be working on a crisis instrument that would be activated in the event of a sharp rise in bond spreads. This emergency instrument is to be used in the event of an exogenous shock that is beyond the control of national governments.

If this information is correct, three conclusions follow:

- The ECB is flirting with the idea of an open YCC.
- Only (ultra-)lax monetary policy is holding the eurozone together.
- The ECB will use the next crisis to further strengthen, i.e. centralize, the institutional architecture of the euro area.

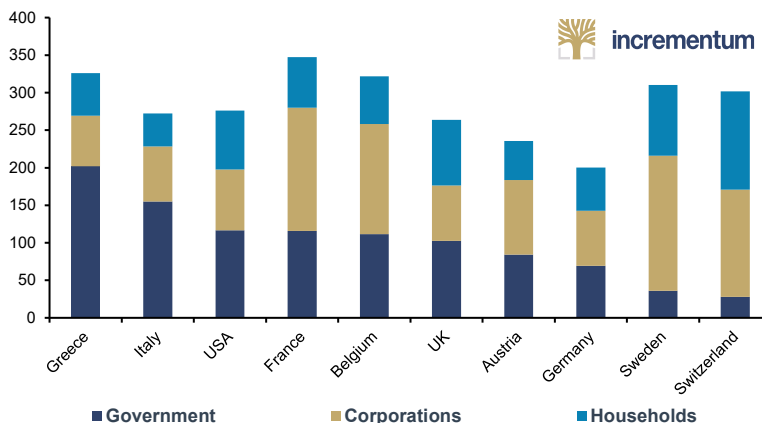
Not Only Governments Are Highly Indebted

The borrower is servant to the lender.

The Bible

Interest rate hikes affect not only governments but all overindebted economic entities. For a country’s economic stability, therefore, it is not only government debt that is relevant but also the debt ratios of the corporate sector and private households. The relative debt levels of these sectors vary markedly from country to country. In the next chart, countries are ranked by government debt. Corporate and household debt are added on top of the government debt.

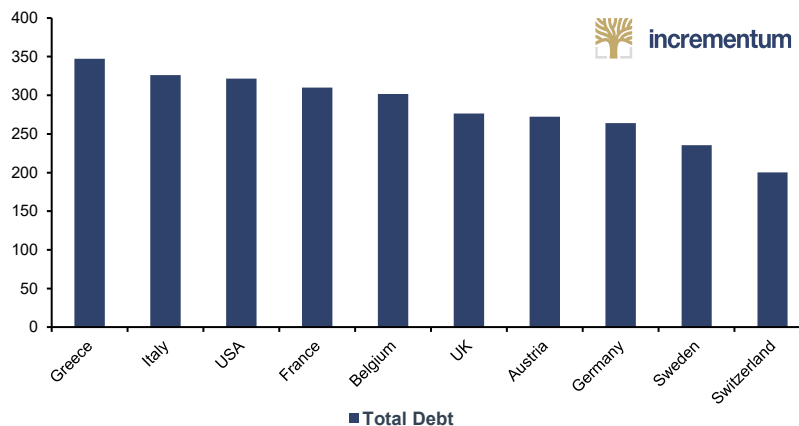
Total Debt (Government, Corporations, Households), as % of GDP, Q3/2021



Source: BIS, Incrementum AG

If we now classify the countries listed above according to their total debt, the picture is clearly different.

Total Debt (Government, Corporations, Households), as % of GDP, Q3/2021



Source: BIS, Incrementum AG

To understand Europe, you have to be a genius - or French.

Madeleine Albright

The greatest deception men suffer is from their own opinions.

Leonardo da Vinci

Not insignificant for the euro area and the interpretation of the ECB's monetary policy is the fact that France has the highest level of debt in society as a whole, in particular due to the high indebtedness of the corporate sector. Italy, which is often criticized, is in a relatively good position in this overall view, and even has a lower level of debt than Sweden or Switzerland, which are often presented as role models in the public debate, with their strong focus on government debt. But in these two countries, the other two sectors of the economy are far more indebted than average, with the result that the level of debt in society as a whole is over 300% of GDP, while that of Italy is significantly lower.

With regard to the debt ratios in the EU, it should be noted that they have been distorted downward since the decision to take on EUR 750 billion in EU community debt as part of "Next Generation EU". This is because the government debt ratios do not include the respective governments' shares of the community debt. **Clemens Fuest, President of the Munich-based ifo Institute and Florian Dorn**

estimate that NextGen EU will increase the government debt ratio by 5.5 percentage points.

The German Bundesbank, which has been headed since January 1 by Joachim Nagel, nominated by the new German “traffic light coalition”, following the surprise departure of Jens Weidmann, has also been extremely critical of the statistical treatment of EU debt. **As early as December 2020, it called for the new debt not to be removed from national debt statistics. But the Bundesbank will not be left with much more than the role of an admonishing voice in the wilderness.**

Christian Lindner is the David Copperfield of German financial policy. He juggles the national debt with such virtuosity that the public can hardly distinguish between reality and appearance.

Gabor Steingart

Yet, unsurprisingly, circumvention strategies seem to be gaining in importance again. When the Maastricht criteria were introduced, many a state-owned enterprise was formally privatized, with the state as sole or majority owner. This formal privatization also “privatized” the debt and no longer burdened the Maastricht debt ratio. The German government now wants to resort to a similar trick in order to address the ailing Bundeswehr in the face of the Russian attack on Ukraine and the commitment to achieve the NATO target of a defense budget of 2% of GDP. An “extra budget Bundeswehr” (Sondervermögen) of EUR 100bn is to be established. The previous 27 special funds have a combined volume of EUR 132bn. For Finance Minister Lindner (FDP) it is politically very convenient that, subject to the appropriate legal structure, this extra budget would not be covered by either the Maastricht criteria or the German debt brake. New borrowing without officially incurring new debt – fiscal policy alchemy, for which, in the end, the taxpayer has to take the rap.

Maastricht Rules on the Verge of Softening?

Efforts to ease the debt and deficit rules of the Stability and Growth Pact (SGP) have picked up again in recent months. After all, in 2020 the EU Commission had set itself the goal of working out a reform of the now extremely complex rules by 2023. **Oliver Blanchard et al., for example, propose replacing the rigid fiscal rules with fiscal standards.** These should enable member states to react more flexibly to their respective economic situations.

The enormous debts that now oppress all the great nations of Europe will, probably in the long run, ruin all these great nations.

Adam Smith, 1776

In the course of this discussion, high-ranking representatives of the ESM, including its managing director, Klaus Regling, have publicly **pleaded for an increase in the debt ceiling to 100% of GDP.** After all, according to an argument strongly reminiscent of Larry Summers’ in the fall of 2020,¹⁶ because of the sharp drop in real interest rates, debt service would be lower today at 100% of GDP than at 60% in earlier times. The fact that Regling and his colleagues assume that interest rates will remain so low in the long term is – to put it mildly – somewhat naive.

¹⁶ Furman, Jason and Summers, Lawrence: “A Reconsideration of Fiscal Policy in the Era of Low Interest Rates,” discussion draft, November 30, 2020; see also “The Status Quo of Gold,” In Gold We Trust report 2021

It's not easy being green.

Kermit the Frog

Politics is the art of looking for trouble, finding it everywhere, diagnosing it incorrectly and applying the wrong remedies.

Groucho Marx

The EU reached an agreement – except it was the kind of agreement only the EU can reach; an agreement about which everybody involved disagrees.

Grant Williams

A major, probably even unmanageable fiscal challenge for the EU member states is the political goal of a green and digital transformation of the economy. This would require enormous investments of at least EUR 650bn. These should, **according to another suggestion**, be excluded from the deficit calculation. The renowned economist Barry Eichengreen also argues in favor of this in an article with the telling title “**Greening Europe’s Fiscal Rules**”. He points out that in some countries it is permissible to disregard investments when calculating deficits. A green investment should be treated the same way because “[e]ven if it does not boost economic growth, it could avert a climate-related disaster in which GDP plummets and the debt burden becomes unmanageable”.

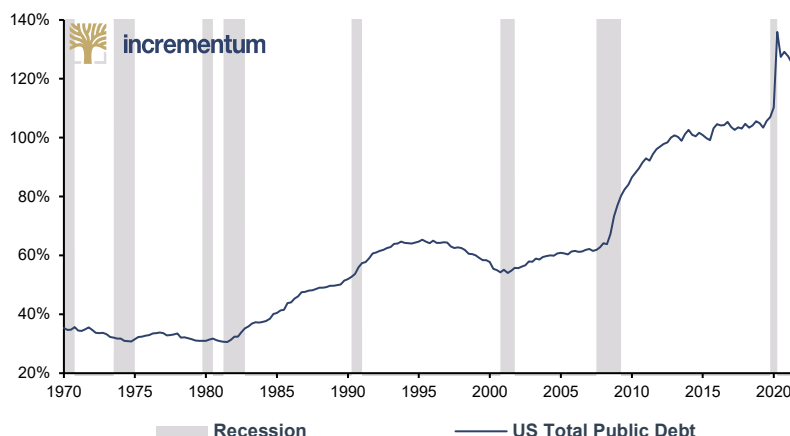
It is obvious that this and similar proposals are political shell games. In economic terms, it makes no difference whether debts or deficits are included in statistics that are embellished according to political guidelines. Either way, the debts have to be serviced, and that alone counts. In any case, the concealment tactics used by the EU will lead to an underestimation of future debt and deficit dynamics.

It is still a completely open question how the Maastricht criteria will actually be reformed. In any case, a tightening of the criteria can definitely be ruled out. Whether there will be a softening disguised as a reform depends largely on the positioning of Germany, the political heavyweight among the frugal states of the former D-mark bloc. In the current year, 2022, the Stability and Growth Pact is still suspended anyway because of the Covid-19 pandemic. In view of the massive economic upheavals to be expected as a result of the Ukraine war and the spiral of sanctions, an extension of the suspension in 2023 is within the realm of possibility, if not now even probable.

Why the Comparison with the 1970s Is (Partly) Misleading

The current situation is often compared with the 1970s. But there is a significant divergence on one crucial point. For example, the total of three inflation waves – 1967-1972, 1972-1976, 1976-1983 – with year-on-year peaks in annual CPI inflation of 5.8%, 11.0% and 13.5%, respectively – were each countered with significant interest rate hikes. Interest rates rose from 2.00% to 10.50%, from 3.25% to 13.60%, and from 4.20% to 20.60%, respectively. Such interest rate hikes are completely unthinkable nowadays; after all, the US government debt ratio is currently around four times its level in the 1970s.

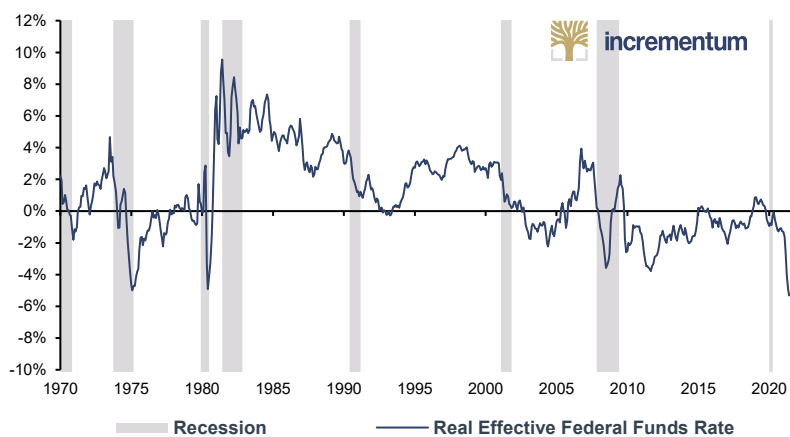
US Total Public Debt , in % of GDP, Q1/1970-Q1/2022



Source: Reuters Eikon, Incrementum AG

It is therefore not surprising that real interest rates are currently strongly negative, whereas in the 1970s real interest rates initially moved within a range of -5% to 5% and in the early 1980s broke out upward to just below +10%.

Real Effective Federal Funds Rate, in %, 01/1970-05/2022



Source: Reuters Eikon, Incrementum AG

The truly unique power of a central bank, after all, is the power to create money, and ultimately the power to create is the power to destroy.

Paul Volcker

Talk is cheap, except when Congress does it.

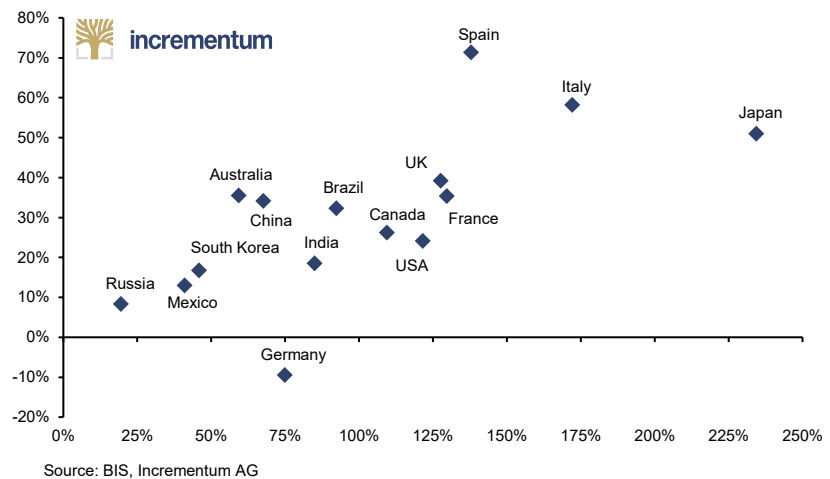
Cullen Hightower

A Powell moment as a contemporary counterpart to the historic Volcker moment, i.e. a radical cycle of interest rate hikes to fight inflation, is extremely unlikely given the high level of US public debt, **even if Jerome Powell expressed his admiration** for his predecessor in mid-March with these words: *“I think he was one of the great public servants of the era – the greatest economic public servant of the era.”* After all, a 5% increase in interest rates would increase US interest service by **about USD 1.5trn annually**, which is pretty much twice the current defense budget.

The US Congressional Budget Office (CBO) has once again confirmed the impossibility of a significant increase in interest rates. In response to a question from Congressman Jason Smith, the CBO calculated how a stronger increase in the interest rate level than forecast in **“The 2021 Long-Term Budget Outlook”** would affect the debt ratio of the United States. In this scenario, CBO assumes an increase in the interest rate on the national debt of 5 basis points each

year. Instead of 4.6%, the average interest rate on the national debt in 2051 would thus be 6.6%. This would be accompanied by an increase in government debt to 260% of GDP, compared with 202% of GDP in the extended baseline scenario. Currently, federal debt held by the public (excluding debt held by federal authorities and the Federal Reserve) is just below 100%.

Government Debt (x-axis), as % of GDP, and its 10-Year Change (y-axis), in %, 2021



Demographic Change as a Massive Expenditure Driver

The significant demographic change taking place in all parts of the world, with the exception of Africa and some Asian countries, will have a major impact on debt development. One effect of an upside-down population pyramid is that the number of working people will decline. This is the part of the population that, through its productivity, creates the resources from which debt can be repaid. To put it another way: Debt per capita, especially per employed person, will increase in the coming years simply because of the constant rise in the average age of the population.¹⁷

Everyone wants to live at the expense of the state. They forget that the state wants to live at the expense of everyone.

Frédéric Bastiat

Ageing will cause significant additional costs. In a comprehensive study entitled “**The 2021 Ageing Report**”, the EU Commission has calculated the increase in age-related expenditures in the EU and the individual member states. The cost increases vary greatly between the states. For the EU as a whole, the baseline scenario forecasts an increase in age-related expenditure as a share of GDP of 1.9 percentage points, to 25.9% by 2070. However, the development diverges strongly between the individual states. At one end, Slovakia, Luxembourg and Slovenia are projected to see an increase in age-related expenditures of 10.8%, 10.4% and 8.9%, respectively, while at the other end, Greece, Estonia and Portugal may show a decrease of 3.7%, 1.6% and 1.3%, respectively.

¹⁷ See “Global Demographics Turn Inflationary,” In Gold We Trust report 2021

An increase of 1.9 percentage points sounds very small at first glance.

But calculated from the current level of 24.0%, the increase amounts to almost 8%. With a government spending ratio of 50%, in terms of tax revenues this means that age-related spending would increase by around 16% compared with today. Moreover, over the same period, the economic dependency ratio (inactive population/employees) would increase significantly from 125.5% today to 142.2% by 2070. **If today one employed person has to finance 1.26 economically dependent persons, i.e. young and old, in fifty years it will be 1.42.**

Governments are likely to continue printing money to pay their debts with devalued money. That's the easiest and least controversial way to reduce the debt burdens and without raising taxes.

Ray Dalio

A recent study by the OECD comes to similarly worrying conclusions.

Most OECD countries would have to increase their taxes significantly just to prevent government debt from rising until 2060. The median country would have to increase its structural primary revenues (i.e., excluding special cyclical effects and other one-off revenues) by almost 8 percentage points of GDP between 2021 and 2060, and in 11 countries the effort would have to exceed 10 percentage points. Again, it is Greece that is in the best position and could even cut taxes; and again, it is Slovakia that is in the worst position and would have to raise taxes by more than 15 percentage points.

International investors will be collateral damage as the free movement of capital ends across the eurozone.

Russell Napier

The Future: Financial Repression as a Permanent Condition?

To finance debt reduction, governments have a rich repertoire of instruments. The choice and relative weighting of instruments will vary from country to country, but no state in the world will manage without increasing the tax burden and intensifying financial repression.¹⁸

Major instruments of financial repression are:

Relative favoritism of government bonds: The decisive return on an investment for investors is the real after-tax return. Therefore, the government can significantly influence the attractiveness of an asset class through the design of its tax treatment. Regulatory treatment favors government bonds, for example, in that commercial banks do not have to hold equity capital to hold government bonds. It is thus conceivable that demand for government bonds could be artificially stimulated by tax benefits for the purchase of government bonds or by tax deterioration for other asset classes.

We do not merely destroy our enemies; we change them.

George Orwell, 1984

Ban on private wallets: For several years, the institutions of the EU have been dealing with the question of how the crypto sector should be regulated. The legislative process of the **Transfer of Funds Regulation (TFR)** is still at an early stage. However, a vote in the relevant committee at the end of March shows where the journey is likely to go. Unhosted wallets are in fact threatened with extinction. In addition, a strict interpretation of the planned regulation would de facto prohibit the transfer of funds from one unhosted wallet to another. This would

¹⁸ See "Financial Repression – Economic Reasons Come to the Fore," *In Gold We Trust* report 2020; "Financial Repression – Slowly But Surely, the Screws Are Tightened Further," *In Gold We Trust* report 2018; "Financial Repression: When the Grasping Hand of the State Runs Rampant," *In Gold We Trust* report 2016

In the post Covid-19 world the probability of a financial crisis does not mean that there will be a financial crisis. What it means is that there will be a financial repression with public support for private institutions, high inflation and yield curve control.

Russell Napier

ultimately be as if cash payments between private individuals were unlawful or at least subject to reporting requirements. This bill still requires the approval of the plenary of the EU Parliament, as well as the European Council.

Wealth levy/wealth tax: A one-time wealth levy, as opposed to a permanent wealth tax, is a profound encroachment by the state on citizens' property rights. Historically, such encroachments have occurred time and again. Examples include the German house interest tax of the Weimar Republic and the German Burden Equalization Act of 1952.

The official registration of assets is indispensable for the collection of a property levy or a property tax. Real estate and land ownership are already recorded by the land register and are therefore easily taxable.

The EU now apparently wants to move into completely new dimensions with the possible introduction of an EU-wide asset register. A feasibility study in this regard was commissioned in December 2021. The EU Commission tasked the Centre for European Policy Studies (CEPS); a Brussels-based think tank, VVA; a consulting company based in Milan and Brussels; and Infeurope SA, a service provider based in Luxembourg, to produce the feasibility study, under the unwieldy title "[Feasibility Study for a European Assets Register with regard to the fight against money laundering and tax evasion](#)". The feasibility study is expected to be published in early 2023.

The tender for the feasibility study reads like a total assault on the financial privacy of EU citizens:

"This project will explore various options for collecting information to establish an asset registry that can subsequently inform a future policy initiative. It will explore how information available from different asset ownership sources (e.g., land registers, business registers, trust and foundation registers, central securities depositories, etc.) can be collected and linked, and analyze the design, scope, and challenges for such a Union asset register. The possibility of including data on ownership of other assets such as cryptocurrencies, works of art, real estate, and gold in the register should also be considered."

Even at the national level, an asset register would be a highly problematic matter. If, however, such a wealth register were to be established at the EU level, this would significantly reduce the opportunities for ordinary investors to evade taxation and would consolidate the EU's path to becoming a high-tax prison.

Moreover, one cannot help suspecting that money laundering (AML), which is committed by a few criminals and needs to be fought, is once again being used as a mere pretext to gain access to the financial assets of the entire population. Put another way: The EU is placing the entire population under general suspicion in order to obtain the data necessary for broad taxation.

We have not overthrown the divine right of kings to fall down for the divine right of experts.

Harold MacMillan

I'm kind of in a position that FDR was (...) What in fact FDR did was not ideological, it was completely practical.

Joe Biden

Cash combined with courage in a time of crisis is priceless.

Warren Buffett

The mention of combating tax evasion also pronounces a general suspicion, so that citizens must prove their compliance with the law.

This reversal of the burden of proof was also the basis of various legal regulations to combat the Covid-19 pandemic; namely, when citizens without any symptoms of illness had to prove that they were healthy in order to be allowed to participate in social life. Ultimately, the asset register is intended to give the EU access to everything and everyone, which is more reminiscent of the dystopia of a total surveillance state made up of helplessly regulated people than a democracy of free citizens based on mutual trust.

Gold ban: The terms of reference for the feasibility study on a possible EU-wide asset register also explicitly name gold as one of the assets whose regulatory recording is to be examined. This brings back memories of a gold ban. In the *In Gold We Trust* report 2021, we dealt in detail with historical gold bans.¹⁹ We consider a gold ban unlikely, if only because of the enormous bureaucracy involved. However, in recent years the screws have been tightened considerably on the buying and selling of gold, even in the more liberal countries such as Switzerland and Austria, by lowering the maximum limit for anonymous sales. In Germany, this has for some time now been set at only EUR 1,999.99, which just about allows the anonymous purchase of an ounce.²⁰

Cash ban: Digital central bank currencies are still dreams of the future, but their implementation is being driven forward with increasing intensity.²¹ In an article published by the ECB in January 2020 entitled "**Tiered CBDC and the financial system,**" the following features are mentioned with surprising candor as advantages of the introduction of a digital central bank currency:²²

- Better control of illegal payment and savings activities, money laundering and terrorist financing, with banknotes (in high denominations) being banned as a possible further prerequisite and the digital central bank not being made anonymous
- Allows overcoming the nominal interest rate floor (ZLB), as negative interest rates can be applied to CBDC, provided banknotes (in high denominations) are prohibited
- An easier way to provide helicopter money
- Higher seigniorage revenues for the government (and citizens) as the government takes back money creation from banks

A non-anonymous digital central bank money would be the end of financial privacy, especially if cash were additionally banned.

In view of the recurring sovereign debt miseries, it is time to raise the following fundamental idea of Milton Friedman:

"There are four ways in which you can spend money. You can spend your own money on yourself. When you do that, why, then, you really watch out what you're doing, and you try to get the most for your money. Then you can

¹⁹ See "A Brief History of Gold Confiscations," *In Gold We Trust* report 2021

²⁰ See "A Brief History of Gold Confiscations," *In Gold We Trust* report 2021

²¹ See "De-Dollarization 2021: Europe Buys Gold, China Opens a Digital Front," *In Gold We Trust* report 2021

²² Bindseil, Ulrich: "Tiered CBDC and the financial system," *ECB Working Paper Series*, No. 2351/January 2020, p. 5

spend your own money on somebody else. For example, I buy a birthday present for someone. Well, then I'm not so careful about the content of the present, but I'm very careful about the cost. Then, I can spend somebody else's money on myself. And if I spend somebody else's money on myself, then I'm sure going to have a good lunch! Finally, I can spend somebody else's money on somebody else. And if I spend somebody else's money on somebody else, I'm not concerned about how much it is, and I'm not concerned about what I get. And that's government. And that's close to 40 percent of our national income."

Admittedly, Friedman's views on gift spending can and probably should be questioned. But it is hard to deny that politicians tend to be particularly generous with taxpayer money, especially for their own constituencies.

Conclusion

The economic shambles of the Covid pandemic have not even begun to be cleared away, and already two more crises are on the scene, the energy crisis and the Ukraine war, which have the potential to make the distortions of the pandemic appear trifling.

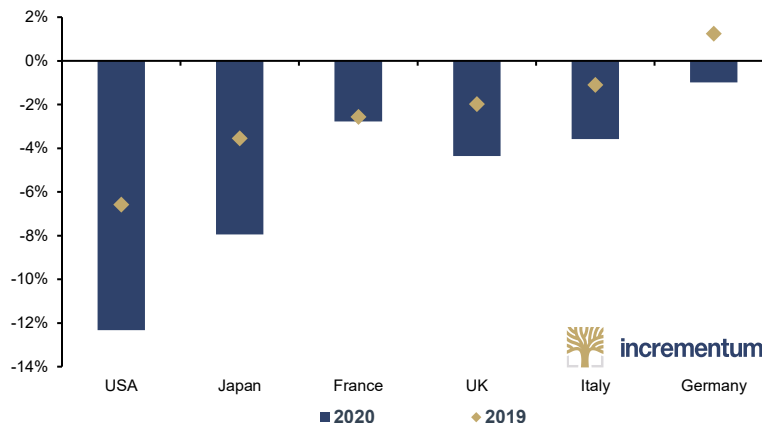
What is important that will constrain how far the Fed can go is the extreme level of debt. At a record \$83 trillion of public and private debt, if the Fed goes as much as what is priced in, we are talking about \$330 billion being drained out of the economy for debt servicing charges or about 1.5% out of GDP.

Due to the historically low and almost constantly falling interest rate level, the high level of debt for society as a whole has hardly been a problem so far, apart from a few exceptional cases among the industrialized nations, such as Greece. In 2021, according to calculations by Janus Henderson Investors, the debt-service expenditures of all countries fell to a record low of USD 1.0trn. This corresponds to an effective interest rate of only 1.6%. The extremely low level of interest rates is also reflected in the fact that in 2021 the global government bond markets achieved a total return of -1.9%. Investing in government bonds was therefore a sure loss business.

These low-interest-rate times are over because of the strong rise in inflation. But because hardly any state can afford a marked rise in the interest rate level, financial repression will increase; indeed it will have to increase. Likewise, the state's demand for higher tax revenues will grow, putting the remaining vestiges of financial freedom under pressure. The possibility that this will be merely a temporary episode can be ruled out in view of the spending dreams of politicians (key words: energy turnaround, green transformation of the economy), the loss of the peace dividend as a result of the Russian invasion of Ukraine, and the profound demographic change.

Moreover, it should be borne in mind that many countries were already running substantial structural deficits before the outbreak of the Covid-19 pandemic and before the severe impact of the Ukraine war, the sanctions against Russia, and the counter-sanctions. That is, even without the exogenous negative shocks of the pandemic and the Ukraine war, the fiscal situation in many notable countries was highly problematic, especially in the medium and long term. **Deep, painful structural reforms are particularly difficult to implement politically and come as rarely as Halley's Comet.**

General Government Structural Balance, as % of Potential GDP, 2019-2020



Source: OECD, Incrementum AG

We have to win, everything else is primary.

Hans Krankl

In an ideal state of society perhaps the intrinsic quality of money might entirely disappear and be replaced by the value derived from the control of the state. But for that to occur the control of the state would need to be perfect in authority and god-like in intelligence.

Aristotle

A sustained turnaround in interest rates is therefore less likely than ever. It is probably even more likely that Austria will be soccer world champion one day than that real interest rates will be in clear positive territory in the next decade. This is also due to the fact that central bankers increasingly see themselves as financiers of governments rather than guardians of the currency. In the euro area in particular, the politicization of the central bank is clearly visible. This is not surprising, given that the ECB is headed by Christine Lagarde, a politician.

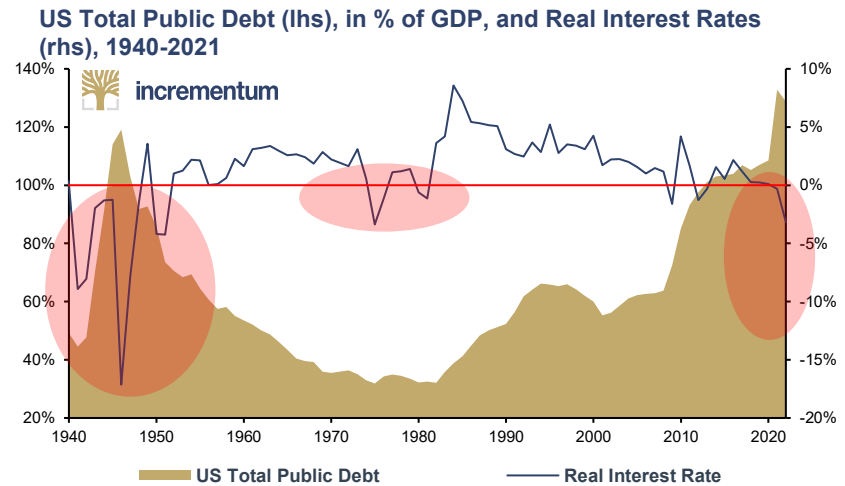
Substantial increases in real interest rates would also hit the other two sectors of the economy, companies and private households, hard. The already long-delayed wave of corporate bankruptcies would be exacerbated by interest rate hikes. In those countries with high levels of household debt, such as Scandinavia and Switzerland, the financial solvency of households with variable-rate mortgages in particular would be seriously jeopardized. In the US, as elsewhere, the absolute level of the 30-year fixed-rate mortgage is still manageable at around 5.50% – it averaged 6.97% annually in 2001, more than 9% in 1991, and 16.64% in 1981 at the height of the third wave of inflation – but the increase since summer 2021 has been rapid. At the interim low in early August, it stood at just 2.77%. This is an increase of more than 90%.

US 30-Year Fixed Rate Mortgage, in %, 01/1991-05/2022



Source: Reuters Eikon, Incrementum AG

Appearances are deceptive, as we cautioned at the beginning of this chapter. There is no reason to believe that the (government) debt momentum has been broken as a result of last year's decline in the (government) debt ratio. The prospects for rapid consolidation, especially of government debt, are poor. In contrast to the huge debt reduction after World War 2, two basic conditions are no longer met in many countries today: balanced budgets (at minimum) and high real growth rates. **We therefore firmly believe that a return to sustained positive real interest rates is as likely as a remarriage between Johnny Depp and Amber Heard.**



Source: Federal Reserve St. Louis, Nick Laird, Reuters Eikon, Incrementum AG

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Status Quo of the Inflation Trend

“The characterization of inflation as transitory is probably the worst inflation call in the history of the Federal Reserve, and it results in a high probability of a policy mistake.”

Mohamed El-Erian

Key Takeaways

- Price trends of rigidly priced goods, such as rents, medical treatment, and public transport, indicate that inflation will not remain transitory. The fairy tale of *transitory* inflation should therefore be shelved for good.
- The increase in M2 money supply correlates well historically with increased inflation. This, combined with low interest rates, provided the foundation for high inflation.
- This is accelerated by supply chain issues caused by the Covid-19 pandemic, the Ukraine war, and the attempted energy transition.
- We are witnessing a price-increase supply-shrinkage spiral and seem to be in the early stages of a price-wage spiral.
- Structural deflationary or disinflationary factors are currently rare.
- This leads us to conclude that, even if inflation rates come back down due to the temporary expiry of the base effect, the level of inflation will remain elevated far above the target level of central banks for some time to come.

In my 24 years in the business, I've never seen anything like it, not even close. Across the board we are faced with crazy increases. There's no model that can handle this kind of inflation. It's kind of off the charts.

Dolf van den Brink,
CEO, Heineken

In the summer of 2021, a rally began in the USA that is not giving rise to any jubilation. On the contrary, this rally is making people sweat harder, the more it continues. In the euro area there was a rally, too, starting from a somewhat lower level and somewhat more restrained (as it is still). In a very short time, this rally led to a series of multi-decade highs, but highs that pleased no one. **You have probably already guessed: We're talking about the inflation rally.**

Now, inflation rates are significantly closer to the double-digit threshold than to central banks' inflation targets. In the US, the CPI in March stood at 8.6%, the highest since January 1982. In April, the CPI eased slightly to 8.3%, which was less than expected. To put this in perspective: The last time inflation was at this level, in 1982, Steven Spielberg's *E.T. The Extra-Terrestrial* premiered in US cinemas.

In Germany, the inflation rate of 7.4% (CPI) is at its highest level since 1981. At that time Helmut Schmidt was chancellor, heading a social-liberal coalition. **However, there was one serious difference compared with today: The key interest rate in Germany was 7.5%, while in the USA it averaged 16.5%.**

The Transitory Inflation



Courtesy of Hedgeyke

Transitory – that was the word most often used by central bankers for many, many months. The tenor of the term was that the rise in the inflation rate was merely temporary and that there was no cause for alarm. However, the most famous *temporarily* was uttered by US President Richard Nixon on August 15, 1971, when he “temporarily” suspended the gold redemption obligation of the US dollar. This suspension has now been “temporary” for more than 50 years.

First it was ‘transitory,’ then ‘inflation is good,’ then we went to ‘corporate greed,’ now we’re at ‘Putin.’

Rick Santelli

Stubborn – this is how to describe the denial of reality that took place in the second half of 2021 when inflation rates really started to pick up. Central bankers on both sides of the Atlantic initially practiced appeasement, their prayerful repetitions increasingly taking on a tragicomic quality. On November 29, 2021, Isabel Schnabel, a member of the ECB’s Executive Board, **expressed the following position in an interview** on German television:

“But we believe that the inflation rate will peak in November and gradually subside next year, towards our inflation target of 2%. Indeed, most forecasts expect inflation to fall even below that 2% level. So, there is no indication that inflation is getting out of control.”

Forecasting is not a strong side of economics.

Jan Tinbergen

While it was clear to central bankers in the US – at least by the end of 2021 – that the increase in inflation would not be merely transitory, by spring 2022 the euro’s monetary watchdogs still saw no reason to turn the interest rate screw. At the ECB meeting on March 9/10, however, a “large number of members” were of the opinion that the persistence of high inflation rates demanded immediate further steps toward normalization. After much delay,

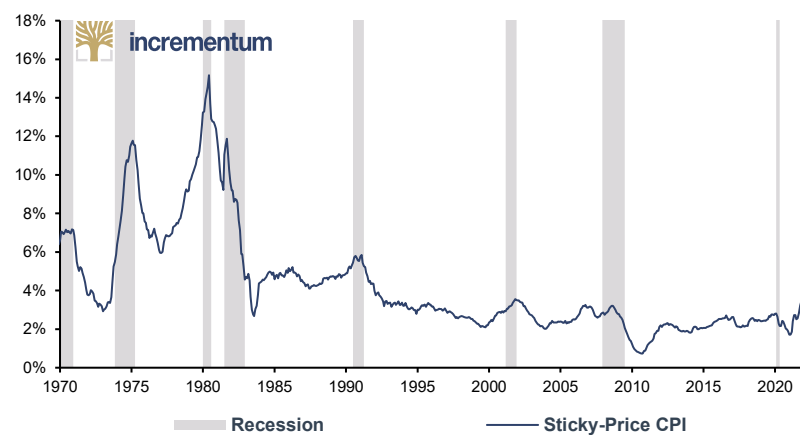
In spite of the cost of living, it's still popular.

Kathleen Norris

the ECB finally abandoned what can only be described as a stubborn defense of the narrative of merely temporary high inflation. **To date, though, the ECB has still not taken any significant action.**

One indication that inflation will not remain temporary is the price trend of rigidly priced goods. In the US, the Federal Reserve of Atlanta's *Sticky-Price CPI* shows a sharp rise in the prices of these goods. **These include**, for example, rents, medical treatment, and public transport. The prices of fuel, rental cars, and fresh fruit and vegetables are particularly volatile. On a year-on-year basis, this subindex rose by 4.9% in April, the strongest increase in 30 years.

Sticky-Price CPI, yoy%, 01/1970-04/2022



Source: Federal Reserve Atlanta, Incrementum AG

The 20.0% increase in *volatile prices* marks an all-time high since calculations began in 1967, **meaning that these prices are currently rising more strongly than during the high-inflation phase at the beginning of the 1980s.**

Monetary and Psychological Dimensions of Inflation

In our past two publications, we had already emphasized that numerous structural reasons point to an end of the era of low inflation. In the fall of 2020, we felt called upon to publish our first special publication on the inflation threat, entitled *“The Boy Who Cried Wolf: Inflationary Decade Ahead?”*

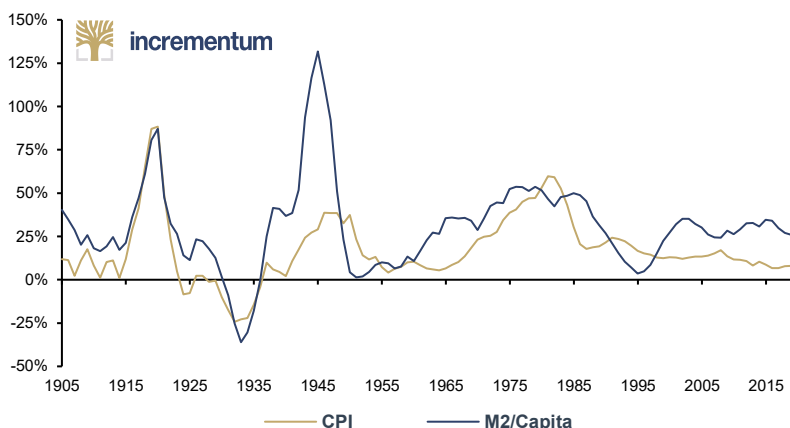
The title of the *In Gold We Trust* report 2021, *“Monetary Climate Change”*, also points to this serious change, which was initiated by the political reactions to the Covid-19 crisis and is now *accelerated* by the war in Ukraine. We already pointed out last year that the claims, repeated mantra-like, that inflation would only be temporarily elevated, were inaccurate from the outset. Thus, we wrote:

“... contrary to the statements of central bankers, the current rise in inflation is not a temporary phenomenon. Last year, for example,

the 5-year rolling growth rate of M2 per capita picked up strongly. As the next long-term chart shows, inflation could follow suit in the near future.”²³

However, a sustained easing on the inflation front remains highly unlikely from a monetary perspective:

CPI, and M2/Capita (5-year rolling growth rate), 1905-2022



Source: Lyn Alden, Nick Laird, goldchartsrus.com, Reuters Eikon, Incrementum AG

In many cases, however, central banks have succeeded in focusing attention on the goods side of the inflation debate and ignoring the monetary dimension of the upward price trend. While the Federal Reserve, by initiating the turnaround in interest rates, has, belatedly, begun to take responsibility for the monetary dimension of the inflation rally, the ECB persists in its tunnel vision of supply shocks and blames the Ukraine war and Russian President Vladimir Putin personally for the inflation spike.

Continued inflation inevitably leads to catastrophe.

Ludwig von Mises

But without the ultra-loose monetary policy of the past two years, and the broadly loose monetary policy since the Great Financial Crisis, the supply shocks could not have driven the general price level up so sharply. After all, the additional spending on energy and food would mean that less money would be available for other expenditures. Accordingly, prices would fall in these sectors, thereby dampening the general upward pressure on prices. In support of the claim that the rise in inflation was only temporary, the argument was put forward that the surge in inflation was mainly due to the base effect in energy prices and disrupted supply chains.

The herd instinct among forecasters makes sheep look like independent thinkers.

Edgar Fiedler

This view has been shared by major institutions. Therefore, the following list of inflation forecasts for Q4/2021 is a testimony to the failure of the forecasting models of all major institutions.

²³ See “The Status Quo of Gold,” *In Gold We Trust* report 2021, p. 66

2021 (Q4/Q4) Inflation forecasts	Value	Q1	Q2	Q3	Actual
Survey of Professional Forecasters	Core PCE	1.8%	2.3%	3.7%	4.6%
Federal Open Market Committee	Core PCE	2.2%	3.0%	3.7%	4.6%
Congressional Budget Office	Core PCE	1.5%		2.4%	4.6%
Federal Reserve Bank of New York GS&GE	Core PCE	1.4%	2.2%	3.8%	4.6%
OECD	Core CPI		3.0%		5.0%
IMF	CPI		2.3%		7.0%
Market-based	CPI	2.7%	2.9%		6.7%

Source: Furman, Jason: "Why Did (Almost) No One See the Inflation Coming?", *Intereconomics*, Vol 57 (2), 2022, pp. 79-86, Incrementum AG.

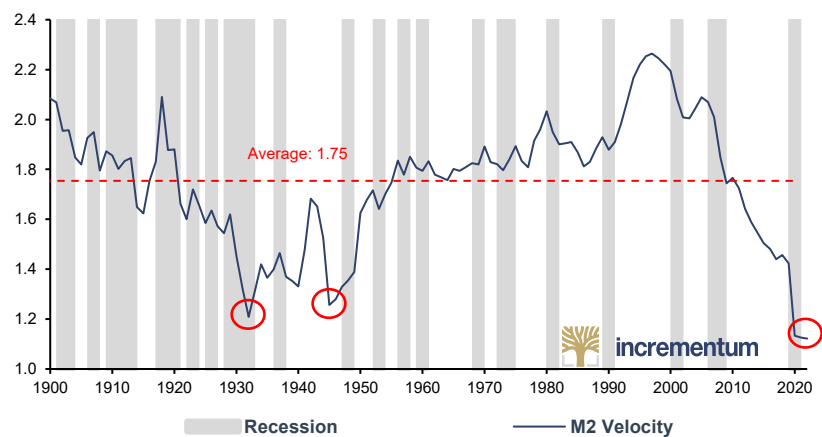


Courtesy of Hedgeye

Even if, at root, it is monetary reasons without which there can be no sustained inflation and no general rise in consumer prices, psychological factors also play a significant role in the actual inflation phase. If people *expect* prices to be noticeably higher tomorrow than they are today, i.e. that their purchasing power will be noticeably lower tomorrow, they will be less willing to hold money. The velocity of money in circulation then increases, which in turn drives up prices. Once this self-fulfilling, self-reinforcing inflationary spiral is set in motion, it can only be stopped by tough intervention, i.e. significant interest rate hikes. To make matters worse, interest rate hikes initially have inflationary effects, as the price of financing is mandated upward.

At present, however, the velocity of monetary circulation in the USA remains at a historically low level. If the velocity of circulation accelerates, there is still considerable additional potential for inflation.

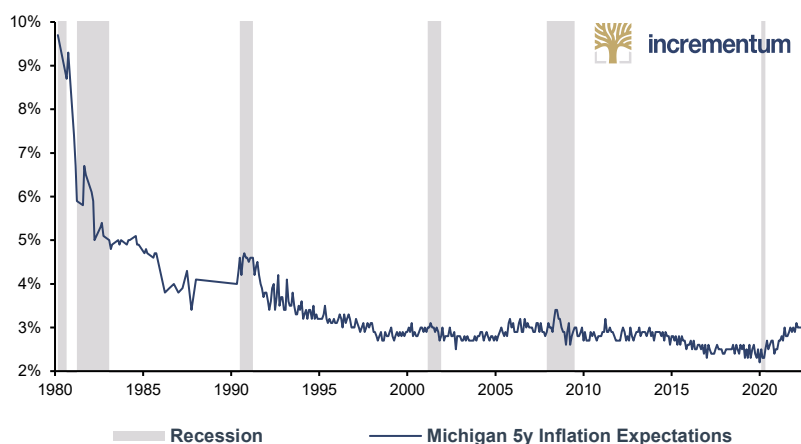
M2 Velocity, 1900-Q1/2022



Source: Reuters Eikon, Incrementum AG

Finally, we would like to take a look at inflation expectations. Unsurprisingly, they have risen significantly. Short-term inflation expectations fluctuate much more strongly than long-term expectations, which is why they should be treated with a certain degree of caution. We therefore look at longer-term inflation expectations, which are elevated but still not dramatically high.

Michigan 5y Inflation Expectations, in %, 01/1980-05/2022



Source: Reuters Eikon, Incrementum AG

The way prices are rising, the good old days are last week.

Les Dawson

Which prices have a particularly strong influence on the formation of inflation expectations? The recently published study “Determinants of Inflation Expectations in the Euro Area”²⁴ examines this question. Food, oil and global commodity prices have a major influence, as does any currency depreciation. A 10% increase in food prices raises short-term inflation expectations by around 0.5%. Thus, due to the announced and in some cases already realized sharp food price increases, there is a serious risk that inflation expectations, which have been very low for a long time, will be torn from their moorings.

Russia’s Attack and Its Consequences

Russia’s invasion of Ukraine has the potential to further unhinge a global economy already battered by the pandemic measures – cue supply chains, energy price hikes – and the impact on Europe will be far more consequential than on the US. The war itself is driving inflation through lost production, difficulties in exporting, and the destruction of production facilities.



Courtesy of Hedgeye

After the countless Covid-19 lockdowns and the 2021 blockage of the Suez Canal, the world is now facing the next serious inflation-fueled supply shock. Unlike with the lockdowns, however, it will now be not the service sector that is primarily affected but the industrial sector and agriculture. Put another way: If the Covid-19 measures mainly impacted normal activities and pleasures, there is now the veritable threat of price surges and supply shortages in food and the value-adding sectors of the economy.

The first and immediate effects have been felt in gas and oil prices.

These have continued their strong upward movement since the Covid-19 crash in spring 2020. In the meantime, prices have settled at a very high level and with high volatility.

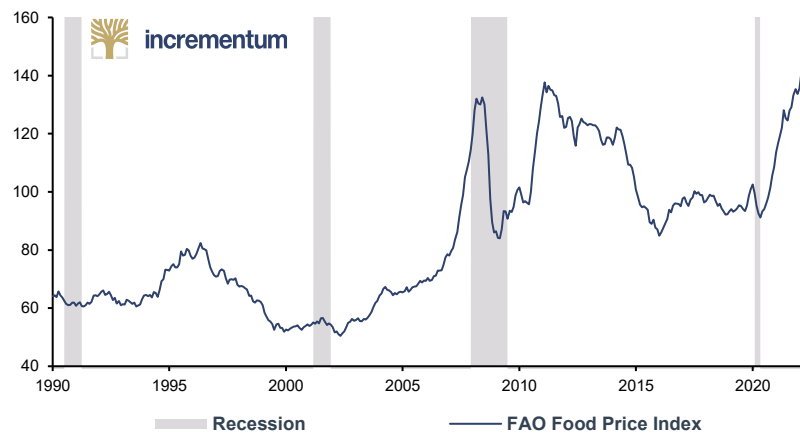
²⁴ Moessner, Richhild: “Determinants of Inflation Expectations in the Euro Area,” *Intereconomics*, Vol. 57 (2), 2022, pp. 99–102

Food is an essential part of a balanced diet.

Frank Lebowitz

Depending on the duration of the hostilities, the consequences for the global economy will be significant. For example, Russia and Ukraine are among the world's top grain exporters, particularly of wheat, oats, and corn, as well as sunflower oil, of which Ukraine is the top exporter. Ukraine also ranks first in the export of rye. For those states, especially in North Africa, that are dependent on grain supplies from Russia and Ukraine, there is the threat of a significant tightening of supply. As a result of the failure of these two producers, whether due to the acts of war themselves, sanctions or export restrictions, further price jumps can be expected in the coming months. These will spill over into other areas of agriculture, since meat production requires large quantities of grain and agriculture requires large quantities of fertilizer.

FAO Food Price Index, 01/1990-04/2022



Source: FAO, Incrementum AG

To what extent the currently emerging bloc formation – a Cold War 2.0 – between the West on the one hand and a China-India-Russia-Arabian Peninsula axis on the other, will be reflected not only in words but also in tangible deeds, is still open. In any case, the votes of the UN General Assembly on the resolution against Russia already give an idea of the two blocs. **While the absolute number of states that voted against the resolution or abstained from voting is quite small, it is remarkable that extraordinarily populous and geo-strategically highly relevant countries are among the abstentions.**

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Source: Tagesschau

When goods are not allowed to cross borders, armies will.

Frédéric Bastiat

More intensive work is also continuing on alternatives to the establishment of non-Western payment systems and settlement platforms.²⁵ **In any case, increased drifting apart and the accompanying attempt to reduce imports from the respective “enemy” bloc will further increase inflationary pressures.**

On the other hand, there are interdependencies that make a complete breakup of the global economy unlikely. The economic structure of both countries with a structural current account deficit and those with a structural current account surplus is geared to brisk trade flows. Reshaping these takes a lot of time and even more money. Moreover, even in Cold War times, the Soviet Union and Western Europe traded, and both the Soviet Union and Russia have always honored oil and gas supply contracts.

Thus, the EU’s attempt to reduce dependence on Russian oil and gas through the green transformation involves, in a sense, an inherent paradox. Russia exports significant amounts of raw materials such as nickel, which are essential for the green transformation. And in the absence of its own raw material reserves, the Union would become increasingly dependent on other states, especially on China.

In any case, one thing is certain: The era of globalization now seems to be over for a long time to come. And just as globalization has had a disinflationary effect for a long time, deglobalization will have an inflationary effect.

The Price-Increase Supply-Shrinkage Spiral

High energy prices and the extreme volatility of prices have already prompted some companies to limit their production or even temporarily cease it altogether, as it is no longer possible to operate profitably. Currently, this is specifically affecting energy-intensive sectors, with companies that cannot pass on the price increases being particularly hard hit. Some examples:

- Lech steel mills stop production – due to high electricity prices
- U.K. factories halt some production as energy prices surge
- Norske Skog paper mill must stop production
- Spanish industry halts production over sky-high energy prices
- Farmers’ association: many greenhouses remain empty
- Germany’s largest aluminum manufacturer has to halve production

This phenomenon can be described as a price-increase supply-shrinkage spiral. The (sharp) rise in production costs forces companies out of the market, causing supply to shrink, which further fuels the upward pressure on prices. A general halt to energy imports from Russia would have a devastating effect, especially in the euro area, given the lack of alternatives available in the short term.

²⁵ See chapter “A New International Order Emerges” in this *In Gold We Trust* report

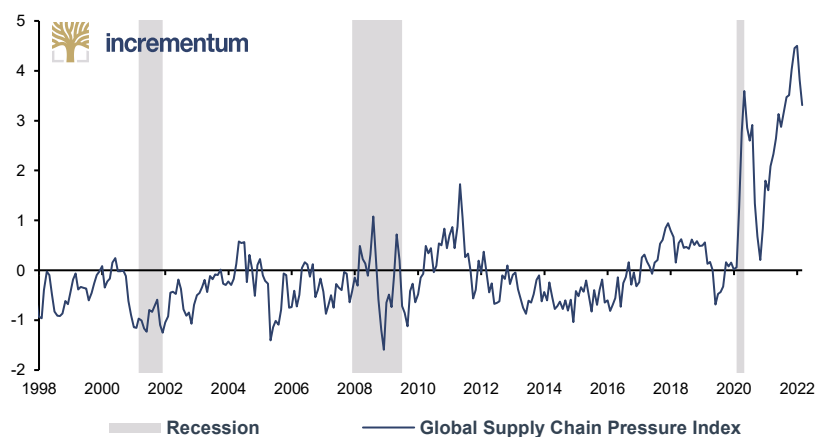
The same effect is threatening to occur as a result of the rise in the price and shortage of fertilizers for growing food. Even before the outbreak of the Ukraine war, the development of prices on the fertilizer market was worrying. The sharp rise in gas prices and the sanctions against the Belarusian fertilizer producer, Belaruskali, had driven up fertilizer prices significantly. And higher fertilizer prices ultimately mean higher food prices, but also food shortages. **In response to the threat of food shortages, some states have already imposed export restrictions or even export bans.**

We're moving from a world that was constantly globalizing to one breaking up into three different empires, each with their own currency, reference bond market, supply chains. There are massive investment implications.

Louis Gave

The supply shortage has been exacerbated by supply chain problems, some of which have been intractable. These have increased, in some cases significantly, since the outbreak of the Covid-19 pandemic. Strict quarantine measures, particularly in China; the shortage of containers as a result of self-aggravating delays; and a lack of unloading and transport capacity at destination ports have been causing delays and cancellations in international trade for many months. The days-long blockade of the Suez Canal in March 2021 had in the meantime further worsened the situation and brought the vulnerability of supply chains to the attention of a broad public.

Global Supply Chain Pressure Index, 01/1998-02/2022



Source: Reuters Eikon, Incrementum AG

Going forward, companies will be thinking less “just in time” and more “just in case”.

Paul Singer

There has been talk since the fall of 2020 that the supply chain disruptions will ease. At that time, there was a clear temporary easing of the situation, but this was quickly reversed with the new wave of lockdowns. All in all, a return to undisturbed supply chains is not to be expected any time soon; the distortions are too great and the geopolitical tensions and uncertainties are increasing too much. Thus, in view of the unusability of Ukrainian ports, **the export of Ukrainian wheat is becoming a Herculean task.**

The Upcoming Wave of Price Increases

I see deflation in the things you own and inflation in the things you need.

Kyle Bass

For Germany, the ifo Institute regularly surveys whether companies intend to raise, lower, or leave their prices unchanged. As of April, the number of companies in Germany intending to raise their prices in the coming three months reached a new high with a balance value of 62.0, after a new record

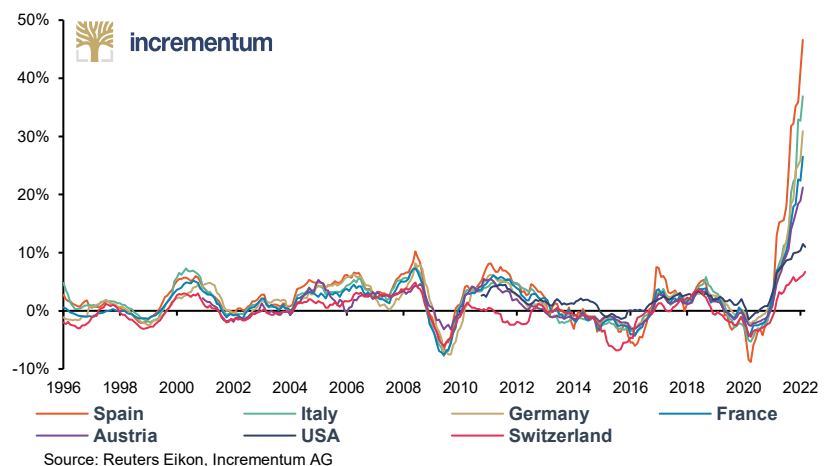
value of 55.0 points in March and 47.6 in February. This value is calculated by taking the difference between companies planning to increase their prices and those planning to reduce them. If all companies intend to increase prices, the balance is 100 points. **In the food sector, price expectations almost reached this extreme value in March, at 94.0 points.**



Courtesy of Hedgeye

In general, prices in consumer-related sectors are expected to rise in the coming weeks and months. **This means that precisely those prices covered by the consumer price index will be particularly hard hit.** However, the fact that the need for price increases is so widespread also means that companies see a realistic chance of pushing through higher prices on the market. **This new record level is not surprising in view of the rapid rise in producer prices.**

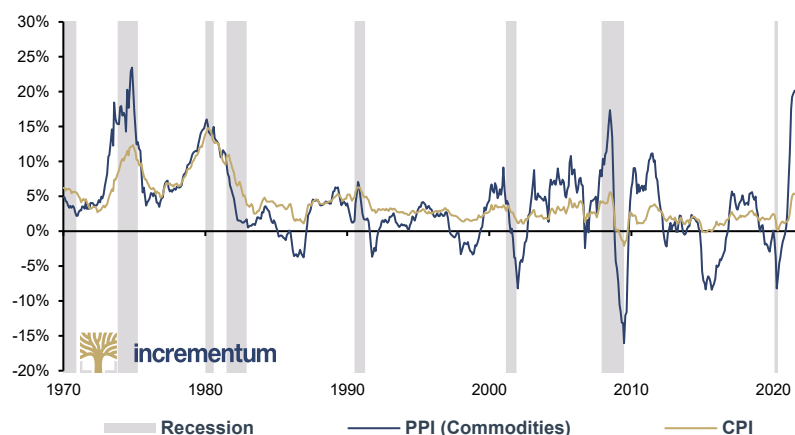
PPI, yoy%, 01/1996-04/2022



Wholesale prices in the euro area are rising at a rate not seen for half a century. Costs and inflationary pressures will therefore remain enormously high. This is because if prices cannot be passed on in the production chain and thus ultimately to consumers, companies will come under considerable pressure on margins. **In the USA, producer price increases are also at multi-decade highs:**

Upward pressure on consumer price inflation will remain elevated for the foreseeable future, even if fluctuations in producer prices have had a much milder impact on consumer prices since the 1990s, partly due to globalization. **Our calculations suggest that a 1% increase in the PPI raises the CPI by around 0.6%.**

PPI (Commodities), and CPI, yoy%, 01/1970-04/2022



Source: Federal Reserve St. Louis, Incrementum AG

The Price-Wage Spiral Will Inevitably Begin to Spin

A specter from the 1970s is now suddenly back: the price-wage spiral. How realistic is it that we will fall into this vicious economic spiral?

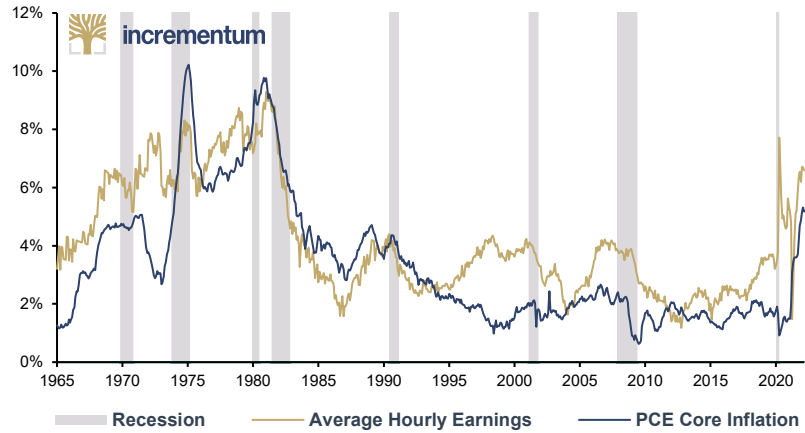
The early signs of a wage-price spiral are all present... And we could see much higher inflation readings over the next few quarters.

David Elfrig

First, we address the question of whether it is more economically correct to speak of a wage-price or a price-wage spiral. Is it higher wages that fuel price inflation, which only subsequently raises wages further? Or does a pickup in inflation and the accompanying real wage loss cause workers to heighten their wage demands to compensate, which raises wage costs and, subsequently, production costs? [A study by Moody's suggests](#) that causality runs in only one direction, *from consumer prices to wages*.

It should be noted that a price-wage spiral as a typical second-round effect is only possible if the money supply has been or is being significantly expanded. If the money supply were (relatively) constant, a significant increase in the price of a good as an expression of its increased relative scarcity would lead to a decline in nominal demand for all other goods. The general price level would remain unaffected. But with their ultra-expansive monetary policy, central banks have laid the foundation for the erosion of the purchasing power of money and thus provided fodder for the looming price-wage spiral.

Average Hourly Earnings, yoy%, and PCE Core Inflation, yoy%, 01/1965-03/2022



Source: Reuters Eikon, Incrementum AG

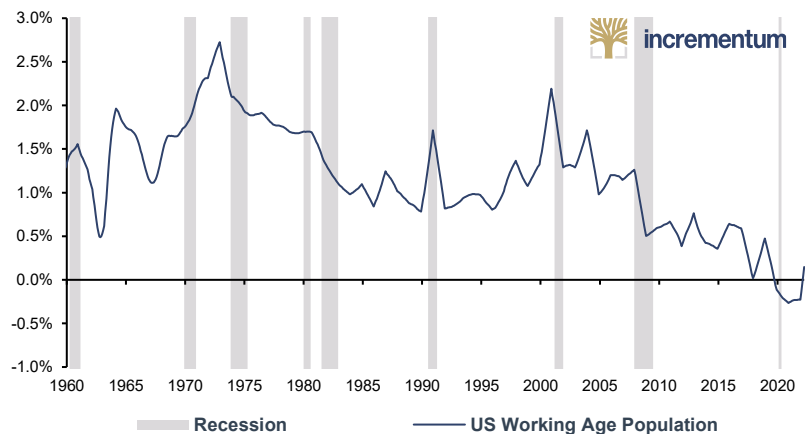
When union membership goes down, so do wages.

Ed Schultz

Labor’s significantly lower degree of organization – in the USA it has been cut in half to around 10% in recent decades – reduces its bargaining power, which in turn makes substantial wage increases highly unlikely in the current situation. Thus, those who argue that there is no threat of a price-wage spiral presently. In the 1970s, Europe unions did push through their high wage demands, in some cases by means of strikes. The strikes of ÖTV, the powerful union for public employees in Germany during the early-1970s inflation not only brought workers an 11% wage increase in 1974 but also ushered in the end of Chancellor Willy Brandt (SPD), who repeatedly spoke out against such a high wage settlement. He resigned a few months after the strike. The autonomy of collective bargaining was defended against the state’s attempt to intervene, and so wage negotiations were opened over Swabian pockets, soup and buttered pretzels.

But one important factor argues against the weakening of the bargaining power of labor: demographic change, which is causing the supply of labor to decline. For the first time, even in the USA with its relatively young population, the number of working-age people (15-64 years) fell in 2019.

US Working Age Population (Aged 15-64), yoy%, 01/1960-04/2022



Source: Reuters Eikon, Incrementum AG

Demography and the reversal of globalization mean that a great deal of [inflation] is likely to be permanent – clearly not all. There will be structural forces raising inflation for probably the next two to three decades.

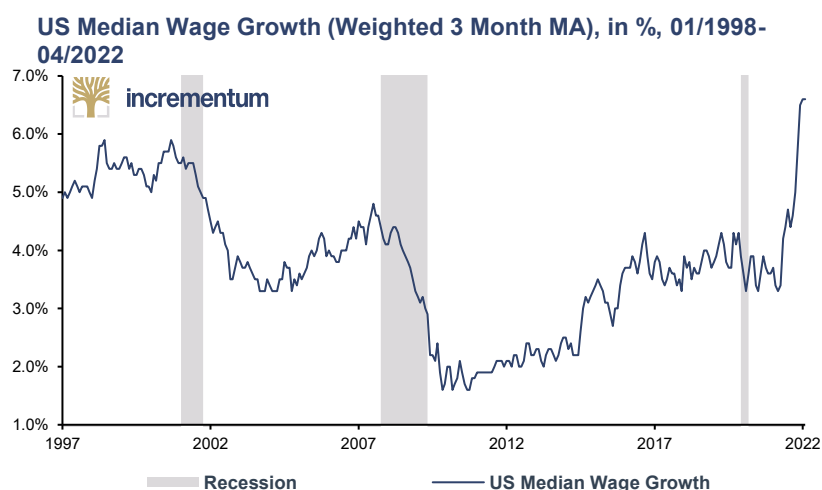
Charles Goodhart

In this respect, the trade unions are no longer as important in enforcing higher wages as they were in times when the supply of labor increased year after year. The demographically induced shortage on the labor market increases the bargaining power of employees by itself, as it were. It cannot therefore be assumed that the decline in the degree of employee organization will prevent the price-wage spiral. In large parts of Europe, the demographically induced decline in the working-age population is much more pronounced than in the US, which should increase the bargaining power of employees even more forcefully.

This aging-related trend toward a decline in labor supply can be observed in large parts of the world, with particularly strong manifestations in China, Japan, Russia and large parts of Europe.²⁶ In the meantime, there are also more and more examples of initial wage agreements or wage demands that take into account the sharp rise in inflation rates, and thus very much point to a renewed price-wage spiral:

- John Deere Workers End Month-Long Strike After Approving To New Contract Offering 10% Raise
- New GM union in Mexico seeks 19.2% wage hike in historic talks
- ‘You cannot treat us like this’: Austin ISD employees demand higher pay raises
- Record demand: Electrical industry wants six percent wage increase
- Restaurants and hotels must pay significantly higher wages
- IG Metall demands 8.2 percent pay rise for steelworkers

The Wage Growth Tracker of the Federal Reserve Bank of Atlanta also impressively shows that nominal wages in the USA are already rising strongly. However, consumer price inflation is now so high that, despite record nominal wage increases, the loss of purchasing power due to inflation cannot be fully compensated.



Source: Reuters Eikon, Incrementum AG

Looking at the bigger picture, there is additional reason to worry that inflation will be further fueled due to structural labor shortages. After

²⁶ See "Global Demographics Turn Inflationary," *In Gold We Trust* report 2021

all, in much of the Western world, an excessive focus on academization – and within academization, an emphasis on dubious fields of study while neglecting STEM subjects – has exacerbated this shortage of skilled workers.

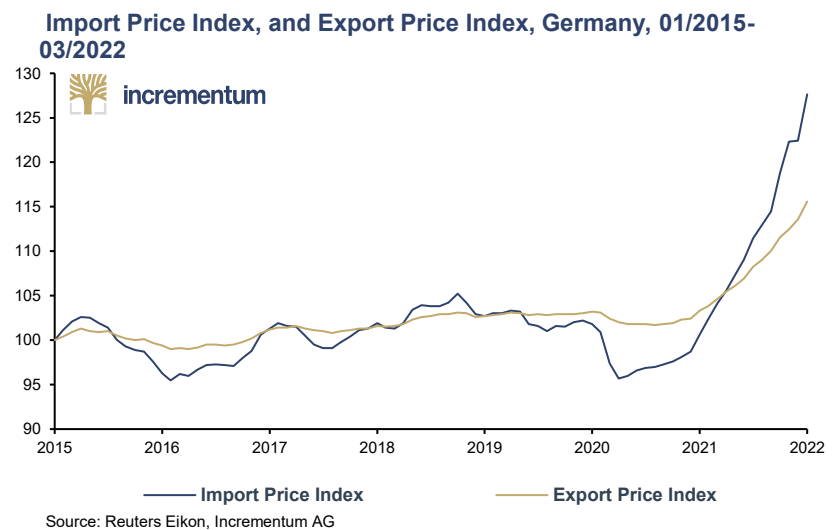
In conclusion, central banks should have known long in advance that the labor market would recover rapidly as the economy reopened with the end of the lockdowns. **The fact that this was obviously ignored is a serious omission on the part of the central banks, which thus reinforced the dynamics of inflation.**

Weak Currency, Rising Inflation

Price stability belongs to the social contract. We give government the right to print money because we trust elected officials not to abuse that right, not to debase that currency by inflating.

Paul Vocker

The most important currencies have depreciated by around 9% against the US dollar since the beginning of the year (DXY Index). This devaluation is adding to inflationary pressures in the rest of the world, as commodities are (at least still) generally priced in US dollars. As can be seen in the next chart for Germany, import prices are rising much faster than export prices, precisely because of the weakening euro. Against the US dollar, the euro has lost more than 8% since the beginning of the year.



The weakness of the euro is mainly due to the growing interest rate differential. This fundamental economic relationship seems to have been forgotten in Frankfurt. For example, *at the annual hearing before the EU Parliament* in early February, Christine Lagarde began by asking the rhetorical question, “Now, if we were to take monetary policy action by way of gradually putting an end to asset purchase prices and rapidly hiking interest rates, would that have an impact on energy prices right away?” To which she replied, “I don’t think so.” The well-known German economist and former director of the ifo Institute, *Hans-Werner Sinn, commented sharply on this statement at a lecture in Vienna:* “How can the president of the ECB spout such nonsense?” After all, an interest rate hike would cause the euro to appreciate, making imports cheaper and easing inflationary pressures.

Greenflation – the Energy Transition as an Inflation Driver

The merging of climate and monetary policy strengthens the political power of central bankers and provides them with relief for the foreseeable failure of their low-interest-rate policy.

Thomas Mayer

The conversion of the economy to environmentally and climate-friendly technologies, which is being pursued by more and more governments in the West, will also structurally increase inflationary pressure. Especially since the motto "sustainably expensive" seems to prevail among many governments, with the emphasis on "expensive," while sustainability is often treated ideologically. Thus, the massive human rights remonstrances against the Emirate of Qatar have given way overnight to a flurry of visits. Just a few months ago, political parties, national soccer associations and NGOs from the West wanted to deprive Qatar of the World Cup, which will be held in December; now, high-ranking delegations are traveling to the Gulf to buy Qatari liquefied natural gas. **"Food first, then morality."** – **this is how Bertolt Brecht put it in a nutshell in *The Threepenny Opera*.**

In any case, the raw materials needed for the energy transition are usually not available in abundance, especially if many countries want to accomplish this green transformation in a very short time. It is doubtful whether such an increase in the supply of raw materials can be achieved at all. The managing director of the Institut der deutschen Wirtschaft (IW), **Karl Lichtblau**, recently noted that the energy turnaround could fail due to a lack of raw materials. **He sees serious supply problems for 22 chemical elements, especially copper, platinum and lithium.**

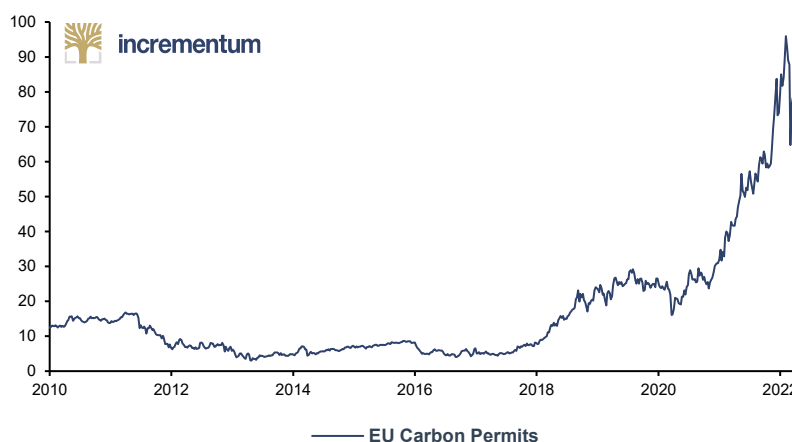
In addition, the construction of new mining sites often leads to protests by environmentalists on site, which further prolongs the necessary approval procedures, which already take many years, or even brings projects to a halt. For example, after ongoing protests, the Serbian government denied approval for Rio Tinto's Jadar project in early January. Lithium for up to 1 million electric cars was to have been mined there. Such shortages of supply naturally also have an inflationary effect. The shortage of skilled workers, especially in the European and North American mining sector, is a further obstacle to the expansion of supply.

You should be attacking the carbon emissions, period, and whether it's cap-and-trade or carbon tax or whatever, that's the realm in which we should be playing.

Joe Biden

CO₂ certificates are a key instrument for implementing the green transformation of the economy. In the EU, these were introduced in 2005 to put a price on CO₂ emissions that are blamed for manmade climate change. Certificates are currently required for around 11,000 companies such as power plant operators, cement factories, refineries, steel mills and, since 2012, intra-European air traffic, for every ton of CO₂ emitted.

EU Carbon Permits, in EUR, 01/2010-05/2022



Source: Reuters Eikon, Incrementum AG

In order not to jeopardize the competitiveness of the countries covered by emissions trading – the 27 EU member states plus Norway, Iceland and Liechtenstein – the EU finance ministers agreed in principle in mid-March on the introduction of a **Carbon Border Adjustment Mechanism**. Negotiations with the EU Parliament are now pending. This climate tariff is intended to prevent a shift to imported goods that are not subject to emissions trading and can therefore be produced more cheaply. Initially, cement, iron, steel, aluminum, fertilizers and electricity are to be covered. This first stage of a climate tariff is to apply from 2026.

Unless we take action on climate change, future generations will be roasted, toasted, fried and grilled.

Christine Lagarde

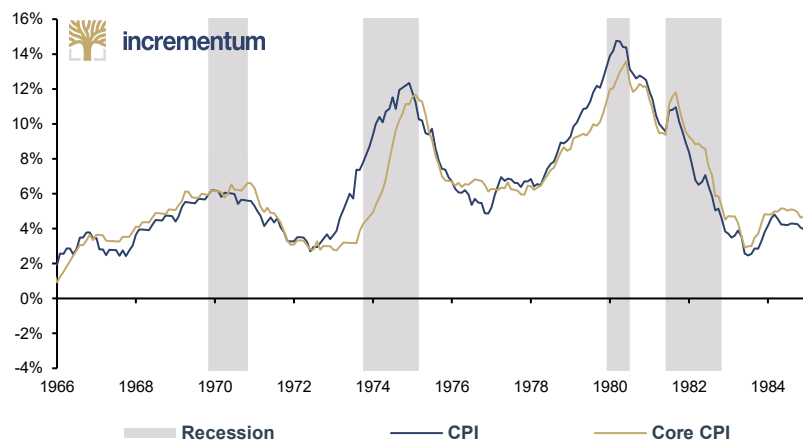
Given the increasing prioritization of the fight against climate change by more and more institutions, it would be anything but a surprise if in the near future the demand were to be made to exclude various “green” price increases from the inflation rate in order to prevent too high official inflation rates from jeopardizing the fight against climate change. Increased inflation rates would compromise political enforceability of climate measures, because voters would be told month after month how vigorously the purchasing power of their incomes and assets was melting. The higher inflation rates and interest rates to be expected as a result of such “green” measures would also make the financing costs of the transformation to a climate-friendly economy more expensive.

A demand to exclude climate-mitigation price increases from the inflation rate would lead to a rehash of the capital mistake that then-Federal Reserve Chairman Arthur F. Burns made twice in the 1970s. Burns, the father of the concept of core inflation, removed oil and other energy costs from inflation calculations after the first oil price shock in the wake of the 1973 Yom Kippur War. When food prices also rose sharply that same year, he excised them too from the inflation calculation. Burns’ argument was that both price phenomena were external shocks that could not have been influenced by the Federal Reserve and its monetary policy. Such exogenous, i.e. uninfluenceable, noise said nothing about the trend, he maintained.

For citizens and their dwindling purchasing power, such reasoning is of course irrelevant. The same would apply to the possible exclusion of the

price effects of the green transformation. Just because official statistics do not take into account certain price increases does not mean that these increases do not diminish the prosperity of the population. To put it differently and less diplomatically, walking through the city with your eyes closed does not protect you from getting run over; in fact, the exact opposite is true. **If such a measure were taken, it would also be tantamount to further politicizing central banks.**

CPI, and Core CPI, yoy%, 01/1966-12/1984



Source: Reuters Eikon, Incrementum AG

Isabel Schnabel, a member of the ECB’s Executive Board, did some preliminary intellectual work on the possible elimination of green transformation costs. In a speech to the ECB and Its Watchers Conference in mid-March, which she introduced by pointing out that Europe and the world were facing a "turning point," she distinguished between *climateflation*, price increases caused by climate change; *fossilflation*, price increases caused by dependence on fossil fuels, which have risen sharply in price; and *greenflation*, price increases caused by the switch to so-called “green” technologies.

In the past couple of decades, the 2% inflation target behaved like a ceiling. In the next twenty years, the 2% inflation target will become a floor.

Kevin Muir

This distinction is still somehow plausible – with the use of a fair amount of mental acrobatics. But given the ECB’s open endorsement of the *green transformation*, it prepares the ground for future “green” adjustments to inflation calculations. **This is not altered by the fact that this advocacy is outside the ECB’s mandate.** Rather, it reflects the increasing politicization of the ECB, which is hardly surprising given that Christine Lagarde, a politician, is at the helm.

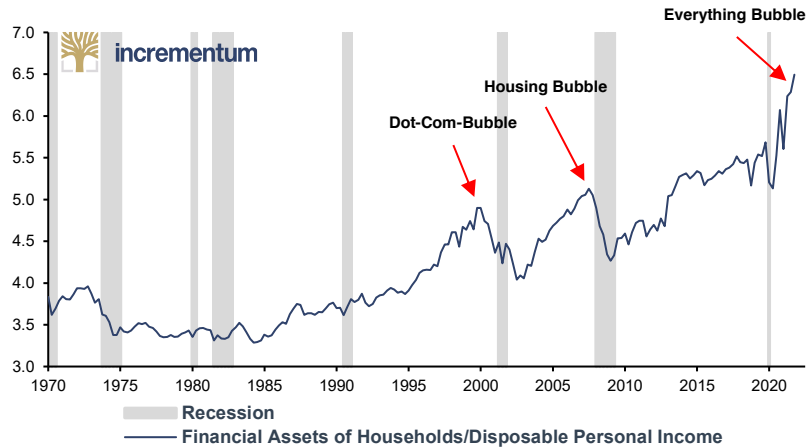
Last but not least, newly introduced CO₂ levies, which are also usually raised gradually over many years, increase price inflation. This upward pressure on inflation is entirely independent of the *additional* price surges triggered by the Ukraine war.

Current Trend of Inflation Development

As we have extensively argued, we believe that the data clearly point to a protracted inflationary environment. In retrospect, disinflationary forces

such as globalization and digitalization have contributed in recent decades to the fact that inflation has so far been reflected mainly in asset price inflation. We have referred to the so-called "everything bubble" on several occasions. Now it looks as if this asset price inflation will be slowed down or reversed and financial capital will increasingly be shifted into real assets.

Everything Bubble, Q1/1970-Q4/2021



Is there a risk of inflation? I think there's a small risk and I think it's manageable... I don't think it's a significant risk, and if it materializes, we'll certainly monitor for it, but we have the tools to address it.

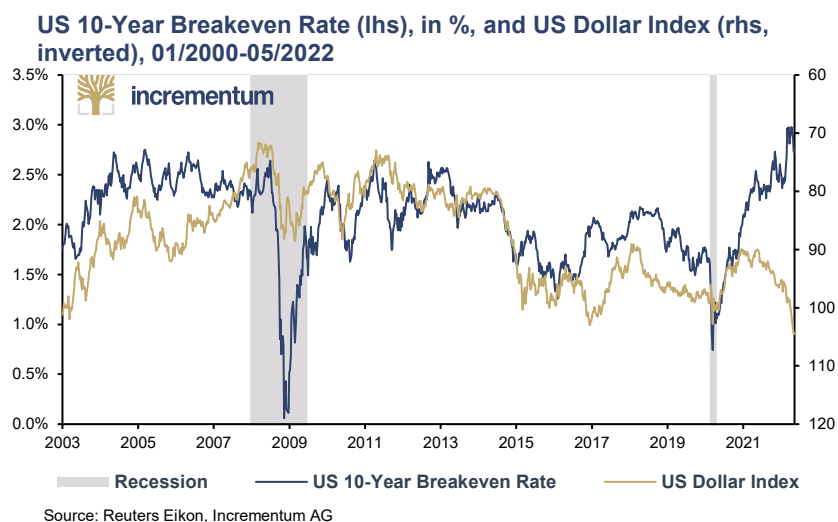
Janet Yellen

Typically, there is a correlation between the gold price and inflation-linked bond yields. Comparing the gold price with the real yields of 5-year US Treasury inflation-protected bonds (TIPS), we see that the breakout of the gold price in early 2016 was accompanied by a pricing in of rising inflation expectations. From early 2019, the yields on TIPS and gold moved in tandem, but since mid-August 2020 they have diverged. The expected real yield rose recently and is now even slightly positive in the 10-year range.

Gold (lhs), in USD, and US 5y TIPS (rhs, inverted), 01/2012-05/2022



Since its low of 0.14% on March 19, the break-even rate, i.e. the yield differential between nominal government bonds and inflation-linked bonds (TIPS), has rallied to almost 3% – its highest level in two decades. **The momentum of the increase was enormous, which is why we would not be surprised to see a breather phase.**



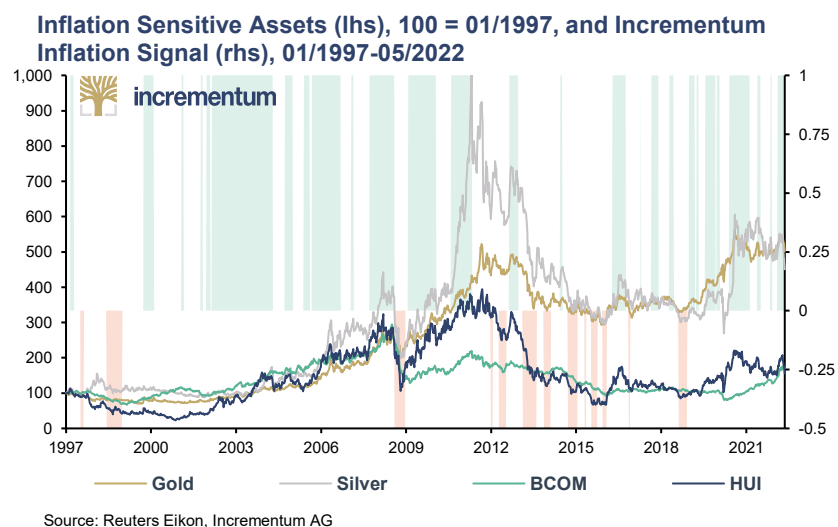
Central banks are fighting a deflation boogie man that does not even exist, creating a debt deflation monster in the process. The tail risk is the Fed goes too far down the rabbit hole, unleashing a different kind of monster.

"Tyler Durden"

The Incrementum inflation signal

In an elevated-inflation environment, inflation has historically often occurred in waves. In financial markets, too, inflation is not priced in and out steadily but is subject to corresponding market fluctuations. To better read the tides of inflation, we have, as our loyal readers already know, developed a proprietary inflation signal. With the help of this, we have been monitoring the market action of inflation-sensitive assets for many years.

The Incrementum inflation signal is also a key input factor for our inflation-protection strategies.²⁷ According to the signal, the turnaround in inflationary movement probably took place during the course of the Covid-19 crisis. After the brief but strong deflationary movement in H1/2020, the signal has predominantly indicated rising inflation.



²⁷ See "The Fruits of Our Seed. Our investment funds," Incrementum AG

In the near future, the markets could see a brief cooling-off phase in the inflationary trend. Commodity prices, which are included in our signal as a subindicator, appear to be forming a temporary high. The gold/silver ratio, which is important for our model, rose sharply, which also suggests a slightly weakening inflation trend. It is quite possible that it will take the Federal Reserve pricing out its hawkish stance to trigger the next wave of inflation.

Conclusion

Last year we wrote:

“The current rise in inflation rates heralds a fundamental turnaround. Although one swallow does not make a summer, there are now countless swallows in the sky. They herald a change, a monetary climate change.”²⁸

The arithmetic makes it plain that inflation is a far more devastating tax than anything that has been enacted by our legislatures... If you feel you can dance in and out of securities in a way that defeats the inflation tax, I would like to be your broker – but not your partner.

Warren Buffett

After this violent inflationary storm, we will no longer be returning to the disinflationary, fair-weather equilibrium that has been characterized over the past 40 years by globalization, free trade, a demographic dividend, the development of international supply chains, and the reduction of stockholding (just-in-time delivery). We are entering a phase of establishing a new equilibrium that will be characterized by deglobalization, i.e. self-sufficiency efforts, the retrieval of production sites and buildup of stockpiles of critical food and raw materials, and the safeguarding of existing supply chains, including through military intervention. **All this has a fundamental price-driving effect.**

Structural deflationary or disinflationary factors are currently few and far between. First and foremost, there would be a marked tightening of monetary policy. However, we do not expect central banks to be able to sustain this for long. The pioneers of monetary tightening are emerging economies, but also developed European economies such as the UK, Norway, Poland and Hungary and of course the US. These will be the first to feel the inevitable impact of tighter monetary policy on the real and financial economy, and their central banks will have to pass a credibility test.



Courtesy of Hedgeye

Technological progress is an influential disinflationary, if not deflationary, factor that will continue to exert its dampening effect on inflation for a long time. In the short term, however, the technology sector is also likely to have a rather price-driving effect. For example, factories in China are having to close time and again as a result of the country's zero-Covid policy.

China's manufacturing purchasing managers' index (PMI) continued to fall in April. At 46 points, it is lower than ever before apart from the Covid-19 shock in late winter 2020 and is thus now well below the 50-point mark separating growth and contraction. The purchasing managers' index for services slipped further with an April reading of just 36.2, down from 42.0 in March. That's the second-lowest reading since this index was introduced in November 2005, and the overall index

²⁸ "The Status Quo of Gold," In Gold We Trust report 2021, p. 54

also fell below the 40-point mark at 37.2. And because around half of the neon needed for chip production comes from Ukraine and production there had to be halted due to the war, the technology sector is also facing difficult times.

Our baseline scenario is that the present inflation upswing will not be the last wave in this high-inflation period. In the last such period there were a total of three inflation waves, with each subsequent one marking a higher high than the previous one: 6.4% in February 1970, 12.2% in November 1974, 14.6% in March 1980. Oil price shocks reinforced the already existing inflation momentum then, and may be doing so again now.

Central banks are starting to question whether reliance on the US dollar is a good idea, since the United States has been extremely trigger-happy when it comes to the use of sanctions and other economic punishments.
Institute for the Analysis of Global Security

It should not go unmentioned that the first wave of inflation occurred in the 1970s at a time of considerable change in the world monetary system. The Bretton Woods system, with its rudimentary gold peg, went down in several stages, as pure fiat money in combination with a system of flexible exchange rates with the US dollar as fiat anchor currency prevailed. Such an epochal change is again beginning to take place before our eyes. The end of the global US dollar fiat standard has been announced for quite some time, even though the US dollar has remained firmly in the saddle for lack of serious alternatives. **With the sanctioning of Russia's currency reserves by the West, the first major transformation of the global monetary system in 50 years has now been officially heralded.**²⁹

Inflation is not a bug. Inflation is the feature.
Louis Gave

We are convinced that even if inflation rates will come back down due to the temporary expiry of the base effect and the absence of special factors, the level of inflation will remain elevated, i.e. (far) above the target level of the central banks, for some time to come. **The narrative of "transitory" inflation should now finally be laid to rest.**

²⁹ See chapter "A New International Order Emerges" in this *In Gold We Trust* report

Status Quo of Gold Demand

“Money is the most universal and most efficient system of mutual trust ever devised. Even people who do not believe in the same god or obey the same king are more than willing to use the same money.”

Yuval Harari

Key Takeaways

- The renaissance of gold as a reserve asset of central banks continued last year, and it seems to be picking up pace.
- More and more central banks are choosing to custody their gold domestically. This points to a breakdown in trust between central banks.
- Investor demand for gold has picked up considerably in Q1 2022. We even saw companies holding gold on their balance sheets. This comes as no surprise considering the current world economic outlook.
- Going forward, central banks and institutional investors will see greater demand for gold. Due to soaring inflation rates, pension funds and insurance companies, which normally have a high proportion of (government) bonds, will have to fundamentally rethink their investment policy. Gold could play a major role in this.
- Catch-up effects in jewelry demand, once the Covid pandemic has been pushed back – especially in China – should also support gold demand.

We will now turn to the most important developments on the demand side, with our focus on central bank gold demand and investor demand. For further insights, we recommend the World Gold Council's *Gold Demand Trends*, which is always worth studying.

Central Bank Gold Demand

The seizure of Russia's FX (foreign currency) reserves will likely be a wake-up call for FX reserve managers at all central banks. Gold as "outside money" in the global central banking system will become more attractive to almost any central bank but especially for any country with an adversarial relationship with the US or the EU.

Paul Wong

Before we start, let us remind ourselves why central banks hold gold. The following has been adapted from the website of [Banca d'Italia](#) (our emphasis):

*"Gold has traditionally been used to measure the value of goods and as a means of payment in almost every ancient society. It serves as an excellent hedge against adversity. **Its price tends to rise when operators perceive the level of risk to be high, for instance during military escalation or in times of financial crisis.** Holding large positions in gold is an excellent hedge against high inflation. **Unlike foreign currencies, gold cannot depreciate or be devalued as a result of a loss in confidence.** When a foreign exchange crisis erupts, central banks are able to use gold as an official foreign exchange reserve in order to shore up confidence in their currency by using gold as collateral for loans or selling it to buy national currency and uphold the latter's value. **Gold gives a central bank room to maneuver to preserve confidence in the national finance system.**"*

The renaissance of gold as a reserve asset of central banks continued last year, and it seems to be picking up pace. In 2021, the net inflows of central banks amounted to 463 tonnes, [according to the World Gold Council](#). This is up 82% from 2020 net inflows of 255 tonnes. Note that this is in comparison to the record year 2019, with 668 tonnes. **Total global reserves are now near a 30-year high.**

Key developments in 2021:

- Thailand was the largest buyer, with 90 tonnes, followed by India (77 tonnes), Hungary (63 tonnes) and Brazil (62 tonnes).
- 15 central banks made purchases of one ton or more.
- Only six central banks reduced their holdings last year, most notably the Philippines (31 tonnes). This was the largest sale from a central bank since 2016, when Venezuela sold 86 tonnes.
- Kyrgyz Republic (7 tonnes), Sri Lanka (4 tonnes), Germany (3 tonnes), and UAE (2 tonnes) were the only other notable sellers.
- Official gold reserves now stand at 35,600 tonnes, the highest level since 1992.

The largest purchaser of gold in 2021 was Thailand, increasing their reserves by 90.2 tonnes, or 60%. This puts Thailand's total gold reserves at 224 tonnes, or 6% of total reserves, the highest level on record. [The Governor of the Central Bank of Thailand said](#) that gold addresses their key reserves management objectives of security, return, diversification and tail-risk hedging.

Managing new risks arising from the coronavirus pandemic also played a key role in the decision. The appearance of global spikes in government debts or inflation concerns further increase the importance of gold in national strategy as a safe-haven asset and as a store of value.

Hungarian National Bank

*Trust is like a mirror, you can fix it if it's broken, but you can still see the crack in that mother****r's reflection.*

Lady Gaga

I think I've seen this film before. And I didn't like the ending. You're not my homeland anymore, so what am I defendin' now?

Taylor Swift, "Exile"

India was the second largest purchaser, adding 77 tonnes to its reserves, the biggest increase since they bought 200 tonnes from the IMF in 2009.

Hungary increased its holdings by 63 tonnes in 2021, tripling its gold reserves. In a statement, the Hungarian National Bank (MNB) referred to the exploding global public debt in the wake of the Covid-19 pandemic, which is why Hungary is increasing its gold holdings for hedging reasons. As a result, Hungary's gold reserves per capita increased from 0.1 ounces to 0.31 ounces. **Thus, Hungary currently has the highest gold reserves per capita in Central and Eastern Europe.** Hungary's monetary history, like Germany's, is marked by hyperinflation. Indeed, Hungary leads the inglorious hit parade of hyperinflations. At the height of the hyperinflation of 1946, the monthly inflation rate of the pengő was 4.2 quadrillion percent and prices doubled every 15 hours.³⁰

Brazil added 62 tonnes, its first sizable purchase since 2012. This took its total gold reserves to 130 tonnes. Uzbekistan and Kazakhstan added 30 tonnes and 15 tonnes, respectively.

It seems that domestic gold storage is enjoying increasing popularity.

The Bank of England's vaults remain unchallenged in the rankings of the most popular storage locations, with 63% of central banks surveyed storing at least some of their gold reserves in London, according to the 2021 Central Bank Gold Reserves Survey. This indicates a significant increase over last year and may indicate growing importance attached to keeping gold in liquid trading centers. **Domestic storage is now preferred by 39% of respondents.** This is also higher than in previous years.

It is worth noting that there has been an increasing trend over the last decade for central banks to repatriate and store their gold domestically. We have discussed this trend numerous times in the *In Gold We Trust* report from as early as 2012.³¹ **Most notably, France repatriated 221 tonnes of gold between 2013 and 2016, and all its monetary gold is now stored in La Souterraine in Paris.** This after the **German Central Bank announced that they would repatriate gold** from the Bank of France and the Federal Reserve Bank of New York. Germany would eventually hold 50% of its gold in German vaults. **Poland also repatriated 100 tonnes** from London, roughly half of its total reserves. Other countries with notable repatriations over the last decade include Belgium, Switzerland, Austria, India, Mexico, Thailand, Sri Lanka, Bolivia and Bangladesh. Also worth noting is that China and Russia vault all their gold locally.

And lastly, the Australian Reserve Bank **sent an official to London to conduct an audit** on their reserves that are kept in the vaults of the Bank of England in April this year. This further demonstrates the lack of trust between central banks with regards to the storage of their gold reserves.

³⁰ See "Hyperinflation: Much Talked About, Little Understood," *In Gold We Trust* report 2019; Grossman, Peter Z. and Horváth, János: "The Dynamics of the Hungarian Hyperinflation, 1945-6: A New Perspective," *Scholarship and Professional Work – Business*. 29, Butler University, 2000

³¹ See *Archive* of the *In Gold We Trust* report

Gold is scarce. It's independent. It's not anybody's obligation. It's not anybody's liability. It's not drawn on anybody. It doesn't require anybody's imprimatur to say whether it's good, bad, or indifferent, or to refuse to pay. It is what it is, and it's in your hand.

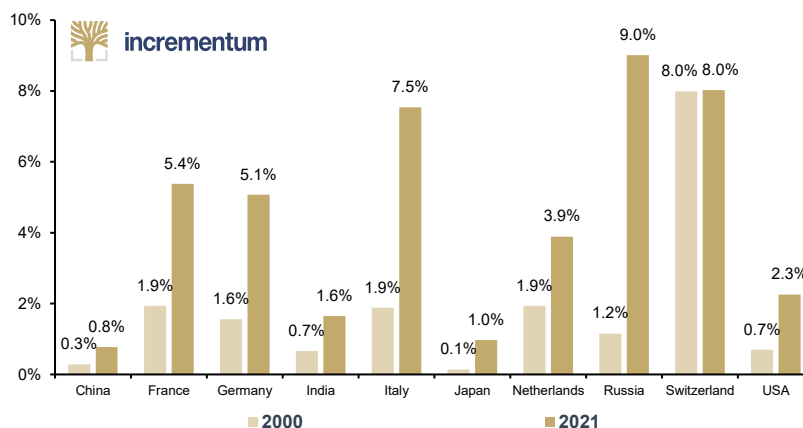
Simon Mikhailovich

The number of central banks buying gold is expected to remain high. 21% of central banks intend to increase their gold reserves in the next 12 months.

This compares with 20% in 2020 and 8% in 2019. This is particularly notable given that central bank purchases have already been at record levels in recent years. In particular, demand for gold from central banks in emerging and developing countries is likely to continue to rise: 31% of the total of 155 emerging markets and developing economy (EMDE) central banks said they intended to increase their gold reserves, compared with 21% in 2020 and just 11% in 2019.

In March the **Central Bank of Russia announced that it would be resuming its gold buying from the domestic market.** It has been two years since Russia suspended its gold buying after accumulating 1,900 tonnes between 2006 and 2020. Russia's gold reserves stood at just under 2,300 tonnes at the end of January, accounting for 21% of its total reserves. Given the fact that Russia's US dollar and euro FX reserves were essentially rendered worthless – at least temporarily – by sanctions imposed by the West, it is worth noting that gold makes up more than 20% of Russia's FX reserves.

Gold Reserves of the Top 10 Gold Reserve Countries, as % of GDP, 2000 vs. 2021

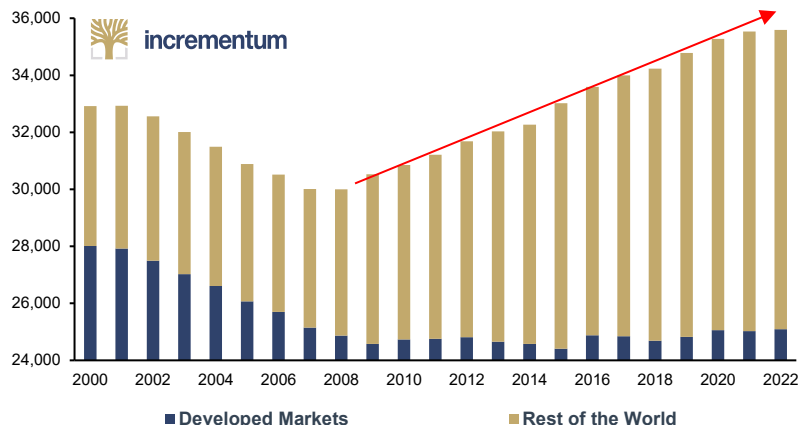


Source: IMF, World Bank, World Gold Council, Incrementum AG

From 1989 to 2008, central banks were net sellers of gold and represented an important part of the global gold supply, averaging 400 tonnes per year. Since the Great Financial Crisis of 2008/2009 central banks have become a reliable factor on the demand side and look to remain as such. This shift indicates a reassessment of gold's role amid ongoing financial and economic uncertainty and reflect long-term concerns about fiscal sustainability.

Current geopolitical turmoil and global financial uncertainty should further fuel central bankers' appetite for gold. By freezing Russia's gold reserves, the West has essentially signaled to the rest of the world that roughly 80% of global FX reserves are in danger of being frozen or even confiscated. **Today, reported official gold reserves are only 8% below the all-time high of 38,491 tonnes in 1966.**

Global Central Bank Gold Reserves, in Tonnes, Q4/2000-Q1/2022



Source: World Gold Council, Incrementum AG

Investor Demand for Gold

O Gold! I still prefer thee unto paper, which makes bank credit like a bark of vapour.

Lord Byron

We now take a closer look at investor demand. We will particularly focus on private investment demand and ETF demand. ETFs saw outflows of 173 tonnes in 2021, compared to a record 874 tonnes of inflows in 2020. This caused total investor demand for 2021 to decrease 43% compared to the previous year. [We published a report in January 2022](#), outlining the various possible reasons for this interim slump.

In contrast, bar and coin demand reached an eight-year high of 1180 tonnes in 2021. Bar demand was 50% higher, at 804 tonnes, while official coin and medal demand slipped marginally to 376 tonnes.

China accounted for 285 tonnes of bar and coin purchases, a 44% increase from the 2020 numbers, helped along by exceptionally strong demand in Q4/2021. **India’s investment climbed 43% to 186 tonnes**, while **US investors bought a total of 117 tonnes**, a 69% increase from 2020. Germany led the strong demand for bar and coin purchased in Europe, with **European investors buying 264 tonnes, 6% higher than the previous year.** This is a significant demand increase from previous years and roughly 20% more than the average demand for bar and coin since 2014.

All that is gold does not glitter, not all those who wander are lost; the old that is strong does not wither, deep roots are not reached by the frost.

J. R. R. Tolkien

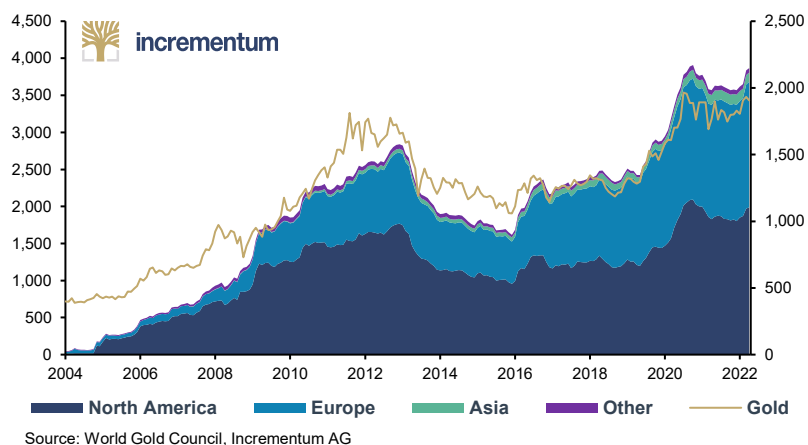
It is interesting to note that not only central banks and consumers but also companies are buying gold to hedge against crises. Software company Palantir Technologies announced in 2021 that they bought USD 50.7mn worth of gold bars, [saying that](#) they are “preparing for a future with more black swan events”. The word *Palantir* means “seeing stone” and is part of the J.R.R. Tolkien fantasy universe that includes *The Lord of the Rings*. Palantir’s clients include the CIA, FBI, NSA, various other government agencies, and numerous private-sector clients including Chrysler, Airbus and JP Morgan Chase. We might see more companies follow suit in 2022 if financial uncertainty intensifies.

ETFs aren't just having a moment. They're creating a movement.

Martin Small, BlackRock

The outflows seen in the ETF market were heavily concentrated in Q1/2021, coinciding with a rise in risk-on investor appetite as newly developed Covid-19 vaccines were rolled out. Looking at these outflows from a longer-term perspective provides useful insights. During the previous five years, ETFs saw cumulative inflows of more than 2,200 tonnes, more than doubling the global total to almost 4,000 tonnes. The 2021 outflows of 173 tonnes are therefore relatively small in comparison. Global ETF holdings remain significantly above pre-pandemic levels.

Cumulated ETF Holdings by Region (lhs), in Tonnes, and Gold (rhs), in USD, 01/2004-04/2022

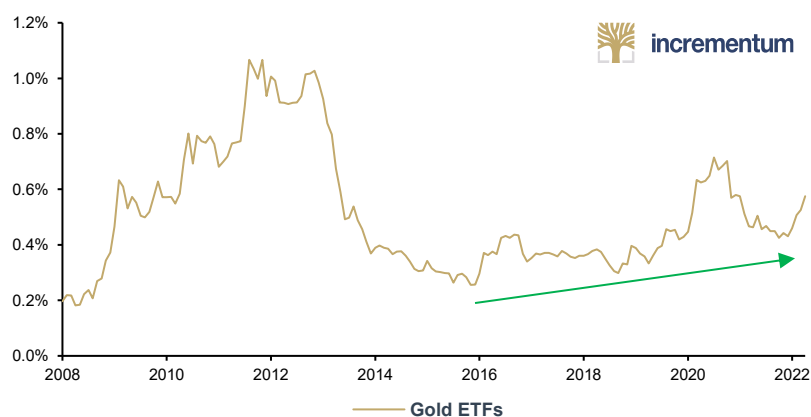


Gold is the inverse of paper, unlimited to the upside, limited to the downside. It's not the total stock of gold that matters, but the flow from those that already hold it.

FOFOA

ETF outflows in 2021 were driven by North American funds, which never recovered the losses accrued in Q1/2021. **European ETF holdings were considerably more stable,** recovering from the Q1/2021 outflows and fully reinvesting the 44 tonnes lost over the remainder of the year. **Asian ETFs outperformed again,** with the region accounting for the majority of the inflows during the year. Total holdings in the region grew by more than 20%, adding 25 tonnes over the course of the year. Thus, Asia once again confirmed its preference for gold purchases in times of a weakening gold price. **The assets invested in gold ETFs remain tiny compared to the overall US equity market.** At the moment, this allocation is a mere 0.5%

Gold ETFs, as % of US Equities (Wilshire 5000), 01/2008-04/2022



The first quarter of 2022 has seen significant inflows, with the North American market adding 170 tonnes or 10%. Europe added 110 tonnes or 7.5%. Asia saw outflows of 14.8 tonnes or 10.5%. Combined this adds up to total inflows of 8% for the first quarter.

All you need is love . But a little Jewelry never hurt anybody.

Abby Lowery

Gold goes where the money is, and it came to the United States between World Wars I and II, and it was transferred to Europe in the postwar period. It then went to Japan and to the Middle East in the 1970s and 1980s, and currently it is going to China and also to India.

James Steel

Jewelry demand for gold

Worldwide jewelry demand grew 52% to total 2,124 tonnes, recovering the losses sustained in 2020 due to the Covid-19 pandemic. Recovery in the first three quarters was largely due to base effects – extreme weakness in 2020 – but Q4/2021 saw strong demand growth, led by India, which saw a new quarterly record in the fourth quarter. **In value terms, annual demand reached USD 123bn to virtually match the 2013 record.**

Last year, China’s gold jewelry demand increased 63% to 675 tonnes. This should be compared to the pre-pandemic level of 2019, from which it is a 6% increase. **India’s jewelry demand doubled from 2020 levels to 611 tonnes,** a six-year high. **US demand was the strongest in 12 years at 149 tonnes. European demand rose by 21% to 69 tonnes,** but still fell short of pre-pandemic levels. **Global jewelry demand is expected to remain strong in 2022 as post-pandemic pent-up demand unwinds.**

Let us now look at the developments in the Chinese market. The Chinese economy saw a significant downturn in growth rates in H2 2021, coupled with higher inflation. With stagflationary pressure mounting and real rates remaining low, **analysts at the World Gold Council** believe that Chinese investors will look to gold in order to protect their wealth and purchasing power.

A China-wide gold jewelry market survey in 2021 found that gold jewelry products have become a major sales focus in local jewelry stores in China. Increasing focus on the financial aspect of gold jewelry products among the young and greater pricing transparency under the new “per-gram” pricing model should encourage further growth. Current restrictions on retail gold products will ensure that Chinese demand for physical gold in the form of bars and coins will remain high.

Gold plays a unique cultural and economic role in India. Indians readily use gold as a store of wealth and as a financing vehicle through “pledging” gold as collateral. This means the price of gold has a unique effect on the Indian economy. **A recent study** looked into the habits of Indian gold-holding consumers. It concluded that if the price of gold increases, Indians tend to use their increased wealth to consume more. This further corroborates earlier findings that gold’s status has hardly changed in India, despite changes in demographics and the advent of new technologies and innovations, including digital assets such as Bitcoin.

Emergence of a new delivery standard for gold in the UAE?

On November 18, 2021 the United Arab Emirates announced at the **Dubai Precious Metals Conference** that they would soon launch the **UAE Good Delivery Standard** for gold. This new standard will be similar to the **LMBA Good Delivery Standard**.

This announcement is significant, as the LBMA Good Delivery Standard dictates the rules considering what refineries fall within the scope of Good Delivery Lists.

There has been an ongoing struggle between Dubai-UAE and the London-Switzerland axis as the Middle East vies for more independence. In November 2020 the LBMA threatened to blacklist the UAE if they failed to meet new regulatory standards. The UAE's response, expanding on their own standard for gold delivery, could have a significant impact on world gold trade. Dubai claims that 25% of world trade in gold is conducted within the Dubai Multi Commodities Centre (DMCC) free trade zone. The launch of the UAE Good Delivery Standard was announced on November 18, 2021. As of the time of writing, further details outlining the standard have not yet been published.

NSFR – Announced disasters rarely take place

As we expected in last year's *In Gold We Trust* report,³² the mandatory introduction of the net stable funding ratio (NSFR) has not led to any major disruptions in the gold market. The regulations were introduced in the EU on June 28, 2021; in the USA on July 1, 2021; and in the UK on January 1, 2022, after expiry of the six-month deferral period. Financial institutions had already complied with this regulatory requirement to reduce liquidity risk.

Therefore, the European Banking Authority (EBA) report published on June 28, 2021 with the somewhat unwieldy title "EBA report on the impact of the NSFR on the functioning of the precious metals market under the mandate in Article 510 (11) of Regulation (EU) No 2019/876" was able to draw an initial, interim conclusion. No significant impairment of the functioning of the precious metals markets was found. A reduction of the RSF factor for gold from the current 85% was therefore not considered necessary. (The RSF factor determines the percentage by which an asset must be stably financed.)

Liquidity is a coward, it disappears at the first sign of trouble.

Barton Biggs

The crisis of today is the joke of tomorrow.

H. G. Wells

The LBMA, on the other hand, continues to maintain its call for the RSF factor for gold to be reduced to 0%, thereby placing unallocated gold on an equal footing with banknotes, coins and central bank deposits, and for gold to be classified as a "high-quality liquid asset" (HQLA).

Conclusion

According to the World Gold Council, Q1/2022 saw a strong start to the year on the gold demand side, with demand (excluding OTC) increasing 34% compared to the same period last year. This while the price of gold in USD rose by 8%. Total demand of 1,234 tonnes is the highest since Q4 2018 and 19% above the five-year average of 1,039 tonnes.

Overall investment demand more than trebled. from 182t in Q1'21, to 551t in Q1'22. This was mainly **fuelled by ETF purchases of 269 tonnes**, more than reversing the outflows from 2021, and central banks adding 84 tonnes, more than double the previous quarter.

³² See "The Status Quo of Gold," *In Gold We Trust* report 2021

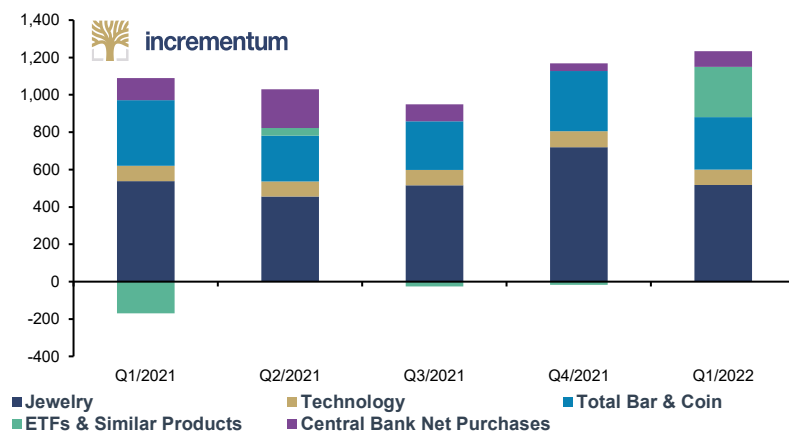
Bar and coin investment remained high relative to long term trends at 282 tonnes, 11% above its five-year quarterly average, this relative strength is exceptional considering the lockdowns in China and historically high prices in Turkey had an adverse negative effect.

Denial aint just a river in Egypt.
Mark Twain

Egypt was the biggest central bank buyer in Q1, reporting a 44t (+54%) increase in its gold reserves in February. This took total gold reserves to 125t, or 19% of total reserves, which is on the high end when compared to the country’s regional peers. Turkey was the other major purchaser in the quarter, increasing its gold reserves by 37t. This pushed total gold reserves to over 430t, accounting for 28% of total reserves.

Jewelry demand lost momentum in Q1 and is down 7% to 474 tonnes compared to last year, with higher prices and a drop in consumption by China and India.

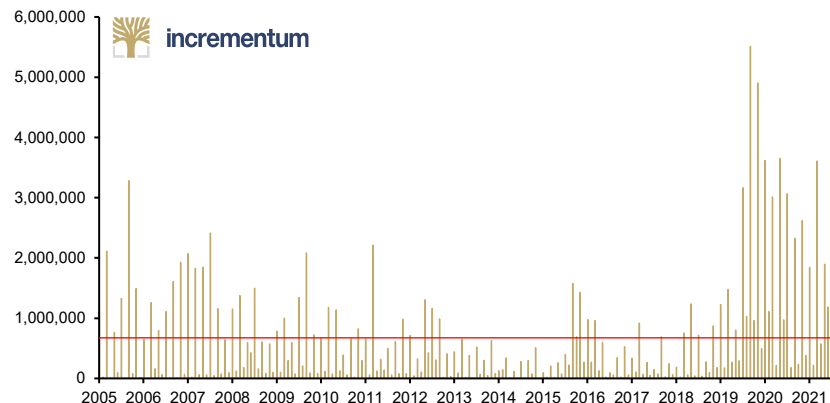
Global Gold Demand by Sector, in Tonnes, Q1/2021-Q1/2022



Source: Metals Focus, World Gold Council, Incrementum AG

An interesting trend that we already mentioned last year is the strong increase in physical deliveries on the COMEX. Over the last 24 months, deliveries have averaged 1.93mn ounces, miles above the long-term average of 673,000 ounces. Similar developments can be observed in the silver futures market.

Comex Gold Deliveries, in Troy Ounces, 01/2006-04/2022



Source: CME Group, Goldchartsrus.com, Incrementum AG

What could be the reasons for this increasing desire for physical delivery?³³

- In view of temporary supply shortages, the futures market was “converted” for the purchase of physical gold.
- A growing number of market players have preferred physical gold to “paper gold” after confidence in institutions and the gold supply chain weakened in the wake of the lockdown crisis.

One may say that, apart from wars and revolutions, there is nothing in our modern civilizations which compares in importance to inflation.

Elias Canetti

Going forward, central banks and institutional investors in particular will see greater demand for gold. Pension funds and insurance companies, which normally have a high proportion of (government) bonds, will have to fundamentally rethink their investment policy. Gold could play a major role in this. Catch-up effects in jewelry demand, once the coronavirus pandemic has been pushed back – especially in China - should also support gold demand.

³³ See Polleit, Thorsten: “Auf physisches Gold und Silber setzen. Dazu ist es noch nicht zu spät,” (“Going for Physical Gold and Silver. It’s Not Too Late”), *Degussa Marktreport*, July 30, 2020

Conclusion: Status Quo

“All roads lead to gold.”

Kiril Sokoloff

Key Takeaways

- As we predicted in last year’s report, inflation is running rampant, but we have not seen the high returns that we expected for gold.
- Gold is becoming increasingly important on the sovereign level, with central banks continually purchasing large amounts. We expect new all-time highs in worldwide central bank demand in 2022.
- The commodity bull market is now in full swing, spurred on by lack of capital expenditure, the war in Ukraine, and warlike conditions caused by the Covid-19 crisis.
- Substantial interest rate hikes are not expected. This is primarily because of a looming debt crisis and the easing effect inflation brings to the burden of government budgets.
- In the stagflationary environment of the 1970s, investors were able to profit from their gold exposure. This is of particular relevance now, given the current slide of many economies into Stagflation 2.0.
- The positive correlation between equities and bonds means that a reliable portfolio diversifier is needed. Gold will fulfill this role.
- Despite massive price increases for Oktoberfest beer, the popular gold/Oktoberfest beer ratio has remained constant at 121 measures of beer per ounce of gold. So even in times of inflation, beer lovers with an affinity for gold are not left high and dry.

After our tour de force through the gold universe, let's conclude by summarizing the most important thoughts. Last year we wrote in this chapter:

*"We feel confirmed in this forecast, whereby we are currently still within the inflation comfort zone – but the emphasis is on 'still'. In view of the inflation data for April, which show a rise in US inflation to 4.2%, the 'still' has to be revised to 'just'."*³⁴

It's been 40 years since inflation was on radars. Most boomers only experienced the raging inflation of the 70s through the lens of their struggling parents.

Dave Collum

A solidification of inflation has definitely taken place. Inflation is no longer an exotic, much less a "transitory", topic but has arrived in the mainstream. This part of our last year's forecast was therefore correct, but the gold price developed rather disappointingly in view of the strong increase in inflation. Towards the beginning of the year, frustration was still high among gold investors, with many gold bulls questioning their confidence *in gold*. But as we wrote in our article "**Why Gold Lost Its Mojo**", there were valid reasons for this breather. After all, as recently as May 2019 gold was trading at a mere USD 1,300. The subsequent record run to USD 2,063, up almost 60% in 15 months, was rapid. In addition, the strong US dollar, the U-turn toward tighter monetary policy, and also competition from digital gold, i.e., cryptocurrencies, weighed on the gold price. These headwinds turned into tailwinds at the start of this year, driven by volatile equity and bond markets reacting nervously to the increasingly stagflationary environment. In the last few weeks, the tailwind has shifted again.

There is a difference between gold and tin as commodities. The difference is that central banks don't hold tin in their reserves.

Geoffrey Bell

In the *In Gold We Trust* report 2019, we took an in-depth look at the topic of trust. Trust reduces complexity and makes portfolios more antifragile. It grows and thrives by expectations repeatedly being met. **Gold met those expectations in the wake of the Covid-19 crisis and during the escalation of the crisis in Ukraine, following the outbreak of war on February 24. Since the beginning of this year, gold has been one of the few assets with a positive performance.** With their reluctance to fight inflation, central banks risk exhausting their trust capital for good. This is particularly true of the ECB, but also to a lesser extent of the Federal Reserve and many other central banks.

The renaissance of gold as a central bank reserve currency continued last year, with net central bank inflows of 463 tonnes. This is up 82% from 255 tonnes in 2020, and total global reserves are now near a 30-year high. **Extensive purchases were made by India, Brazil and Thailand.**

China has just been sent soft notice that their \$3 trillion may or may not be there when they need it.

Douglas Pollitt

The freezing of Russian central bank reserves will have considerable consequences for the gold market. We believe it is quite possible that the Russian gold production of around 370 tonnes per year will be largely bought up by the central bank or state-related institutions. In addition, numerous other central banks from countries that harbor certain disagreements with the US will also prefer to increase their gold reserves over dollar-denominated assets.

³⁴ "The Status Quo of Gold," *In Gold We Trust* report 2021, p. 81

The mining industry has been a hard industry to operate in for the last 30 years. And the aura of respect surrounding mining is somewhere below that surrounding garbage collection. And the consequence of that is that many competent people would choose a job in any career other than mining.

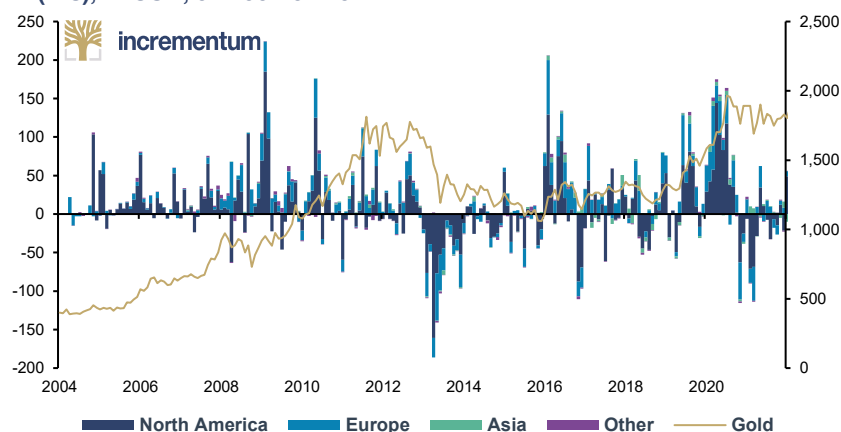
Rick Rule

We therefore expect central bank gold demand to reach its all-time high in the second half of 2022, as central banks around the world have both strong diversification and geopolitical reasons to shift their reserves into gold.

Demand for bars and coins increased in 2021, with bar demand up 54% at year-end, mainly due to increased demand in China and India. Jewelry demand increased 52%, recovering from the Covid-19 slump. **We expect consumer demand in emerging markets to be boosted by a lack of alternative investment opportunities.** In China, property prices are falling and equities are in a bear market. At the same time, interest rates in both China and India remain at historically low levels in an environment of high inflation.

ETFs saw outflows of 45% in 2021, mainly due to an exceptionally strong 2020. Since the beginning of the year, gold ETF demand has been clearly on the upswing. We expect investor demand to tip the scales toward further price development.

Monthly Gold ETF Flows by Region (lhs), in Tonnes, and Gold (rhs), in USD, 01/2004-04/2022



Source: World Gold Council, Incrementum AG

The rapid surge in price levels since 2021 fits the classic profile of a war-related bull run in commodity prices.

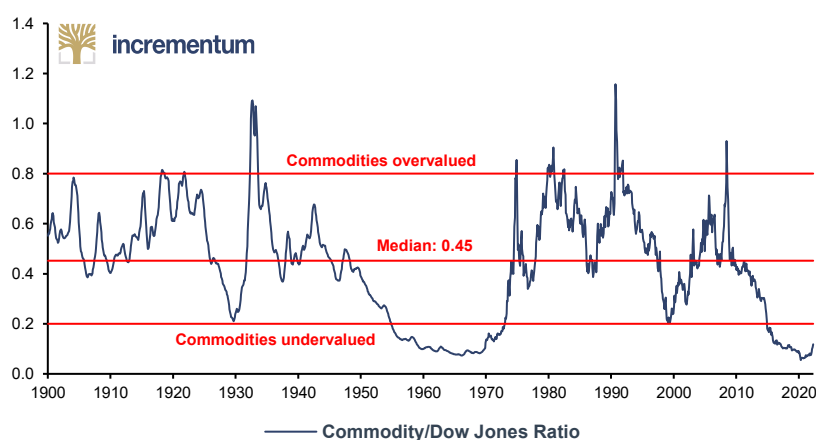
Alpine Macro

We were already growing in confidence about a renaissance in the commodities sector in 2019. The commodity bull market is now in full swing. A look at the history books shows that wars are a frequent catalyst for commodity cycles. There are numerous reasons for this. On the one hand, as a consequence of a pick-up in aggregate demand driven by the defense industry; on the other hand, due to supply chain disruptions, the general perception of demonetization and, in extreme cases, a flight into real assets.

Since the onset of the Covid-19 pandemic in late winter 2020, the world has faced warlike disruptions. The supply side has been constrained by lockdowns, and there have also been temporary, sometimes structural, shortages of materials, transportation, and labor, while demand has been quickened by monetary and fiscal stimulus. **In this respect, the rapid rise in commodities corresponds to a war-induced bull market.**

One argument that we think is not discussed enough is the disinvestment cycle and capacity reduction in the raw materials sector, which is now manifesting itself in the form of supply shortages. Total investment in the mining sector as a share of global GDP remains low, less than half of what it was in the early 2010s.³⁵ Trends in other major commodity-producing countries are similar. In both Canada and the US, mining investment has fallen dramatically since 2015, reaching its lowest level in nearly 30 years, when the secular bear market in commodities was near its bottom. Mining supply is characterized by a long-term investment cycle, while demand depends on shorter, cyclical fluctuations. This is the main reason why boom-bust cycles are so pronounced in the commodity sector.

Commodity/Dow Jones Ratio, 01/1900-04/2022



Source: <http://blog.gorozen.com/blog/commodities-at-a-100-year-low-valuation>, Reuters Eikon, Incrementum AG

The last rate hike in a cycle is much like the last kiss in a relationship: You rarely think it is going to be the last one while it is actually happening.

Alex Gurevich

You must only be patient. Because on your side you have reason... and against you, you have just a vague, fat, blind inertia.

Ayn Rand

Total global debt fell by around 10 percentage points to 351% in 2021.

This was primarily due to exceptionally high nominal economic growth and thus to the base effect. Finally, the Covid-19 pandemic response was much milder in 2021 than in 2020. In absolute terms, however, the upward trend continued. For the first time, the USD 300trn mark was broken through. High economic growth has also caused government debt ratios to fall, despite deficits remaining excessive in some cases. The USA in particular stands out negatively with a second deficit above the 10% mark. **Substantial interest rate hikes are therefore virtually out of the question, as otherwise a veritable debt crisis threatens.**

Given the current turbulent mixed situation, it is hard for us to imagine that we are at the end of a gold bull market. This assessment is corroborated when we compare various macro and market indicators at the time of the last two secular all-time highs in 1980 and 2011 with the current situation. From this perspective, it becomes clear that the gold price still has a lot of room to move up.

³⁵ See "Commodity Surge: Secular or Cyclical," Alpine Macro, April 25, 2022

Comparison of various Makro- and Market Key Figures at Gold ATH in 1980, 2011 and Currently

	1980	2011	Current
Gold Price in USD	835	1,900	1,811
Monetary Base in USD bn	157	2,637	6,135
M3 Supply in USD bn	1,483	9,526	21,810
US Federal Debt in USD bn	863	14,790	30,382
GDP per capita	12,303	50,056	73,277
US Median House Price in USD	63,700	228,100	428,700
S&P 500	111	1,174	4,023
US Unemployment Rate	6.3%	9.0%	3.6%
USD Index	86.1	75.2	104.6

Source: treasury.gov, Federal Reserve St. Louis, Reuters Eikon, Incrementum AG, as of 05/13/2022

Is gold the *be all and end all*, the solution to all of our problems? No, definitely not. But gold has unique portfolio characteristics, and it will experience a renaissance as a key portfolio component under the new inflation regime. **Let's recap the key benefits of gold:**³⁶

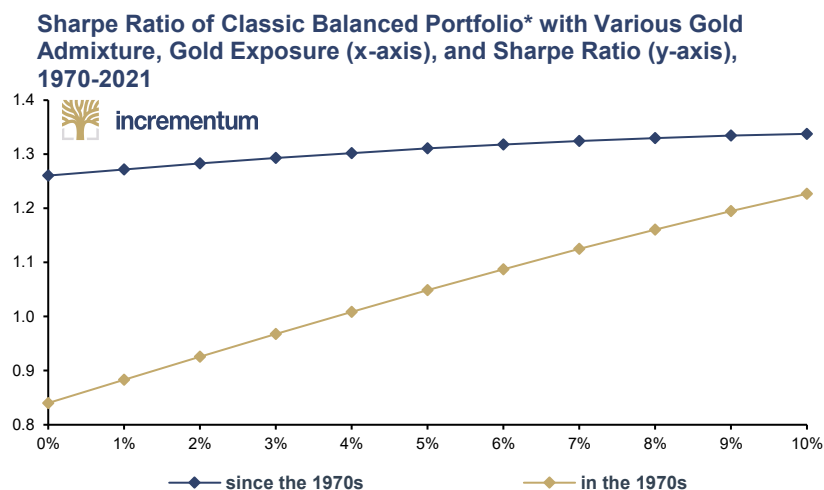
- Increased portfolio diversification: The correlation of gold with other assets is 0.1 on average.
- Effective hedge against tail-risk events
- Highly liquid investment: The liquidity of gold is significantly higher than that of German bunds, British gilts, US Treasuries, and the most liquid equities.
- Portfolio hedge in times of rising price inflation rates as well as in strongly deflationary times, but not in times of disinflation!
- Currency hedge: Gold correlates negatively with fiat currencies, especially the US dollar.

Nothing ventured, nothing gained, sometimes you've got to go against the grain.

Garth Brooks

Especially in the stagflationary 1970s, investors were able to profit from their gold exposure. This is of particular relevance given the current slide of many economies into Stagflation 2.0. This is shown in the next chart, which compares the Sharpe ratio of a classic portfolio with different gold weightings as an admixture in the 1970s and since the 1970s. Thus, although the marginal benefit of gold up to a portfolio addition of 10% is steadily positive in both observed time periods, the increase was much steeper in the 1970s, indicating a relatively higher marginal benefit.

³⁶ On the special portfolio characteristics of gold, see "Gold in the Context of Portfolio Diversification," *In Gold We Trust* classic



Source: Reuters Eikon, goldchartsrus.com, Incrementum AG
60% Stocks (S&P 500 TR)/ 40% IG Bonds

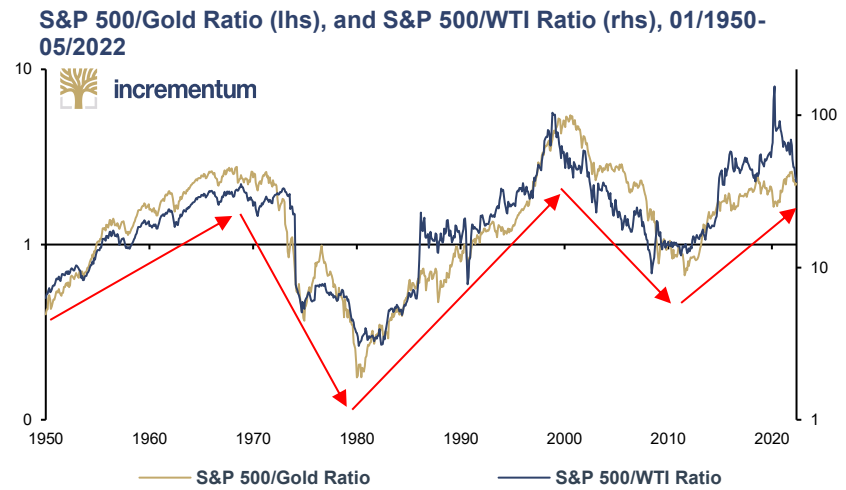
Based on the table below, it can be seen that gold shows a countercyclical effect when the stock market falls by more than 20%. Both the absolute and relative performance of gold to the S&P 500 is positive in most cases. Only in the period between 1980 and 1982 did gold underperform the S&P 500. This outperformance during periods of market weakness demonstrates the supportive role of gold as part of a portfolio.

Date of the Market High	Date of the Market Low	S&P 500 Return	Gold Return	Gold Relative to S&P500
09/16/1929	06/01/1932	-86.19%	0.29%	86.48%
08/02/1956	10/22/1957	-21.63%	-0.11%	21.52%
12/12/1961	06/26/1962	-27.97%	-0.06%	27.91%
02/09/1966	10/07/1966	-22.18%	0.00%	22.18%
11/29/1968	05/26/1970	-36.06%	-10.50%	25.56%
01/11/1973	10/03/1974	-48.20%	137.47%	185.67%
11/28/1980	08/09/1982	-27.27%	-45.78%	-18.51%
08/25/1987	10/20/1987	-35.94%	1.38%	37.32%
07/16/1990	10/11/1990	-20.36%	6.81%	27.17%
07/17/1998	10/08/1998	-22.29%	1.71%	24.00%
03/24/2000	10/10/2002	-50.50%	11.18%	61.68%
10/11/2007	03/06/2009	-57.69%	25.61%	83.30%
09/21/2018	12/26/2018	-20.21%	5.59%	25.80%
02/19/2020	03/23/2020	-35.41%	-3.63%	31.78%
01/03/2022	05/12/2022*	-18.07%	1.36%	19.43%
	Mean	-35.33%	8.75%	44.09%
	Median	-27.97%	1.38%	27.17%

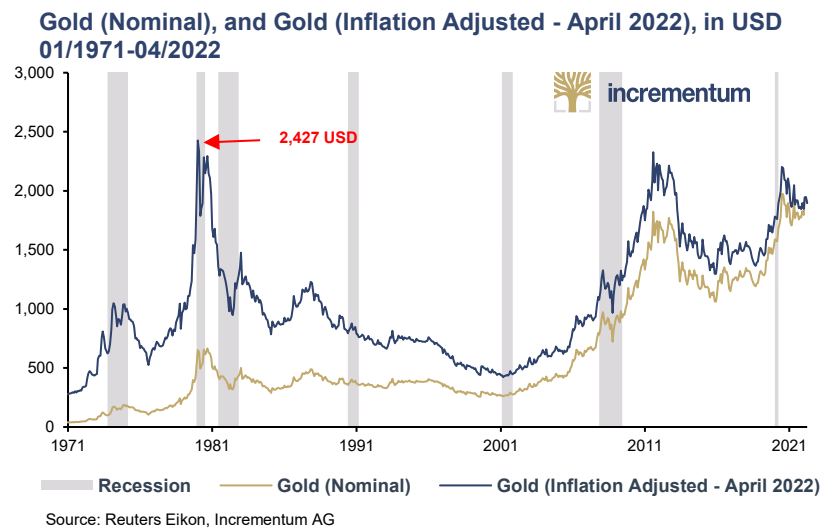
Source: Cornerstone Macro, Bloomberg, Reuters Eikon (*Lowest closing price since 01/03/2022), Incrementum AG

A return to the Great Moderation period, with four decades of successively falling inflation rates, seems out of the question. In view of the increasing risks of stagflation, which we will discuss in detail in the following chapter, a sustained tightening of monetary policy is likely to be virtually out of the question. The correlation between equities and government bonds will remain positive and could catch many portfolio managers on the wrong foot. **According**

to the next chart, we could imagine outperformance of gold and the WTI vs. the S&P over the next couple of years.



Is gold now already too “expensive”? We hear this question frequently, from clients, journalists and private investors. Despite the significant nominal price increase in the previous years, it should not be forgotten that in an inflation-adjusted view, the real all-time high from 1980 of USD 2,427 is still far away.



Gold continues to be massively underrepresented in most individual, and institutional, portfolios.
Charles Gave

We therefore firmly believe – more than ever – that gold is a multi-dimensional portfolio component with antifragile properties that will play to its strengths in the golden decade that has now dawned – and even more so in Stagflation 2.0.

In Gold We Trust Extra: The Gold/Oktobefest Beer Ratio³⁷

Beer is the proof that God loves man and wants to see him happy.

Benjamin Franklin

To alcohol! The cause of – and solution – to all of life’s problems.

Homer Simpson

24 hours in a day, 24 beers in a case. Coincidence? I think not.

Paul Newman

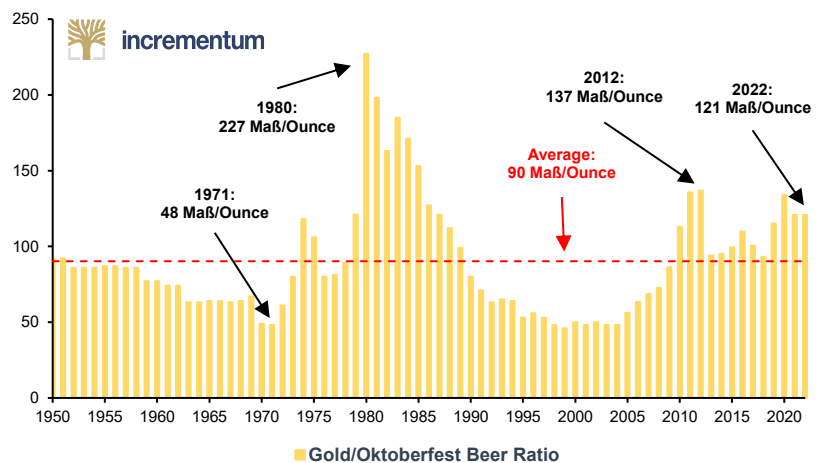
The traditional Oktoberfest will take place again, after it had to be canceled in the past two years due to the Covid-19 pandemic. On September 17, it will be “O’zapft is” again.

But the consequences of inflation will also be felt at the Wies’n. Due to the sharp rise in commodity prices and the expected additional expenditure for Covid-19 security measures – in Germany, a next Covid-19 wave is firmly expected in the fall – **the Maß is likely to cost EUR 14.90 this year.** That would be an increase of 25% (!) over 2019. Massive price increases are also to be expected for other drinks and for the food, which could deter even the guests made thirsty by two cancellations from a visit.

By our calculation, however, the price of the Maß will “only” rise by 20.2% this year. In the past two years, we extrapolated the price increase from 2018 to 2019 by 2.6% p.a. to calculate the gold/Oktobefest beer ratio for 2020 and 2021. This resulted in a price for the virtual Oktoberfest 2021 of EUR 12.40 for the Maß.

But the gold price has absorbed the massive price increase in its entirety. Just like last year, one ounce of gold buys 121 Maß of beer. So beer lovers with an affinity for gold are not left high and dry, even in times of inflation.

Gold/Oktobefest Beer Ratio, 1950-2022



Source: Reuters Eikon, Statista, Incrementum AG

³⁷ We take a more detailed look at the gold/Oktobefest beer ratio every fall in an *In Gold We Trust special*, when the Theresienwiese is abuzz with activity; see “O’zapft is! The gold/Oktobefest beer ratio 2021,” *In Gold We Trust special*, October 2021

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Stagflation 2.0

“It was the biggest inflation and the most sustained inflation that the United States had ever had.”

Paul Volcker

Key Takeaways

- In this chapter, we take an in-depth look at the topic of stagflation, provide an outline of precedents from the recent past, venture a look into the future, and then analyze the concrete consequences for portfolio construction.
- Historically, the last pronounced stagflation phases occurred between 1970 and 1983. These were made possible by a liquidity overhang, which had its origins in an excessively loose monetary policy, and were triggered by oil shocks caused by geopolitical tensions.
- While some parallels exist today with the environment of that time in terms of monetary and geopolitical policy, certain circumstances are significantly different. In particular, high indebtedness makes a rigorous monetary policy to combat inflation virtually impossible.
- Our baseline scenario is that we will experience several waves of inflation in the coming years, which will significantly change the investment environment.
- The disinflationary environment that prevailed for decades has strongly shaped investors' asset allocation. Stagflation is the *blind spot* for most balanced portfolios. Precious metals and commodities investments can be excellent additions to portfolios in this environment, although there are some pitfalls to consider.

We are more worried about the inflation rate being too low in the medium term rather than too high.

Isabel Schnabel,
Member of the ECB's
Executive Board,
August 2021

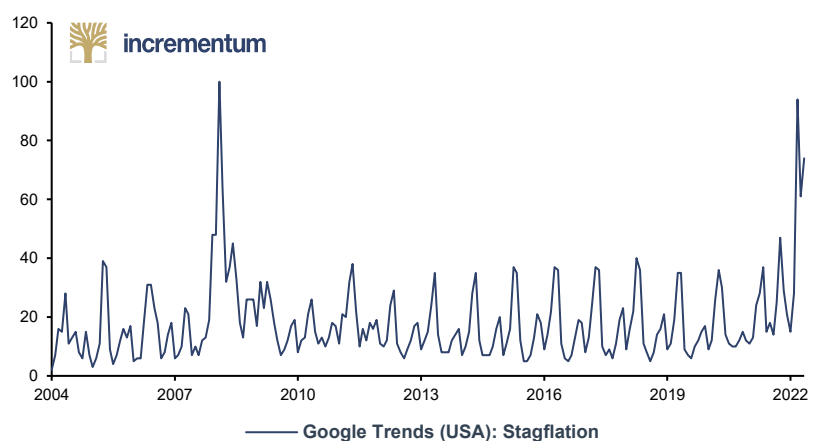
In the middle of the year 2021, the time had come. The monetary policy Elysium, an inflation rate of 2%, was finally achieved on both sides of the Atlantic. But inflation rates did not stop at the 2% mark. Without pause, one percentage mark after another was broken and numerous new decade highs in inflation rates were reached. The ketchup was out of the bottle.

However, central bankers initially dismissed the trend, saying at the top of their voices that inflation was merely *transitory*. Anyone who took a different view was dismissed as a crash prophet. But the narrative of merely temporarily elevated inflation inevitably began to crumble the longer this “transitory” lasted. Only in Frankfurt has it not yet been possible to completely break away from this narrative, especially not in practice.

In order to give the rising inflation a positive connotation after all, reference was recently made to the strong economic growth, which is supposed to be partly responsible for the inflation. However, while the growth figures were above average, mainly due to the Covid-19 induced base effect, they have now already clouded over noticeably, while inflation rates continue to soar.

The Russian invasion of Ukraine now represents the next fundamental game changer after the Covid-19 crisis. It seems as if the world is slipping seamlessly from one exceptional situation into the next. Is the war now threatening a stagnant economy with rising inflation? **As the frequency of Google searches for the term “stagflation” suggests, more and more people fear precisely this scenario.**

Google Trends (USA): Stagflation, 01/2004-05/2022



Source: Google, Incrementum AG

In this chapter, we will therefore take an in-depth look at the topic of stagflation, provide an outline of precedents from the recent past, venture a look into the future and then analyze the concrete consequences for portfolio construction.

Stagflation – Definition and Economic Policy Views

We now have the worst of both worlds – not just inflation on the one side or stagnation on the other, but both of them together. We have a sort of ‘stagflation’ situation. And history, in modern terms, is indeed being made.

Iain Macleod

The term *stagflation* refers to the economic state in which economic stagnation and noticeable inflation coincide. The term was coined by the British Member of Parliament and later Secretary to the Treasury Iain Macleod, who first used it in 1965. He employed it again in the summer of 1970, when inflation in Great Britain had reached the 6% mark and the economy shrank by 0.9% in Q1/1970. During the stagflationary 1970s, the term entered common usage.³⁸

The classic stagflation definition is based on four pillars:

- High inflation
- Low or negative economic growth
- High unemployment
- Growth below potential growth

The coincidence of economic stagnation with increased inflation was considered impossible according to the prevailing theory in the 1960s, which clung to a simplistic view of the Philips curve, which postulates an opposite dependence between unemployment and inflation. This was because a cooling economy would release workers, causing wages and inflation to begin to fall. By contrast, only a booming economy would be accompanied by rising wages and permanently high inflation, according to the generally accepted thesis at the time.

Criticism of this Keynesian view was voiced as early as the late 1960s by Edmund Phelps³⁹ and Milton Friedman⁴⁰. They argued that there is no long-term trade-off between inflation and unemployment. Rather, over time, loose central bank policies create the conditions for lower real economic growth and higher inflation, i.e., stagflation. This is because a low-interest-rate policy would make it more difficult to build up the capital stock and thus weaken economic growth.

Those who know that they are profound strive for clarity. Those who would like to seem profound to the crowd strive for obscurity

Friedrich Nietzsche

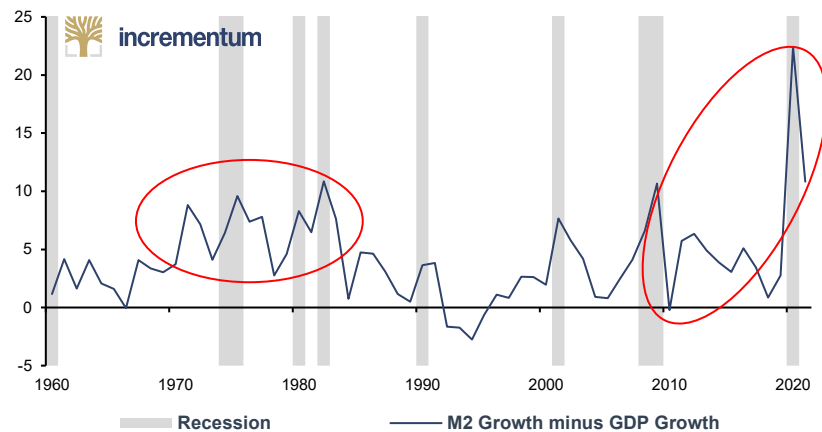
Representatives of the Austrian School of Economics saw the expansionary monetary policy – in the 1960s, the annual growth rate of M2 increased from 3.7% in 1961 to 8.3% in 1968 – as the main reason why the boom triggered by it must inevitably end in a bust. The positive discrepancy between money supply growth and real economic growth caused a monetary overhang which unloaded in several waves of inflation in the 1970s and early 1980s.

³⁸ See our interview with Iain Macleod's nephew, Alasdair Macleod, titled "Stagflation and a New Gold Standard" in this *In Gold We Trust* report.

³⁹ Phelps, Edmund S.: "PCs, Expectations of Inflation, and Optimal Unemployment Over Time," *Economica*, Vol. 34, August 1967, pp. 254-81; Phelps, Edmund S.: "Money-wage Dynamics and Labor-Market Equilibrium," *Journal of Political Economy*, Vol. 76, July-August 1968, pp. 678-711

⁴⁰ Friedman, Milton: "The Role of Monetary Policy," *American Economic Review*, 58, May 1968, pp. 1-17

M2 Growth minus GDP Growth, in %, 1960-2021



Source: Reuters Eikon, Incrementum AG

Inflation is always and everywhere a monetary phenomenon.

Milton Friedman

The stagflation of the 1970s heralded the triumph of monetarism at the level of economic theory. One of the key insights of the Chicago School around the charismatic economist Milton Friedman, who was awarded the Nobel Prize in Economics in 1976, was that central banks must exercise rigorous control over money supply growth in order to prevent inflation or tame high inflation. It was only on the basis of this *quantity theory of money* with the well-known equation $MV = PQ$ that the Federal Reserve under Paul Volcker succeeded in bringing high inflation under control in the early 1980s, thus laying the foundation for the resurgence of the US economy.

The slowdown in money supply growth was not painless, however. As a result of the sharp rise in interest rates, the US economy plunged into two successive severe recessions in the early 1980s. The high interest rates, which were the prerequisite for curbing money supply growth, were so unpopular that **Paul Volcker was even threatened with death**. Nevertheless, he stuck to his tough course and was later celebrated for it by investors and is revered by monetary policy hawks to this day.

Paul Volcker was the greatest American hero that I have known.

Ray Dalio

Despite this success, monetarist ideas fell behind over the years. A notable example is the evolution of the ECB's monetary policy strategy. At the instigation of the Deutsche Bundesbank, the ECB was given a two-pillar strategy, one pillar of which was the inflation target and the other a money supply target. The M3 money supply was to grow by no more than 4.5% p.a., it said. **But this money supply focus became less and less important over time.**

Un-anchoring is the loss of central bank credibility and a loss of control of the yield curve.

Pascal Blanqué

Keynesian economists also partially turned away from the Phillips curve after the 1970s. Instead, the inflation expectations of the population were given a high priority. The widespread view today is that as long as inflation expectations are anchored in the low range, there is no danger of employees triggering a price-wage spiral by demanding high wages to compensate for their expected real wage losses.

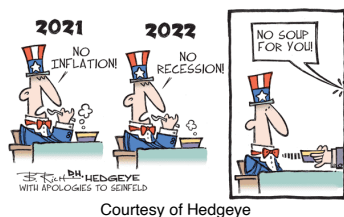
Low inflation rates thus become a self-fulfilling prophecy. **To put it bluntly: As long as no one believes that prices will rise across the board, they will**

not rise. The monetary side of the inflation equation thus becomes almost irrelevant; expectations are (almost) everything.

The academic debate on the appropriate mix of fiscal and monetary policy measures to combat stagflation also began early. The later-Nobel laureate Robert A. Mundell presented his proposal as early as 1971 (!), i.e. immediately after the end of the first stagflation period in 1970: *“The correct policy mix was a reduction in the rate of monetary expansion (perhaps best achieved by a credit ceiling) combined with a tax reduction. This would have stopped the inflation rate without causing a depression”*⁴¹. At least in terms of monetary policy, however, the reins were kept too loose for far too long.

In the present, the application of this mix of measures – interest rate hikes and budget deficits – is hardly feasible due to significantly higher levels of debt. In the 1970s, for example, total debt (government + companies + private households) in relation to economic output was not even half as high in the USA as it is today. Significant interest rate hikes today would therefore not only cause a sharp recession but also a veritable debt crisis.

Stagflation 2.0 – A Proprietary Definition



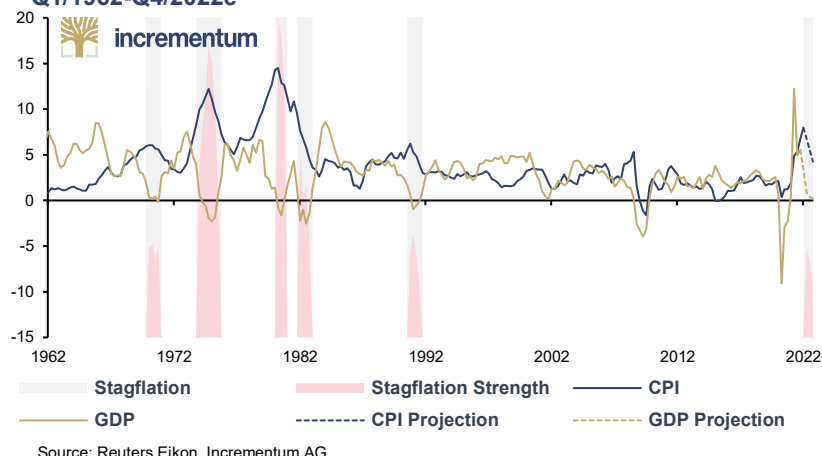
The classic definitions of stagflation are largely qualitative and thus vague. To make it easier to operationalize, we want to provide our own objectively measurable, quantitative definition, which we also keep deliberately lean by including the two main factors, economic growth and inflation.

We define an economy as *stagnant* if real economic growth is less than 1% year-on-year. We consider inflation to be elevated if it exceeds 3% year-on-year. We collect these data on a quarterly basis. Both conditions must be met for at least two consecutive quarters in order to declare stagflation.

In addition, we have calculated *stagflation strength*, which we define as the sum of the deviation of the two variables inflation and GDP growth from their respective targets, assuming that our proprietary stagflation definition holds. The scale is then normalized so that the maximum value of stagflation strength is 1.

⁴¹ Mundell, Robert A.: *“The Dollar and the Policy Mix,” Essays in International Finance*, No. 85, May 1971, p. 4

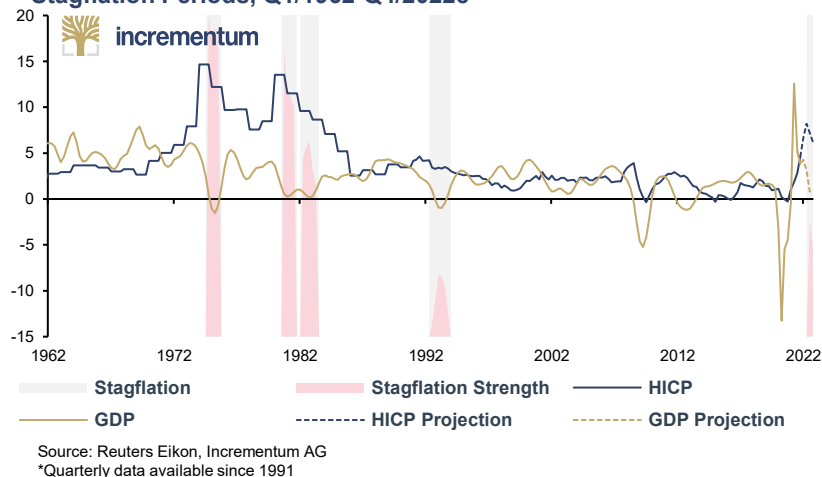
US GDP, US CPI, and Projections, yoy%, and Stagflation Periods, Q1/1962-Q4/2022e



Based on this definition, there have been a total of five stagflationary phases in the USA over the past 60 years. Four of them took place over a period of 14 years between 1970 and 1983, and another weak stagflation occurred in the early 1990s.

The picture is quite similar within today’s euro area (EA-19). We register three phases of stagflation between 1974 and 1983, and the euro area also fell into a weak stagflation in the early 1990s.

Euro Area GDP, Euro Area HICP*, and Projections, yoy%, and Stagflation Periods, Q1/1962-Q4/2022e



Those who are easily shocked should be shocked more often.

Mae West

The pronounced periods of stagflation in the 1970s and early 1980s were triggered by supply shocks. As a result of geopolitical tensions that were obvious to everyone, the public debate initially focused exclusively on supply shocks as the cause of stagflation. Little attention was paid to the monetary dimension. The fact is, however, that without a marked monetary overhang as a result of a previous excessive expansion of the money supply, a rise in the general price level to such an extreme extent would have been inconceivable. The stagflation phase of 1991/1992 also follows this pattern, because it was preceded by the oil price shock in 1990 resulting from the Iraqi invasion of Kuwait.

Stagflation vs. Stagflation 2.0 – A Comparison

Most people currently involved in economic life do not know what inflation is and have not been faced with any sustained period of rising prices and interest rates. This is a process of memory awakening and adaptive expectations.

Pascal Blanqué

“History does not repeat itself, but it rhymes!” Into these words Mark Twain poured the insight that many things repeat themselves in the course of history, but never exactly one to one. Every era has its own peculiarities, despite some similarities. What the stagflation phases of the 1970s and the early 1980s have in common with the emerging Stagflation 2.0, apart from the coincidence of a weakening economy and an elevated inflation rate, and what separates the historical original from the new edition fifty years later, we contrast in the following table for the US:

Factor	Stagflation Phases 1970 - 1983	Stagflation 2.0
Trigger	Oil embargo 1973 Yom Kippur War 1979 Iranian Revolution	Covid-19 pandemic & lockdowns/massive stimulus measures. Supply chain issues War in Ukraine
Duration	4 phases between 1970 and 1983	?
Annual monetary overhang	Up to 4.9% (1982)	Up to 21.3% (2020)
Real interest rate	Partly positive, partly negative, mostly within a range of +5%/-5%; Strong increase in early 1980s to just under +10%.	Currently, strongly negative Positive real interest rates not conceivable
Budget deficit	Max. 5.7% (1983)	Max. 15.0% (2020)
Debt	Low (data 1970 and 1982) - State: 35.7%; 35.2% - Company: 47.0%; 53.1% - Private households: 44.0%;47.9%	High (data 2021) - State: 123.4% - Company: 77.2% - Private households: 76.4
Labor market	High degree of organization; Growing workforce potential	Low degree of organization Declining workforce potential as a result of demographic change
International division of labor / geopolitics	Division of labor largely stable Geopolitics: Cold War	After decades of globalization now de-globalization Slipping into Cold War 2.0
Food prices	Poor harvest in 1972 led to a sharp rise in food prices in the US	Fertilizer crisis due to price increase Sanctions against Belarus and Russia. Impending food crisis due to the Ukraine war.
Oil price development (WTI)	Jun 1973–Feb 1974: +184% Dec 1978–May 1980: +166%	Dec 2020–Apr 2022: 116%
Price controls	Wage and price controls ended in 1974 and triggered catch-up effects	In some countries, introduction of price controls, especially for energy, but also for food prices, as well as massive subsidies to compensate for inflation
Currency regime	Exchange of gold currency standard on system of flexible exchange rates	Increasing departure from the unipolar monetary system with the US dollar as an anchor currency
End	Interest rate hikes, Volcker shock recessions	Potential debt crises due to high debt levels

Source: Incrementum AG

Where Do the US and the Eurozone Stand?

Let us recapitulate: According to our definition, for stagflation to occur, the two criteria of an inflation rate above 3.0% and economic growth below 1.0% over a period of two quarters must be met simultaneously.

The latest growth rates continue to be strongly influenced by the Covid-19-related base effect, which distorted both inflation rates and economic growth upward in 2021. In the case of inflation rates, the base effect, which was mainly due to the marked drop in energy prices in the first three quarters of 2020, has largely been overcome. The base effect on economic growth,

on the other hand, was barely addressed and is still having an impact in 2021 due to the numerous lockdowns.

Let’s now take a closer look at the current stagflation situation in the US and the euro area.

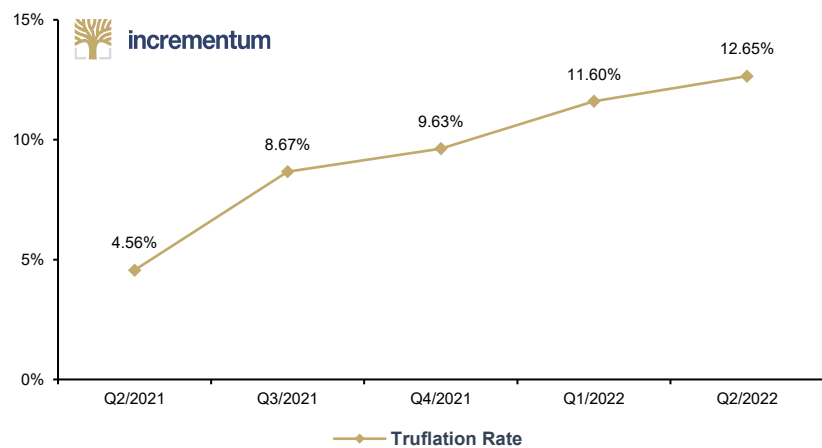
USA

Inflation at 8.3% (CPI, April 2022) is significantly above our 3% mark, and has been consistently so since April 2021, meeting the minimum 2-quarter length requirement. Even the core rate for the PCE Index, the Federal Reserve’s preferred inflation indicator, is well above this mark at 5.2%, also since April 2021. Moreover, **one-year inflation expectations** have climbed from 3.4% to 5.4% in a year, and the much less volatile **five-year inflation expectations** have risen to 3.0%. A rapid abatement of inflationary pressure is thus not to be expected.

It’s all too much.
George Harrison

If the official inflation rates are already high, the price increases experienced by many citizens in their everyday lives could deviate significantly upwards from the official data. **Truflation**, a provider that calculates inflation based on real-time data, shows significantly higher inflation rates. **In mid-April, the Truflation inflation rate stood at 12.7% year-on-year, with a serious 26.4% year-on-year increase in food prices.**

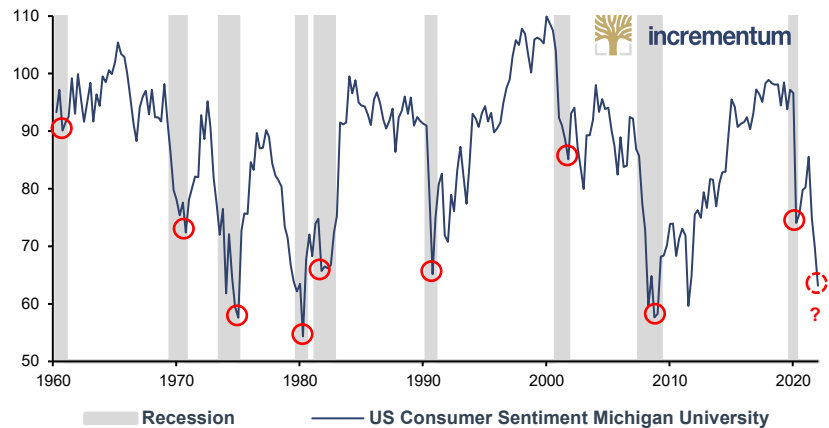
Truflation Rate, Q2/2021-Q2/2022e



Source: Truflation, Incrementum AG

Given the eroding purchasing power, it is hardly surprising that consumer confidence has been on a downward spiral for several months. The high inflation rates are making themselves felt in people’s wallets. When asked about their financial outlook for the coming year, more households in March than at any time in the history of the University of Michigan Consumer Sentiment Survey said they expected their finances to deteriorate. Given the high importance of consumption for US GDP, the economic outlook is anything but rosy.

US Consumer Sentiment Michigan University, Q1/1960-Q1/2022



Source: Reuters Eikon, Incrementum AG

The reverse wealth effect is also likely to dampen consumer spending.

The ordinary wealth effect occurs when investors believe they are wealthy as a result of rising share prices and real estate prices due to the book gains achieved, and increase their consumer spending accordingly. When prices fall, the reverse wealth effect has a correspondingly negative impact on consumer spending. In the current calendar year, US equities have already lost more than USD 10trn in market capitalization, while bonds suffer their worst losses in decades. And the first cracks can already be seen in the real estate market.

None of us has the luxury of choosing our challenges; fate and history provide them for us...Our job is to meet the tests we are presented.

Jerome Powell

Jerome Powell has recently reminded us that the Federal Reserve’s focus is currently on fighting inflation. If his pronouncements are followed by corresponding actions, this would implicitly mean the end of the *Fed put*. The first time the Federal Reserve’s then-chairman *Maestro* Alan Greenspan invoked this practice was in the wake of the 1987 stock market crash. Now it appears the Federal Reserve is removing the safety net from the market, at least temporarily. **Bill Dudley, former FOMC member, goes much further.** He calls for the Federal Reserve to “force” the stock markets to correct, should they not correct on their own.

The situation right now is the most difficult that Jay Powell has seen, or any Fed chair in a while, because the stock market is basically in a bear market. And yet the inflation rate is going up, and the economy is likely to slow down with all of these price increases curtailing demand.

Jeff Gundlach

In any case, stagflation confronts monetary policymakers who continue to trust the Philips curve with the greatest possible dilemma.

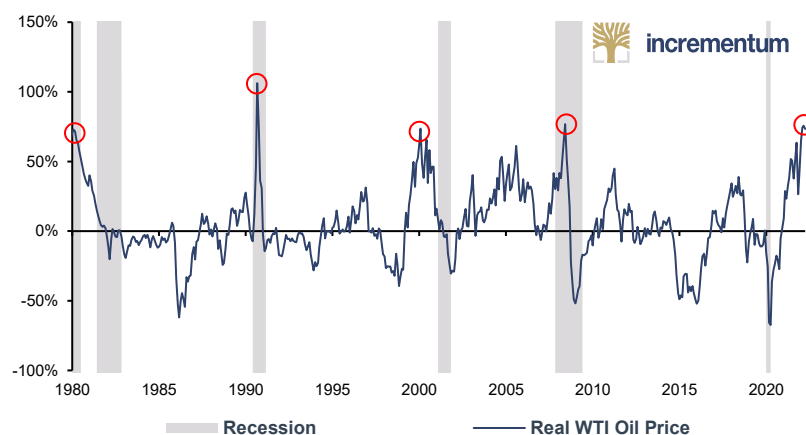
They are faced with the uncomfortable question of whether to stimulate the weakening economy with monetary easing or to curb inflation with tighter monetary policy. **Lacy Hunt argues** that with respect to the question of higher inflation with lower unemployment or lower inflation with higher unemployment, the Federal Reserve would have no choice at all, since it is a **Hobson’s choice**. Indeed, without containing inflation, economic recovery and thus a low unemployment rate are not even possible. However, the Federal Reserve’s decision will probably depend heavily on day-to-day political sentiment. As long as asset markets remain at high levels and growth is not disastrous, a more restrictive monetary policy stance could prevail. However, the matter will become more difficult if equity and credit markets come under further pressure and growth suffers accordingly.

Historically, oil shocks have led to demand destruction that causes recessions. We're going to start hearing the word stagflation a lot more.

Jeff Gundlach

One small consolation from the perspective of monetary policy is that, as far as the cause of the bleak situation is concerned, the Ukraine conflict can be comfortably blamed for inflation. The following chart shows how high the probability of recession is as a result of oil price spikes. **We would not be surprised if the next recession were to go down in the US history books as the "Putin Recession".**

Real WTI Oil Price, Deviation from Trend*, 01/1980-04/2022



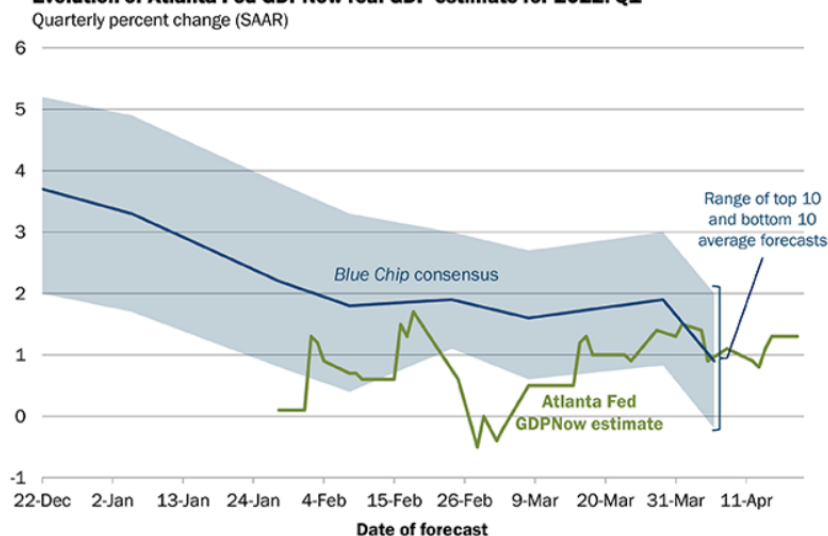
Source: Reuters Eikon, Incrementum AG
*Trend is based on 2-year MA

I can't see a recession! Where's the recession? I can't tell you how much I hear this every single day. It's like saying 'I can't smell the carbon monoxide. By the time you see the recession, your head's sliced off.

Dave Rosenberg

In the meantime, the economic situation in the US has already deteriorated sharply. The estimate of the Bureau of Economic Analysis (BEA) for annualized growth in Q1/2022 turned out unexpectedly low for many at -1.4%. This means that expected growth for this quarter is already well below our stagflation threshold of + 1%. At 1.0%, the Federal Reserve Bank of Atlanta's current forecast for Q2/2022 is also not promising and is well below the 3.0% calculated as the initial forecast for Q1/2022.

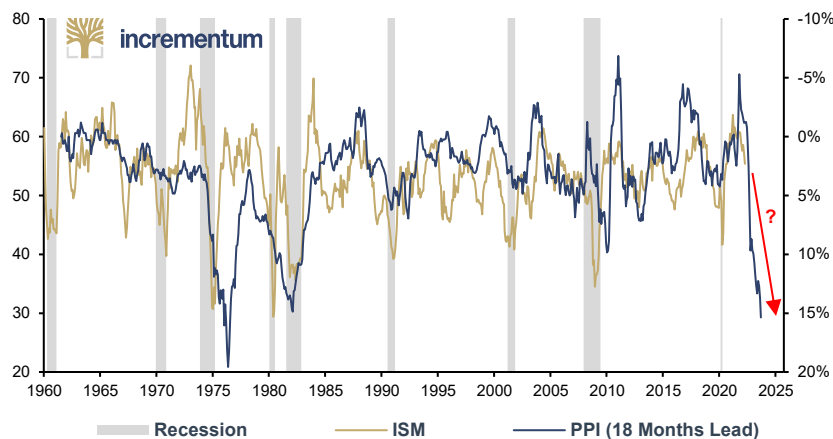
Evolution of Atlanta Fed GDPNow real GDP estimate for 2022: Q1



In its most recent forecast, the IMF also made a significant downward revision to its figures for the USA. While the IMF forecast growth of 5.2% for the calendar year 2022 in October 2021 and 4.0% in January, the figure has now

been reduced to 3.7%. In 2023, growth is expected to be only 2.3%. However, the persistent inflationary pressure could lead to a negative surprise in terms of growth, as higher prices lead to lower growth in a highly indebted society.

ISM (lhs), and PPI (18 Months Lead, rhs, inverted), 01/1960-04/2022



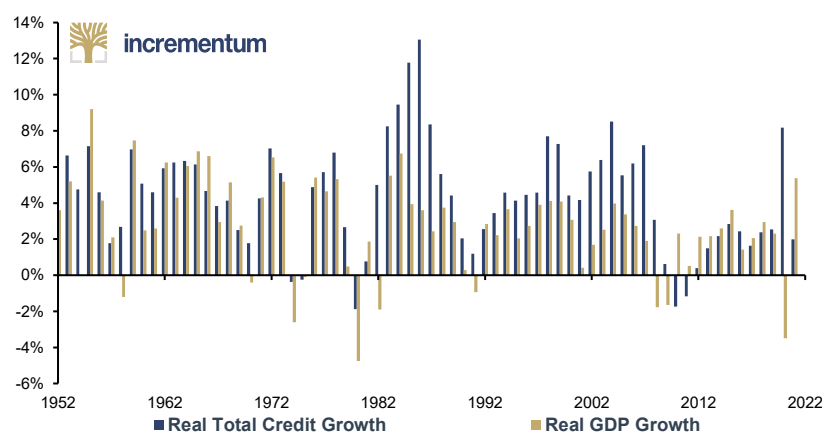
Source: Reuters Eikon, Incrementum AG

Liquidity is oxygen for a financial system.

Ruth Porat

The announced interest rate hikes and the equally announced QT – i.e. the reduction of the central bank’s balance sheet by selling securities – will also have a strong dampening effect on economic growth. The previously seemingly limitless liquidity is now slowly drying up. **According to Richard Duncan, the US economy needs annual credit growth of at least 2% in real terms to escape recession.**⁴² In all nine instances between 1952 and 2009 in which inflation-adjusted total credit grew by less than 2%, the US entered a recession. **Currently, it looks as if this mark could be reached this year.**

Real Total Credit Growth, and Real GDP Growth, 1952-2021

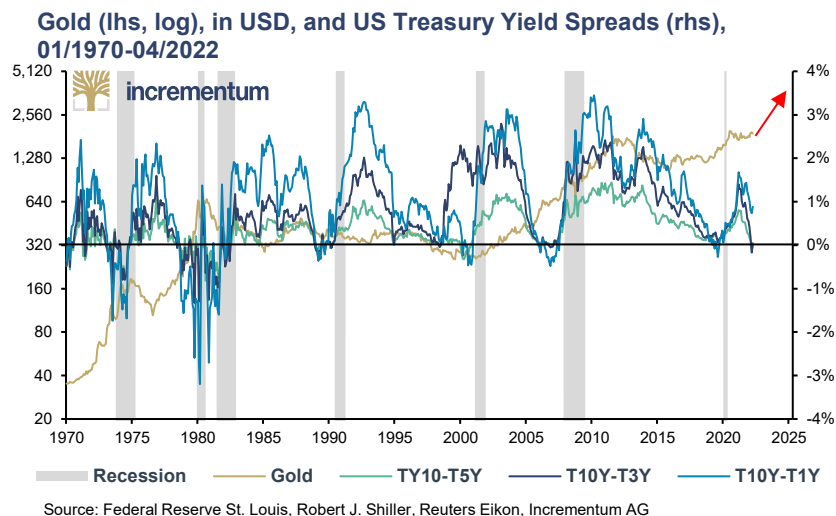


Source: Federal Reserve St. Louis, Incrementum AG

The shape of the US yield curve also points to a marked slowdown in US economic growth. **A study published by the San Francisco Federal Reserve in 2018 shows that inverted yield curves have presaged most recessions since the 1950s.** From an empirical perspective, narrowing interest rate spreads are

⁴² See Duncan, Richard: "Stormy Weather Ahead," October 15, 2021

followed by economic downturns and then gold appreciation. This chronological sequence has been particularly evident since the Nixon shock in 1971.



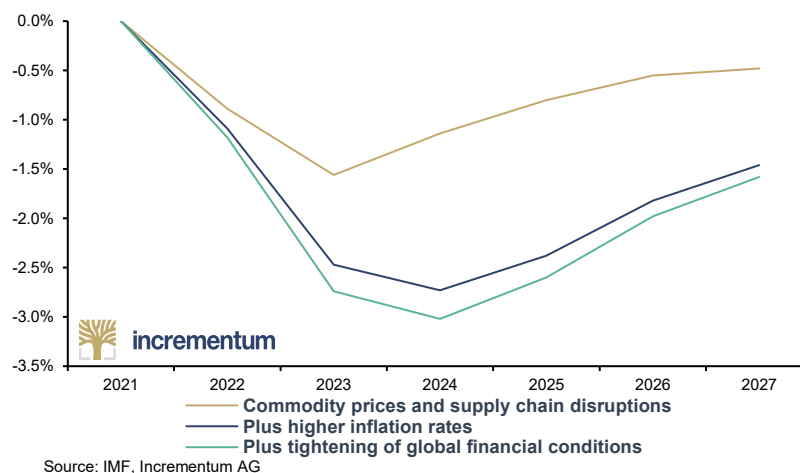
We are in the middle of stagflation, at least in Europe.

Clemens Fuest,
President, ifo institute

Euro area

Even more so than in the US, growth rates in the euro area continue to be distorted upward by the base effect. Nevertheless, the **IMF's latest World Economic Outlook** forecasts growth of only 2.8% for the euro area in 2022, compared with 4.3% projected in October 2021 and 3.9% in January, with the IMF noting considerable downward risks.

Effects on EU Real GDP, 2021-2027e



Moreover, the war in Ukraine has had a large impact on the European economies, both as regards the direct consequences and the knock-on effects caused by the incessantly spiraling sanctions. In its **Monthly Report – April 2022**, the German Bundesbank calculates the impact of an EU energy embargo on Russia on euro area GDP. The negative effects are fed by three sources: higher commodity prices, lower foreign demand, and higher uncertainty. For 2022 and 2023, GDP in the euro area would be around 1.75% lower in each case, and for 2024 the GDP losses would be only marginally lower. For Germany in isolation, the GDP losses would be considerably higher at around 2% in the current

Trade protection accumulates upon a single point the good which it effects, while the evil inflicted is infused throughout the mass.

Frédéric Bastiat

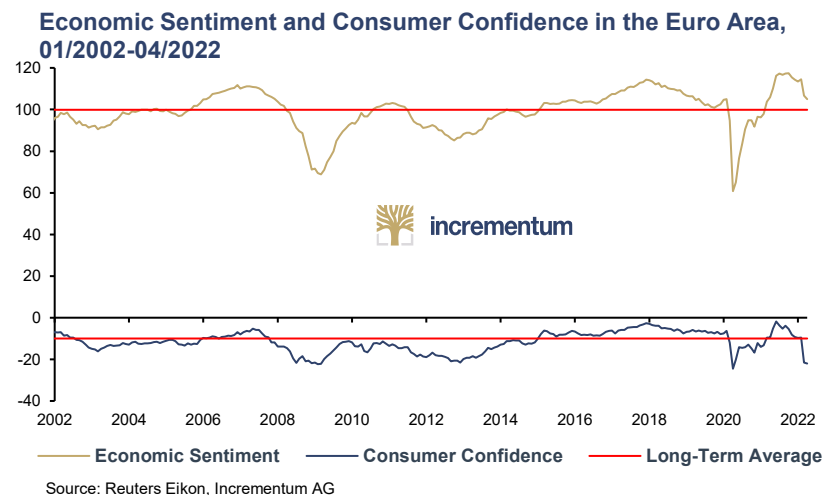
There is a fairly strong bias that stagflation of some kind is more likely than not over the next 12 months.

Deutsche Bank

The potential impact on GDP is even worse if, in addition to price effects, the impact of volume restrictions resulting from an embargo is taken into account. German GDP could slump by up to 5% compared with the baseline scenario. In this case, German economic output would fall by around 2% in 2022. The **Gemeinschaftsdiagnose** (Joint Economic Forecast) published somewhat earlier by leading German economic research institutes arrives at similar dramatically negative consequences of an oil and gas embargo for the German economy. For 2023, this alternative scenario deviates by 5.3 percentage points downward from the baseline scenario, with growth of 3.1% forecast for 2023. For the current year, however, the 0.8 percentage point drag on GDP caused by an embargo would still be manageable.

We are certainly not going out on a limb with our assessment that these forecasts are all on the optimistic side. At present, it looks as if the escalating spiral that has been set in motion will be continued by all parties involved. In the event that the war escalates further or, even worse, spreads to other states, the effects on the economy could be catastrophic.

A telling risk assessment was made by Christine Lagarde at the press conference following the ECB Governing Council meeting on April 14: *“The downside risks to the growth outlook have increased substantially as a result of the war in Ukraine.... The upside risks surrounding the inflation outlook have also intensified, especially in the near term.”* In this context, the HICP for the euro area has already been above the 3.0% mark since August 2021 and is now at 7.5% (April 2022). **If the ECB were to take its own statements seriously, it would have to assume that a stagflation scenario is extremely likely. In any case, consumer confidence has rattled to an all-time low since the outbreak of war.**



True ignorance is not the absence of knowledge but the refusal to acquire it.

Karl Popper

The odds that we'll have a global recession are rising by the day.

Kenneth Rogoff

Once again, we would like to draw attention to the development of sentiment in the years before the Covid-19 breakout. Since the beginning of 2018, the economic sentiment barometer had been on a continuous downward trend. The brief recovery immediately before the Covid-19 crash was not a trend break that could now be followed up. This upswing was solely due to the anticipation of certain sales that could not be completed because of circumstances no one could foresee at the time.

Despite all the (purposefully) optimistic forecasts, a number of factors currently point to increasingly recessionary trends in large parts of the world:

- Rising interest rates, quantitative tightening (QT)
- Strongly flattening yield curve, which is already partially inverted
- Falling stock markets
- Sharp rise in oil, gas and electricity prices
- Sharp drop in consumer confidence
- Slowly rising loan default rates
- Weakening of economy due to lockdowns to combat Covid-19 pandemic
- Persistence of supply chain issues
- Threat of fertilizer and food crises due to war in Ukraine
- An increasingly fragile Chinese economy stubbornly adhering to the zero-Covid policy.
- Sharp rise in geopolitical tensions

Stagflation-Proof Portfolios

“I think that most likely what we are going to have is a period of stagflation. And then you have to understand how to build a portfolio that’s balanced for that kind of environment.”

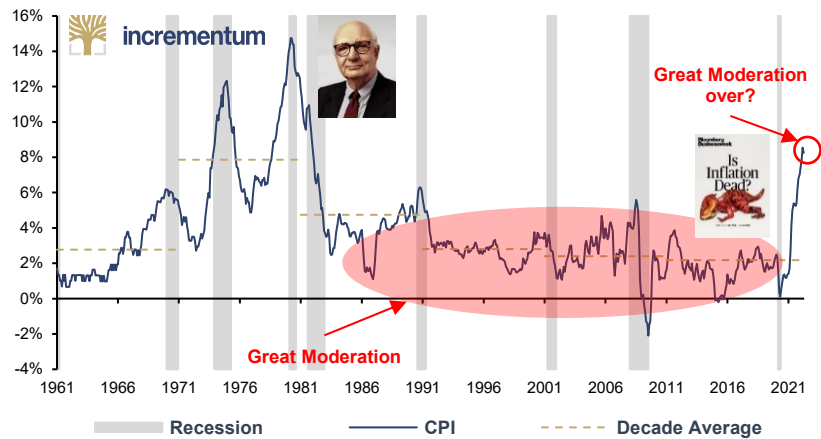
Ray Dalio

We are beginning a paradigm shift. A paradigm shift is a shift from one mindset and positioning of that mindset to another mindset and another positioning of that.

Ray Dalio

If our assessment that we are currently experiencing the end of the 40-year disinflationary Great Moderation is correct, there are serious consequences for investors. In our view, there will probably be a longer-term process until the collective mindset of investors has completed this paradigm shift. A fundamental repositioning of many portfolios and thus a reallocation of enormous amounts of financial capital will be the consequence of this paradigm shift. These reallocation processes will probably last for several quarters, if not years.

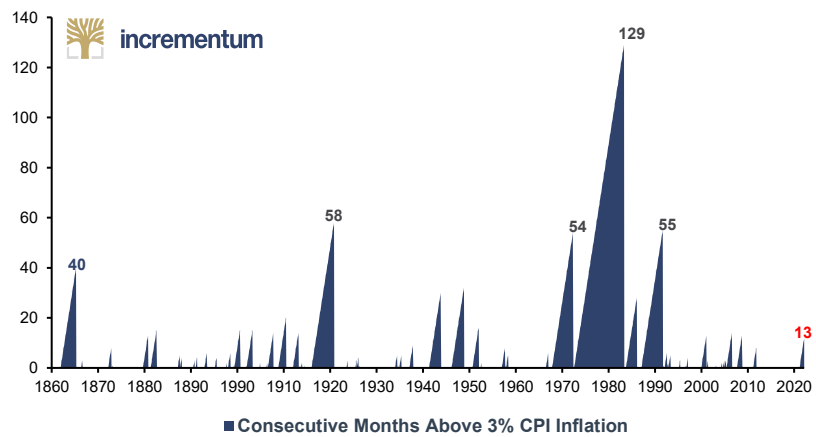
US CPI, yoy%, 01/1961-04/2022



Source: Reuters Eikon, Incrementum AG

The narrative of temporary inflation was able to reassure most market participants for a surprisingly long time. This is in large part because the bulk of Western investors have never been confronted with a significant increase in inflation during their active careers as investors, let alone with a prolonged inflationary or even stagflationary period.

Consecutive Months Above 3% CPI Inflation, 01/1860-04/2022



Source: Crescat Capital LLC, Reuters Eikon, goldchartsrus.com, Incrementum AG

Many investors are still significantly influenced by the disinflationary past of the last decades. A look at 5y5y inflation expectations shows a significant probability that elevated inflation figures could be a multi-year condition, and it is one that is still not nearly priced into the market.

5-Year, 5-Year Forward Inflation Expectation Rate, 01/2003-05/2022



Source: Federal Reserve St. Louis, Incrementum AG

From an investor’s point of view, however, this is precisely where a promising opportunity lies, as enormous amounts of capital will be reallocated in the course of this inflation paradigm shift.

The rules of the game for investors are changing and portfolios anchored to a belief in transitory inflation are dangerously exposed.

Jamie Dannhauser

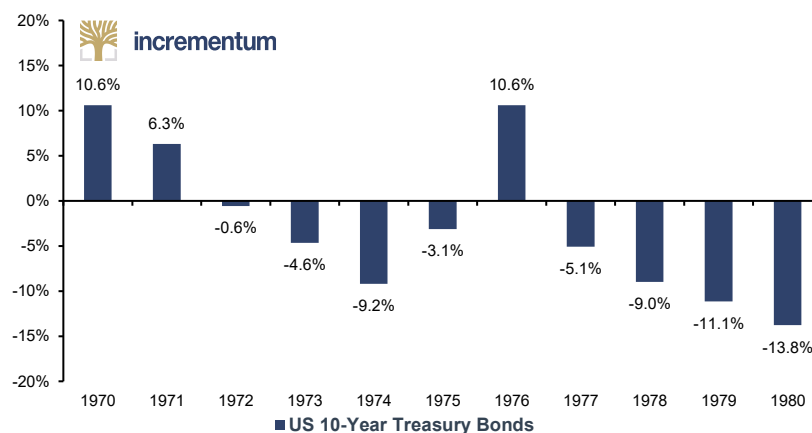
Stagflation: Poison for the Balanced Portfolio?

Stagflation is possibly the most challenging environment for investors.

At this point, we would like to take a rough overview of the different asset classes in times of stagflation. As mentioned, there are not too many recent precedents for pronounced stagflation in Western countries. We will therefore focus on the 1970s.

With high inflation and rising yields, fixed-income securities are the obvious losers. Constant interest payments in the face of ongoing monetary depreciation reduce the value of a security. The longer the maturity, the higher the purchasing power-adjusted risk of loss. Values are also nominally at risk, namely when returns on the capital markets rise and the market value of the security falls. Investors suffered significant losses on bonds in the 1970s. In 2022, too, bondholders have recorded painful losses so far.

Real Annual Returns of US 10-Year Treasury Bonds, 1970-1980



Source: Stern School of Business, Incrementum AG

As the following chart shows, for the second of the two 100-year Austrian government bonds issued to date, with a coupon of a measly 0.850% and an issue yield of 0.880%, the investment has been anything but a good one so far. As a reminder, this bond, with a volume of EUR 2bn, was oversubscribed 12 times (!!!) when it was issued in 2020, not so long ago.

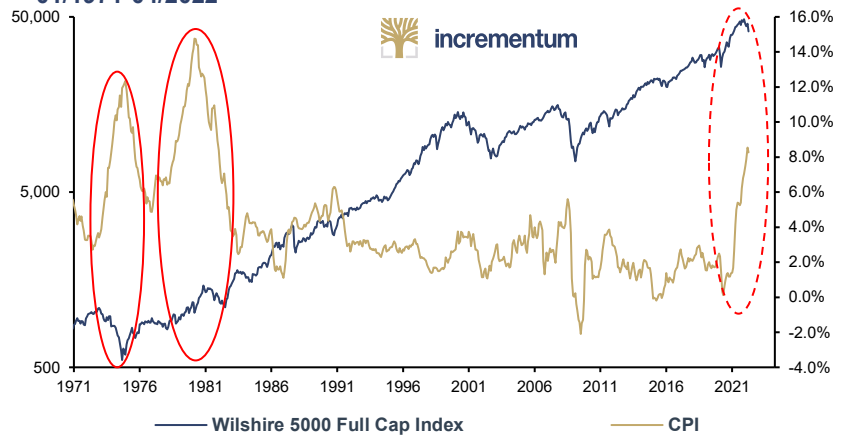
Austrian 100-Year Bond (0.85%, 06/30/2120), in %, 07/2020-05/2022



Source: Deutsche Börse, Incrementum AG

But stocks as an asset class are not inflation-proof per se, either. During the stagflationary decade of the 1970s, US equities also performed weakly in real terms.

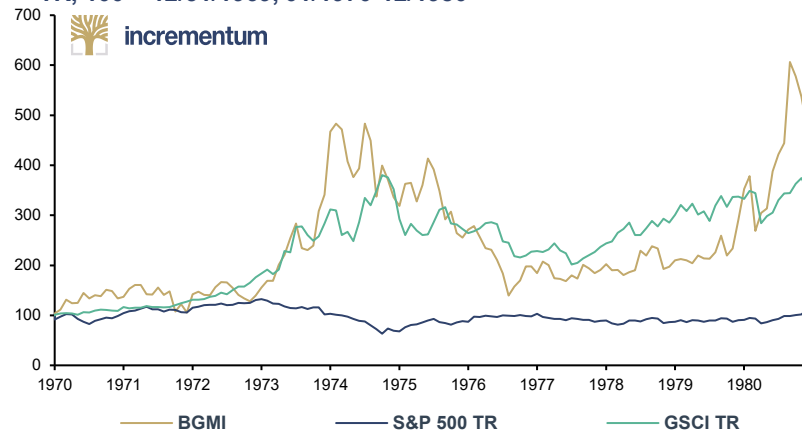
Wilshire 5000 Full Cap Index (lhs, log), and CPI (rhs), yoy%, 01/1971-04/2022



Source: Reuters Eikon, Incrementum AG

Only selected sectors, such as mining stocks and commodity shares, were able to escape the negative overall trend.

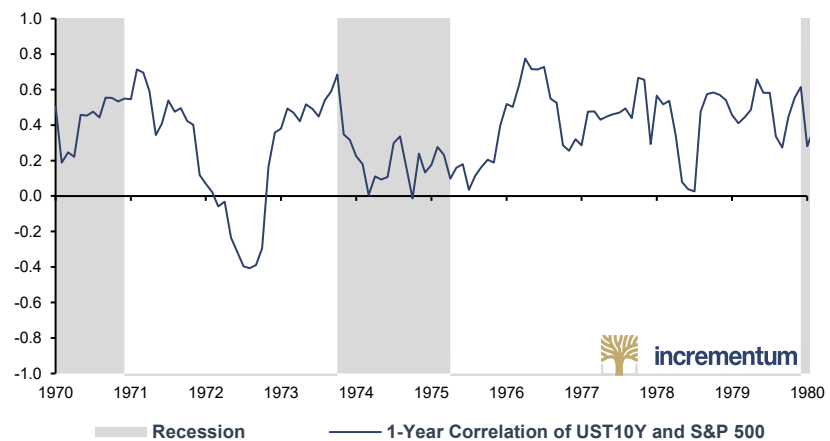
Inflation Adjusted Performance of BGMI, GSCI TR, and S&P 500 TR, 100 = 12/31/1969, 01/1970-12/1980



Source: Reuters Eikon, goldchartsrus.com, Incrementum AG

And therein lies the crux for investors: Both asset classes, equities and bonds, are clobbered at the same time during stagflation. This is clearly reflected in the correlation between the two asset classes and is precisely what makes construction of a diversified portfolio so challenging. Conventional mixed portfolios face unusually high losses when the correlation between these two asset classes increases.

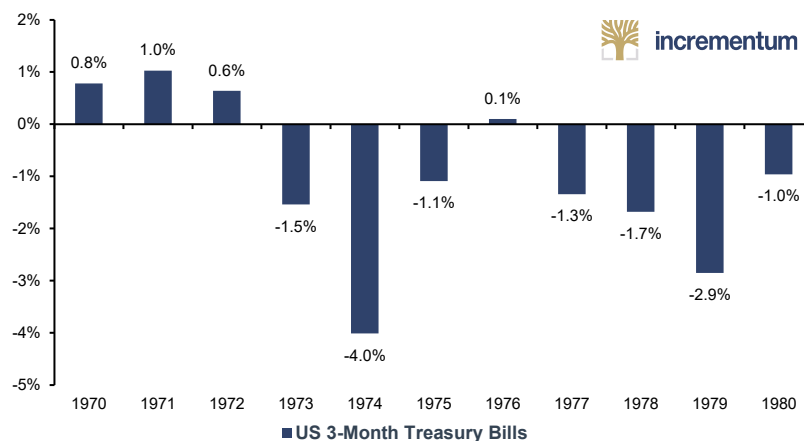
1-Year Correlation of UST10Y and S&P 500, 01/1970-01/1980



Source: Reuters Eikon, Incrementum AG

Another problem is that holding cash reserves at negative real interest rates obviously leads to capital destruction. Therefore, cash should at best be held only in the short term as part of tactical asset allocation.

Real Annual Returns of US 3-Month Treasury Bills, 1970-1980



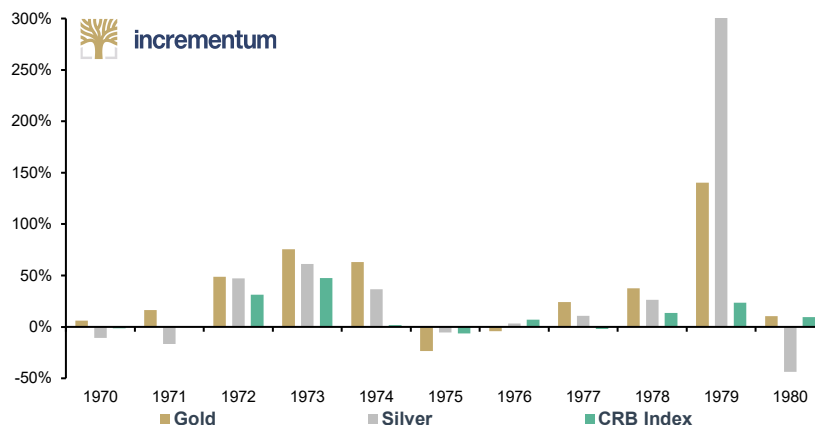
In an environment of rising inflation, inflation-sensitive investments are indeed in demand. These typically include commodities or commodity-related investments such as commodity equities or commodity currencies. Furthermore, bonds of commodity-exporting countries such as Brazil or Australia, inflation-indexed bonds, and real estate can be considered as inflation-sensitive investments. However, none of these asset classes is flawless. **We have compared the most important inflation-sensitive asset classes below, including their advantages and disadvantages.**

Inflation-Sensitive Assets	Advantages	Disadvantages
Precious metals	Liquid, no counterparty risk	Inflation protection only over long periods
Mining shares	Productive assets, dividends	Equity market risk
Raw materials	High correlation with inflation trend	High storage costs or negative return due to rolling losses
Commodity stocks	Productive assets, dividends	Equity market risk
Commodity currencies	Correlation to raw materials without storage costs	No productive capital
Bonds: emerging markets & commodity exporters	Yield	Interest rate risk, issuer risk
Inflation-indexed bonds	Direct hedge against the official inflation rate	Counterparty risk, inflation rate underreported, hedges only over term
Real Estate	Yield	Credit cycle, vulnerable to regulation with inflation

Source: Incrementum AG

It seems intuitive that an investment in commodities is profitable in times of high inflation. However, implementation in the portfolio involves some pitfalls. Direct, physical investment in commodities is often difficult. The main problems with direct investments are that they involve high storage costs or that it is impractical to invest in the commodities themselves due to their perishable nature (agricultural commodities, for example). **This is one of the advantages of investing in physical precious metals,** as they can be stored for a long time at a reasonable cost without any loss of quality.

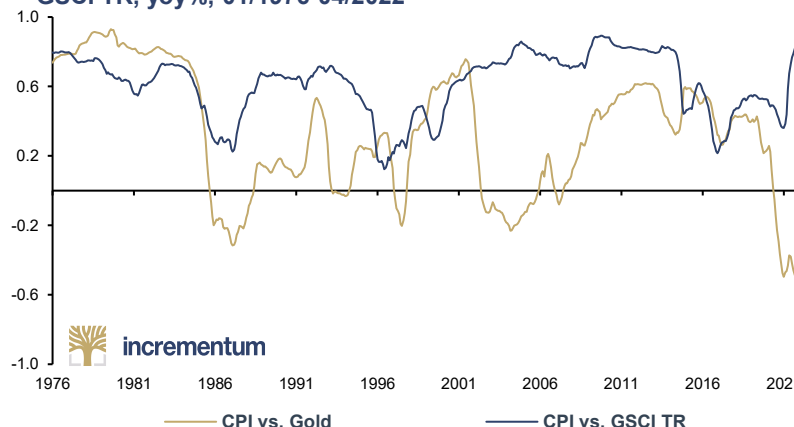
Annual Returns of Gold, Silver and CRB Index, 1970-1980



Source: goldchartsrus.com, Incrementum AG

An investment in gold is therefore the simplest and most favorable way to invest in a physical commodity over the longer term. However, it should be noted that gold has a significantly lower correlation to the inflation rate than broad commodity indices.

Rolling 5-Year Correlation of CPI Inflation Rate, yoy, Gold, and GSCI TR, yoy%, 01/1976-04/2022



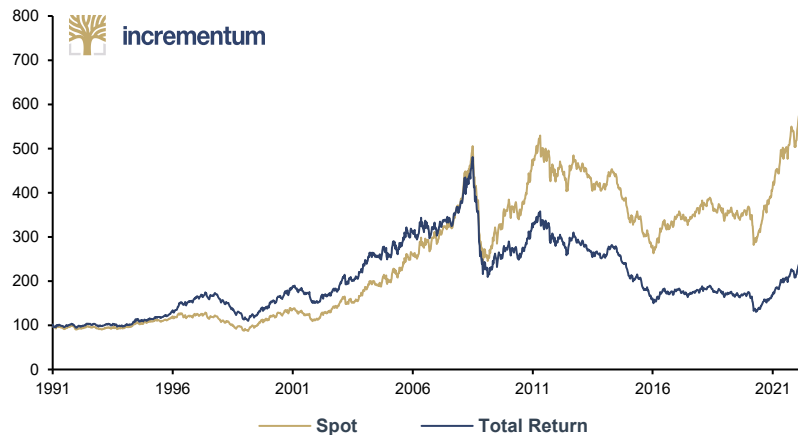
Source: Reuters Eikon, Incrementum AG

The best measure of inflation is what is happening with commodity prices.

Stephen Moore

If investors want to hedge more directly against rising inflation, a broader commodity exposure is appropriate. Futures contracts of exchange-traded commodities are a possible alternative to physical direct investments. The disadvantage of using these instruments is that a buy-and-hold-investment in commodity derivatives is typically accompanied by rolling losses. Ultimately, these losses reflect storage and financing costs.

BCOM Spot, and BCOM Total Return, 01/1991-05/2022

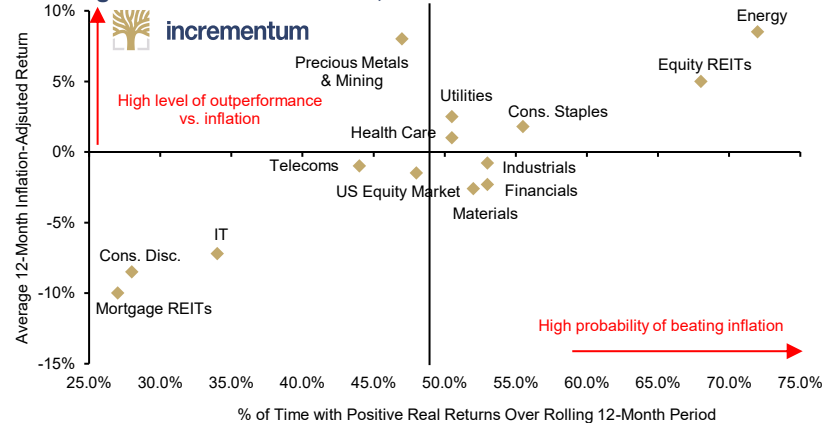


Source: Reuters Eikon, Incrementum AG

The situation is different for shares in companies that participate in the value chain of commodity production. An investment in such stocks means co-ownership of productive capital which – disregarding the potentially significant company-specific risks – basically generates positive returns. Nevertheless, as a shareholder you are typically at the mercy of general stock market sensitivity, i.e. beta, which can be a consistent headwind in a stagflationary environment – especially when a recession is looming.

Of course, there are also companies in other equity sectors that can, for example, pass on increased costs due to their pricing power or benefit from the substitution of expensive goods. **In any case, the correlation with the inflation rate is lower with equity investments, and company-specific risk is correspondingly present.**

US Equity Sector Performance in High (+3% on average) and Rising Inflation Environments, 1973-2020



Source: Schroders, Incrementum AG

While commodity stocks are typically among the winners in a stagflationary phase, technology stocks are particularly negatively affected. This is because growth stocks typically discount profits that lie far in the future in order to price them in today. Therefore, there is also an especially high sensitivity to long-term yields – i.e. a duration risk – which typically provide the

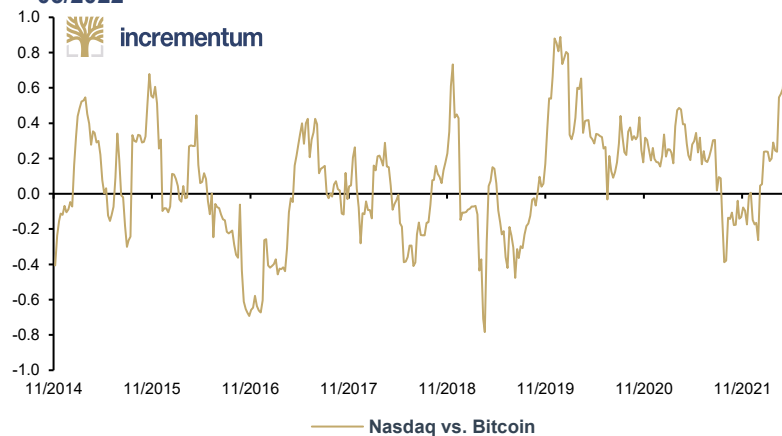
basis for a discount rate. But any profit margins are also at risk if costs rise. Provided investors have the appropriate risk tolerance and financial market knowledge, tactical short positions within this sector can be promising trades. The same applies to government bonds, which experienced investors can short via futures, for example, in order to profit from rising yields.

Bitcoin is not a synonym for criminality and darknet money anymore. Today, it is more and more becoming a synonym for sound money, a hedge against the current system, a vote for freedom, a different paradigm.

Gigi

How the young asset class of cryptocurrencies will fare within a stagflation remains to be seen. In particular, store-of-value tokens such as Bitcoin could increasingly be seen as an alternative store of value due to their noninflationary nature. Most recently, Bitcoin has tended to show a high correlation with technology stocks, which, as mentioned above, tend to suffer from rising inflation.

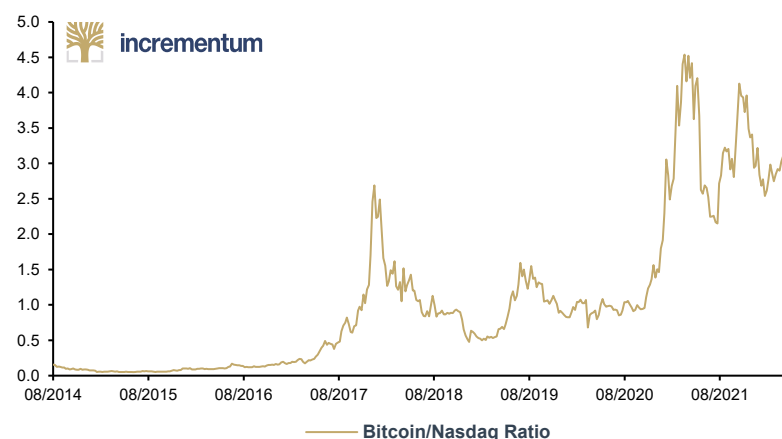
3-Month Rolling Correlation of Nasdaq and Bitcoin, 11/2014-05/2022



Source: Reuters Eikon, Incrementum AG

Nevertheless, one should not only look at the correlations in this respect but also keep an eye on the relative performance of the assets. The Bitcoin/Nasdaq ratio shows that Bitcoin has significantly outperformed Nasdaq over time. Against this backdrop, a certain admixture of Bitcoin with other inflation-sensitive assets seems consistently advisable in a balanced portfolio.

Bitcoin/Nasdaq Ratio, 08/2014-05/2022



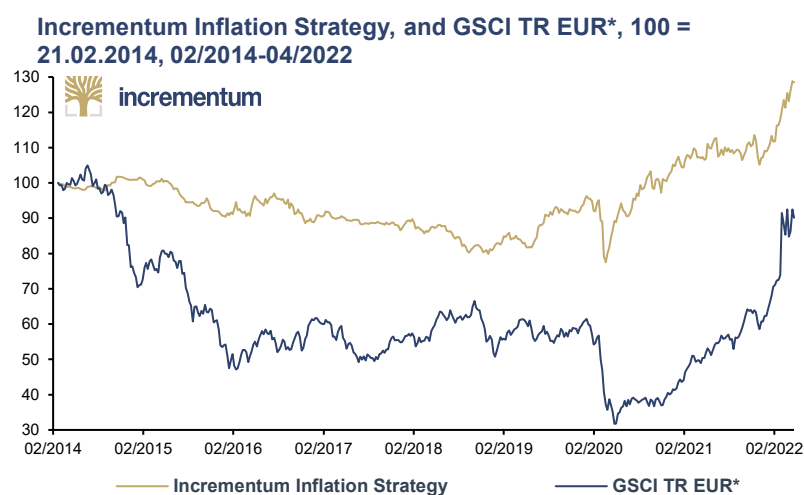
Source: Reuters Eikon, Incrementum AG

Diversification is the only free lunch in finance.

Harry M. Markowitz

Stagflation-proof fund strategies

As we have seen, conventional portfolios are particularly vulnerable to rapidly rising inflation or stagflation. To diversify a broad portfolio, we designed an investment strategy more than eight years ago that focuses on inflation-sensitive asset classes. Our **Incrementum Inflation Strategy** is managed using an absolute return approach. **The investment process focuses on flexible positioning for inflationary or disinflationary phases.** The positioning is largely determined by our Incrementum Inflation Signal⁴³. In this fund, we invest in a broad range of inflation-sensitive assets such as precious metals accounts, commodity stocks, derivatives on commodity indices, or inflation-indexed bonds. In addition, within this strategy we can tactically short technology stocks and bonds, for example. **The strategy serves as a portfolio building block that can be added to a broad portfolio for diversification purposes.**



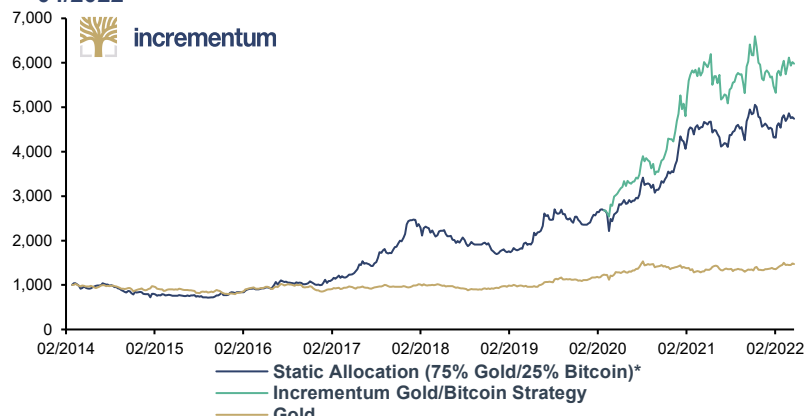
For crypto-savvy investors, we provide additional stagflation portfolio building blocks with our two crypto/gold strategies. We featured the strategy in the *In Gold We Trust* report 2019⁴⁴ and provided an interim report of excellent results in the *In Gold We Trust* report 2021⁴⁵. We have taken the liberty to extend the price time series of the investment strategy by a back-calculated performance of the strategy’s strategic allocation of 75% gold and 25% Bitcoin by a few years to convey a better sense of the results.

⁴³ See chapter “Status Quo of the Inflation Trend” in this *In Gold We Trust* report

⁴⁴ See “Gold and Bitcoin: Stronger Together?,” *In Gold We Trust* report 2019

⁴⁵ See “Bitcoin & Gold – Our Multi-Asset Investment Strategy in Practice,” *In Gold We Trust* report 2021

Static Allocation (75% Gold/25% Bitcoin), Incrementum Gold/Bitcoin Strategy, and Gold, in USD, 1.000 = 02/2014, 02/2014-04/2022



Source: Reuters Eikon, Incrementum AG
*Calculation incl. 3% p.a. TER

People will always try to stop you from doing the right thing if it is unconventional.

Warren Buffett

The strategy has a low correlation to most other asset classes, which is why it can be considered as a diversification building block for balanced portfolios. We looked at some different combinations of these two portfolio building blocks. Again, to be able to look at a longer time horizon, we have extended the time series for the younger of the two funds, the gold/Bitcoin fund, by adding the strategic asset allocation of 75% gold, 25% Bitcoin.

Static Portfolio of Incrementum Inflation Strategy, and Incrementum Gold/Bitcoin Strategy*, 02/2014-04/2022



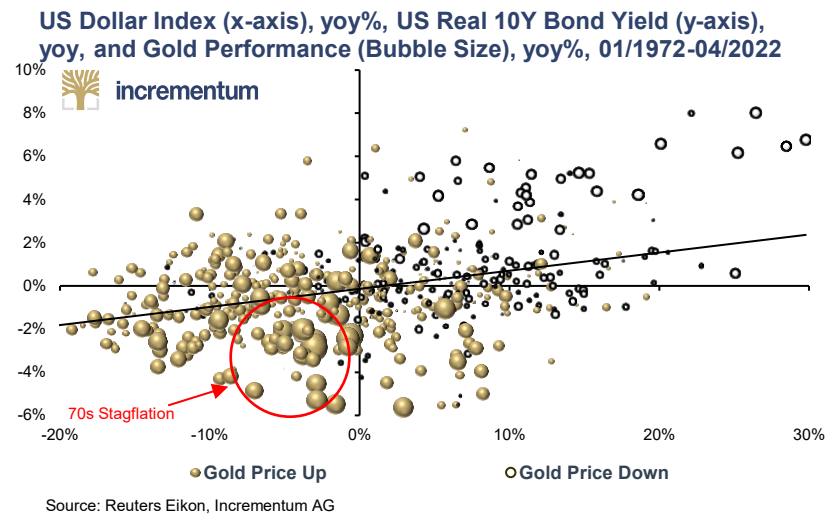
Source: Reuters Eikon, Incrementum AG
*until 02/26/2020 static allocation (75% Gold/25% Bitcoin), in USD

Value investing is at its core the marriage of a contrarian streak and a calculator.

Seth Klarman

Conclusion

Stagflation means an extraordinarily challenging environment for investors. Conventional investment concepts, shaped by the disinflation of the past decades, are already starting to cost their investors dearly. An admixture of inflation-sensitive asset classes is recommended for anyone who wants to diversify their portfolio and hedge against increasingly likely stagflation. In addition to gold, these are primarily commodity-heavy investments such as commodity index derivatives, commodity equities or, with some exceptions, inflation-indexed bonds.



A cash generative gold producer with a strong growth profile



Increased production at Blanket Mine



On track to produce 80,000oz from 2022 onwards



Committed to returning money to shareholders



Attractive new opportunities in Zimbabwe

Strategy & Outlook

Significant increase in production

Increased cash flows

Shareholder returns through dividends and growth

Exploration opportunities in Zimbabwe

Caledonia has a long-term vision of becoming a multi asset gold producer focused in Zimbabwe

Stagflation and a New Gold Standard – Exclusive Interview with Alasdair Macleod

“When fiat currency really does begin to fail, there will come a point where central bankers’ own pay will need to be secured. The last resort will be to come up with some sort of gold standard. The real question is, how long will it take until we get to that point?”

Alasdair Macleod

Key Takeaways

- We are now in a situation where we have a lack of economic growth and rising prices. This is temporary. The collapse of the purchasing power of paper currencies and what is actually driving that is what we should be thinking of.
- During the stagflationary period of the 1970s, central banks had to raise interest rates to as high as 20% in order to fend off inflation. This is impossible in today’s economy because of high levels of debt and deficits. This is made even worse by globalization.
- Central banks could be forced to recapitalize by increasing the value of their gold holdings significantly. This could usher in a new world monetary system based on gold.
- Central bankers seem to believe that small rate hikes could solve the problem, but the real problem is the amount of currency in circulation.



Alasdair Macleod is the Head of Research for Goldmoney. For most of his 40 years in the finance industry, he has been demystifying macroeconomic events for his investing clients. The accumulation of this experience has convinced him that unsound monetary policies are the most destructive weapon governments use against the common man. Accordingly, his mission is to educate and inform the public in layman’s terms about what governments do with money and how to protect themselves from the consequences.

Find him on Twitter at [@MacleodFinance](#).

Ronnie Stöferle and Mark Valek conducted this interview with Alasdair Macleod by Zoom on April 2, 2022. We publish the highlights of the interview below. **The full version is available for download [here](#).**

The video of the entire conversation, “Stagflation and a New Gold Standard”, can be viewed on YouTube [here](#).





Alasdair Macleod

Ronnie Stöferle:

It's my great pleasure to have my dear old friend Alasdair Macleod here as a guest for a special interview on the topic of stagflation. Alasdair, thanks for taking the time.

Let's start with the official definition of stagflation. I don't know if there's a right or wrong definition, but I had a look at the [definition by Investopedia](#), and it says:

*“Stagflation is characterized by slow economic growth and relatively high unemployment or economic stagnation. Which is at the same time accompanied by rising prices. **Stagflation can be alternatively defined as a period of inflation combined with a decline in the gross domestic product.**”*

History is too serious to be left to historians.

Iain Macleod

I cannot help it if every time the Opposition are asked to name their weapons they pick boomerangs.

Iain Macleod

If you have an economy which is not doing terribly well and you have rising prices at the same time, it's a combination of stagnation and inflation, so it's “stagflation”.

In Keynesian analysis, you cannot have a situation where you've got inflation, in other words rising prices, and a collapsing economy.

Now, I know that your uncle, Ian Macleod, was the shadow chancellor in 1965, and he basically coined the term *stagflation*, but he had a slightly different interpretation, or I think the context was different. In what context did your uncle first use this term *stagflation*, and how did he define it?

Alasdair Macleod:

He invented the term basically to describe the economic situation at that time. And it was a mixture of falling productivity on the one side and rising wage inflation on the other side. So that was the original context in which stagflation was defined; but since then, people have taken it into the broader sense of describing a situation, as you rightly sort of indicated from the Investopedia definition. If you have an economy which is not doing terribly well and you have rising prices at the same time, it's a combination of stagnation and inflation, so it's “stagflation”.

I think that the modern interpretation shows an ignorance of economics, because it's the Keynesians, in effect, saying that the only driver of prices is demand, consumer demand. **Therefore, you now have a situation where you have a lack of economic growth or a recession and rising prices, which is completely impossible.** But they have come to call this stagflation.

In other words, they see it as something which is essentially temporary. I don't know whether you ever discussed what happened in Austria in 1921/22 with your grandparents. When we had a collapse of the Austrian crown?

The idea that the Austrian economy somehow was booming while this was going on is complete nonsense; but in Keynesian analysis, you cannot have a situation where you've got inflation, in other words rising prices, and a collapsing economy. So how do they explain that? I mean, it seems to me that one way or another, we are in the sort of crisis which is probably not best described as stagflation, except in the temporary sense. **At the moment what we see is the dilemma of a global economy which is slowing in its growth;** or at least the big locomotive, China, is certainly slowing big-time, and all the other economies are slowing as well. **Yet, at the same time, we have rising prices.**

Stagflation, actually does describe the current (world economic) situation, but I think that's temporary.

We had an example of stagflation in the 1970s in the US. How did they manage to get out of that environment?

In the 1970s, Paul Volcker jacked up interest rates to unprecedented levels. The Fed Funds Rate went to close to 20%.

Imagine if they raise interest rates even to 5% today, let alone 20%. The industries that are stuffed full of malinvestments are going to come unstuck. Think of what 5% interest rates would do to government finances.

In the '70s and '80s we didn't have huge budget deficits to finance.

No one today has the mandate or the will to introduce an interest rate policy which is designed to kill inflation.

Thus, stagflation, in the modern sense, actually does describe the current situation, but I think that's temporary; and I'm sure that as this interview moves along, we will address the issue of **why stagflation is temporary** and that what we should actually be thinking in terms of is **the collapse of the purchasing power of paper currencies** and what is really driving that.

Mark Valek:

I think that's a great introduction, so when it comes to the term *stagflation*, as you already described in the modern interpretation, **we had this great example in the 1970s in the US**, and it's often referred to as the only example of stagflation. At the start of the 1980s, the US was able to get out of this kind of environment. How would you describe this? How was this able to happen, and do you think this could be happening again this time around?

Alasdair Macleod:

I think it actually gets to the center of the issue. At the end of the 1970s, Paul Volcker jacked up interest rates to unprecedented levels. The Fed Funds Rate went to close to 20%. This meant that the prime rate, which is a margin over that, was something like 20.5%. That had one specific purpose, which **was to stop the incipient inflation from turning into hyperinflation. If they had not done that, we would have seen the destruction of the dollar**, because, remember, we went off the gold standard or what was left of the gold standard at the beginning of the decade. That was a necessary action.

Now imagine the situation today. **If they raise interest rates even to five percent, let alone 20 percent, the industries that are stuffed full of malinvestments are going to come unstuck.** Which means that the banks will have to be rescued. Not only will financial collateral values be collapsing, but loans to industry and all the rest of it will start to become unstuck. **The central bank will have to rescue the banks to rescue the economy. We're talking about 5%, not 20%**; and think of what a 5% interest rate does to government finances.

When you go back into the **1970s and 1980s, we didn't have these huge budget deficits to finance.** We had budget deficits, but they tended to be more cyclical than permanent. Now, not only are they permanent but they are unimaginably large; and you have governments, not just in America but all over the world, who seem to think that the money tree is there just to be plucked, and that they can borrow. **They think they're borrowing with impunity, to deal with their existing problems; but the problem is that the other side of inflation is debt**, so just to look at debt is actually looking at the wrong thing.

You should be looking at the amount of currency and credit in circulation, because **real money, which is gold, doesn't circulate at all in this current environment.** You've got to be looking at that and thinking: "What happens when the situation destabilizes?" Coming back to your question, **I just cannot see how today anyone either has the mandate or the will to introduce an interest rate policy which is designed to kill inflation, in the way Volcker did.**

We both agree that's pretty much impossible raise interest rates sufficiently within this monetary system, even if Jerome Powell wanted to.

What are the major similarities and differences between now and what happened in the '70s?

The globalization of finance has caused everyone to be all tied into the same financial policies. This time, everyone is in the same boat.

Ronnie Stöferle:

I just got this book that I'm currently reading, *Keeping at It*, by Paul Volcker. It's a good read, and he emphasizes the topic of trust and trust in the US dollar, why people trust gold. I found it pretty fascinating that **Jerome Powell, in a recent hearing**, referred to Paul Volcker as one of the greatest servants in the history of the United States. I think he was trying to sound like a "mini-Paul Volcker", obviously, but I think we all know that, as you rightly said, **it's impossible to go back to those interest rate levels**. However, for some reason, most market participants really think that now we're seeing a big turnaround in interest rates. Seven to nine hikes in the next couple of months. **I think we both agree that's pretty much impossible within this monetary system and at this stage of the financialization of our economies.**

But let's briefly go back to the 1970s. From your point of view, what are the major similarities and also the major differences between the economy today and the economy of the 1970s, and do you think the situation at the moment is more serious or less serious than back then?

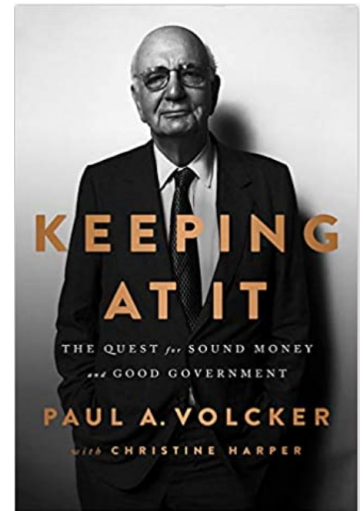
Alasdair Macleod:

Well, there are obviously huge differences between the economy now and in the 1970s, and I think one thing I would point out is the fact that **today we are in a globalized economy**. We are all tied into exactly the same policies. It was less so in the 1970s. You could have a situation where one economy was having trouble but there were other economies that were all right and some or other arbitrage came to the rescue of some of the economies that weren't performing too well.

Now we are all going in exactly the same direction, and there's globalization. People talk about globalization in terms of supply chains and the disruption that it causes, but the one thing they don't look at is the globalization of money and currencies, and that is actually the problem. **Everyone is tied into exactly the same interest rate policies and ways of managing their economy** in terms of trying to suppress interest rates as much as possible. Keep the cost of government borrowing down and aim for a 2% inflation target, while at the same time fostering maximum employment. We are all on the same crazy spreadsheet, and that I think is the big fundamental difference between then and now.

Mark Valek:

In my view a very obvious part of the problem is that **the whole system is plagued with debt, and I think this is basically a function of our debt-based currency system**. We have to go deeper and deeper into debt because this whole system is built on debt, and this results in these exponential curves of currency supply and also of debt mounting higher and higher.



At the end of the 1970s, **what happened was due to the fact that the gold price actually increased that much. This was kind of a recapitalization of the system.** My question to you would be, do you think that a significant revaluation of the gold price could recapitalize the system, starting from central bank balance sheets? Because at the end of the day, in my view at least, the real equity of a central bank balance sheet is gold, right? Since the gold position in relative terms to the debt positions has shrunk significantly, **it would be possible to basically recapitalize the central bank and, at the end of the day, the whole economy, if the central banks' gold position were to increase significantly.** What are your views on this thought?

The last resort will be to come up with some sort of gold standard. This could happen quite rapidly. Major central banks are running into enormous difficulties in their own books because they have taken on so much government debt.

Alasdair Macleod:

Undoubtedly, **that is correct. I think that's the end solution,** because what we're likely to see is a speeding up of the falling purchasing power of currencies. At the moment they're sitting on the price of gold; they sit on it because it's a rival in this fiat paradigm. **But when fiat currency really does begin to fail, there will come a point where central bankers' own pay will need to be secured,** and so will the politicians' pay. At that stage, **the last resort will be to come up with some sort of gold standard.** I think the real question is, how long will it take until we get to that point? My view is that it will actually happen quite rapidly from here, and the reason is that **major central banks are already running into enormous financial difficulties on their own books, because they have taken on board massive amounts of government debt.**

If you look at Japan, **it's not just government debt, it's also corporate bonds and it's also equity ETFs.** They have done what a central bank shouldn't do; their balance sheet is like 80/90 percent bonds now, rather than being the counterparty to currency. Which is really what a central bank should do. **What happens as we see those rising yields? Obviously, all these central banks go into negative equity. They are already there,** and what's interesting is that as we speak, we see **the yen appears to be in the early stages of a collapse.**

USD/JPY, 01/2020-05/2022



Source: Reuters Eikon, Incrementum AG

The yen appears to be in the early stages of a collapse. The euro also displays great weakness.

The ECB is in massive negative equity itself, and so are all its shareholders. This will have massive implications should interest rates rise.

When the fiat system fails, we will find out who actually has the gold. It will all revolve around trust. Gold will come back to underwrite the whole of the monetary system by being exchangeable for paper.

This time it will have to be a real gold standard. Government will have to stop spending all this money. The transition back to a gold-backed currency will be hard.

In the last four or five weeks it's gone from JPY 115 to the dollar, to this morning we're looking at JPY 121–122. It really is a very serious fall in the purchasing power of that currency, and this reflects the overall financial situation and the fact that the Japanese central bank is in negative equity. Now, these things can be resolved, but **the worst time to resolve a central bank in negative equity is when there is a financial crisis developing**, and that's roughly the combination that I see. **The other real weakness is the euro system.**

The euro system is potentially worse because there you've got the ECB. **It's now hugely in negative equity itself, and all its shareholders**, who are the national central banks, are in negative equity as well, with a few very, very minor exceptions. Their banking system, if you look at the euro area G-SIBs, there again **you have leverage – assets to equity – of well over 20 times. How are you going to resolve this situation when we see rising interest rates**, when we see the ECB being forced to raise its deposit rate above zero? There are potential collapses looming.

To get back to your point about the role of gold, at some stage, unfortunately, you've got the French central bank, you've got the Italian central bank, the German central bank, and so on. They've actually got **significant holdings of physical gold**, or at least we are told they have. But quite a lot of their gold might be leased out; and this is a very serious issue, because **when the fiat system fails, we will find out who actually has the gold. They are going to have to back their currencies with gold**, and in the case of the euro I think we are probably going back to the Deutsche Mark and maybe one or two other currencies. The second-tier currencies will fail. **I can tell you that because this revolves around trust.** The Italian central bank has got a lot of gold. But can you imagine going back to the Italian lira? How much respect would the lira have? I mean, they can deal with it, but they would have to have a proper "gold coin standard" in order to make it stick. I think what we're likely to see is, yes, **gold will come back to underwrite the whole of the monetary system by being exchangeable for paper.**

It will have to be, and it's not just a question of doing what Germany did in 1923 with Hjalmar Schacht, where they said, "We are going to introduce a new standard but not actually make it convertible into anything". **This has got to be real this time in order for it to stick;** and of course, the other side of it is that **government is going to have to stop spending all this money on welfare and fancy projects and all the rest of it. They're going to have to cut right back. It's not going to be an easy transition from this Keynesian world back into the real world**, where it's the productive side of the economy that matters and government should be as small as possible. A lot is going to have to happen to get back to a situation where gold is backing a currency, turning a currency into a gold substitute. A lot has to happen before that is going to work.

Central bankers seem to believe that by making small rate hikes they will get the inflation problem under control. They still blame inflation on the energy shock.

Central bankers now seem to have new mandates, such as saving the planet, climate change, and dealing with inequality. We also see rising wages. Do you potentially see a wage-price spiral as a driver of inflation?

Businesses paying wages will have to decide if they can afford higher wages or not.

Inflation isn't rising prices; inflation is the expansion of the quantity of money. The people licensed by the establishment don't seem to know that.

It is very important how the public rate a currency. Public perception about the currency is what monetarists miss.

Ronnie Stöferle:

I have so many thoughts to pick up on from your answer. What's really fascinating is the fact that **central bankers seem to believe that by making small rate hikes they will get the inflation problem under control again.** If we look back to the hiking cycle from 2004-2006, **the Federal Reserve did 17 rate hikes. But inflation only peaked one year after that.** I think it's interesting that it seems central bankers still believe that they have got everything under control, while the market is already telling us that things aren't going so well. Basically, everybody is still blaming the energy shock and saying that it is mainly responsible for rising inflation. However, if you look at headline inflation and core inflation, the differential is quite low. **It's not only energy and food that is rising, it's much broader.**

In last year's *In Gold We Trust* report, we wrote at length that we are seeing a monetary climate change and that this **pendulum is now really swinging into the direction of rising inflation,** and there's actually quite a number of factors, for example this move from monetary to fiscal dominance. We're seeing that **central bankers now seem to have new mandates, for example, saving our planet, climate change and dealing with inequality.** What other inflationary drivers do you see that the mainstream is missing at the moment?



Alasdair Macleod:

The thing that the mainstream is missing, more than anything else, is **the increase in the amount of currency and credit in the economy. That is the root cause of it all.**

Inflation isn't rising prices, inflation is actually the expansion of the quantity of money. The thing that I think is amazing is that the FOMC (Federal Open Markets Committee) never mentions the quantity of money in its deliberations. **They are always talking about prices rising here or temporary rises there or supply chain problems or all the rest of it.** Those are the only things that get picked up by the people who are licensed by the establishment to manage money and to run banking licenses. They just literally follow this meme the whole way through, and the result is that **the underlying cause is completely neglected.** It is always the increase in the quantity of money and credit. Now, I don't subscribe to the monetarist theory, on the basis that it is not the only thing that drives the purchasing power of a currency.

The other thing, which is actually desperately important, is **how the public rate a currency.** Now, I'll give you an extreme example. If the public decide that irrespective of any change in the quantity of currency, that they don't want to use it for transactions, then, rather like the Russians now finding out that the dollars and

The increase in money supply is the real factor that creates an artificial economic boom. It is likely that people such as Jerome Powell know this, but they are unable to admit it because it would cause havoc in the economy.

euros in their reserves are completely worthless, **the public perception of the purchasing power of a currency, or its use value as a medium of exchange, is the factor that monetarists miss.**

The thing is, **fluctuations in the quantity of money and credit created the Austrian business cycle**, in other words **the periodic boom and bust that we see**; and this periodic boom and bust is a very human thing, it's **bankers getting more encouraged by the initial stimulation of an economy**, which comes from the **central bank reducing interest rates, encouraging people to borrow, and eventually it builds up**. Then you get to a situation where perhaps a bank has a leverage of, say, 10x or 12x assets to equity. Remember what I was saying about over 20 times in Japan and the euro area, so you can see how this is a cycle of events, and that's the next one they're going to have to try and save us from. The whole situation is completely misread. I look at it from another angle: What if Jerome Powell was actually to stand up and say, **"The real problem we have is not supply chains, it's not energy prices, it's the excessive production of currency and credit, and that is the situation we've got to deal with."** I mean, that would be shock, horror – can you just imagine what would happen if he spoke the truth? Now, I don't know how much he believes in money being the "driver" of the price of currency. I'm sure he believes a lot more than he's letting on, but **the one thing he cannot say is the truth, because it would destabilize the whole economic system.**

Mark Valek:

Fascinating. Perhaps going back to the comparison between the stagflation of the 1970s and the current situation, one of the similarities, I would argue is - and we wrote this in last year's report - the new ice age between East and West. In the 1970s we were in the midst of the Cold War, obviously, and unfortunately it seems we are back there. We even have hot war now, so I think this comparison is also very interesting from a geopolitical standpoint and very relevant also to the global architecture of the currency system and the financial system. What are your thoughts in that regard? I mean, I'm obviously alluding to de-dollarization and especially to what I think was really a key event, the freezing of Russian assets.

What do you think will be the effects of these developments?

Alasdair Macleod:

It's a very dynamic situation. I mean, between my commenting here and this interview actually coming out, you never know, it might all change. But I think the underlying problem is that Ukraine is a proxy war. That's the first thing. The real enemies in this are, on the one side Russia, on the other side NATO, and particularly the domination of NATO by America. This is essentially the continuation of a financial war by other means – I think that's the way to look at it. The sanctions that have been imposed on Russia are undoubtedly going to cause great pain for the West, and we're seeing this with oil prices. As we speak, US oil is \$109.50 per barrel, and that's up recently from sort of \$60-\$70, something like that. This is a very serious impact. There are other things happening, as well. Interestingly, China seems to be backing off a little bit from its partnership with Russia, and that's being put about by the people who interpret this as China's being worried that there may be sanctions extended to Chinese companies.

The War in Ukraine is really a proxy war between Russia and NATO, which is dominated by the US. Sanctions against Russia will inflict great economic pain on the West. China has backed off in its relations with Russia, perhaps fearing similar sanctions.

China, is worried that capital flows may be going out of China rather than worried about sanctions, in the direct sense.

Sinopec, for example, has stopped or put a temporary hold on a joint project, a refinery project, with Russia, but I think this is another aspect of a huge global financial war. If you look at it in that context, the Chinese economy itself is now beginning to struggle. It's a different sort of struggle from what we're seeing in the West. **I think what we're seeing in China is actually similar to the situation at the end of the 1920s and into the early '30s. You have got a property bust which is slowly coming through, and the result of that is that international money is tending to leave China rather than continue to go into China.** So China, is more worried that capital flows going out of China than about sanctions in the direct sense.

You can see that this is a very complex situation, and there are a number of ways in which it can evolve. My view at the moment is that the way it is evolving is that it will make Putin more desperate. I don't think you're going to see a regime change tomorrow, as Biden might hope. You'll have a leader who's going to get more and more desperate. The one thing he cannot do is back down, because to back down is to admit defeat, and I think this is the point about his change of policy over Ukraine. Apparently, he's now no longer focused on taking over the whole country but rather on taking over the borderline of the Sea of Azov and joining Crimea with Donetsk and so on. So, he has a lot less ambition and he can then call an end to the "special operation". That, I think, is the way he's playing it, but we're not going to stop putting pressure on him by saying, "*Well done, we've achieved our objective, we're going to back off and remove the sanctions on central bank reserves and people who are not directly related with president Putin but might be*", and so on.

Putin is likely to get desperate as the conflict goes on. Perhaps leading to Russia demanding the West pay for its oil in rubles or even gold. The Russian economy is under pressure, but not enough pressure to be destabilized.

I just don't see how at the moment that we're going to back off quickly, even if Putin achieves his new objective, so I'm afraid the situation is just going to get worse and worse, and I can see that a more desperate Putin will not only insist that the protagonists in the West pay for their oil with rubles, which echoes the Kissinger-Nixon agreement with the Saudis which created the petrodollar in 1973. But also, the question now is gold, because it's been rumored – or at least I think there was a statement from the chairman of one of the subcommittees in the Russian parliament – that they would accept gold as payment.

I'm sure they would accept gold, but this is something which can be intensified; and at current prices, Russia can discount its oil to India, China, whoever else wants to take it, even down to below \$60 a barrel, and still profit. The idea that the Russian economy is under pressure is actually wrong – yes, obviously it is under pressure, but the sort of pressure to destabilize it, I don't think so. It's actually a lot stronger than the West generally thinks; and remember, the West got the Soviet economy completely wrong before the Berlin Wall fell.

All the intelligence was that the Soviet economy was strong, so the economic advice behind their intelligence was rubbish. So now we've got a situation that I'm afraid is going to get worse before there's any chance of it getting better, in terms of the supply of commodities and the financial situation. And this to me has always been a financial war.

We are engaged in a financial and commodities war. The only way to when this war is to be the last one standing, but this is not a good outcome.

It has now turned into a financial and commodity war, and we're not going to walk away from winning. It's going to be a Pyrrhic victory. If we're lucky, we will win in the sense that we're the last one standing, but that's about it; and this is not good when you've got back channels between America and Russia, America and Germany and the UK, not working. In other words, the chance of this escalating into something completely out of control in the military sense should not be dismissed.

Ronnie Stöferle:

I agree, Alasdair, and it's a frightening situation when your kids ask you if there's a third world war going to start soon. I think you recently tweeted out that Russia's debt to GDP is just under 25%, which is the lowest for the OECD countries. I think the average there is above 110% debt to GDP.

With Russia having its reserves seized at the stroke of a pen, will more central banks choose gold to protect themselves against such counterparty risk?

But what I would like to ask you is, we saw that basically with a stroke of a pen, the West took Russia's FX reserves and made them completely worthless – \$630bn.

Isn't that basically the strongest case for gold for every central bank on the globe that has ever been made? I mean, if you're somewhat critical of the United States and if you, as a central banker, want to avoid counterparty risk, then obviously there are only very few choices left; and I think the primary choice is probably gold.

Gold sits at the top of the money hierarchy and avoids the criminal recovery process in ways that CBDCs and cryptocurrencies cannot.

Alasdair Macleod:

I would agree with that entirely, and the situation is even more alarming than you have just stated, because the point about gold is that it's nobody's liability. You can always use it as money. The fact that we don't use it as money is because we value money more than we value currency, and we probably value currency more than we value a bank deposit account.

In terms of the hierarchy, gold is right up there, and make no mistake about it. Not only that, but legally that is the situation as well, and this is a point people miss. You know the thing about gold is that you can exchange it, you can use it as money, and money escapes the criminal recovery process that you have with any other asset. I mean, if I steal a painting from you, then I have committed a crime. If I pass the painting on to someone else and that person doesn't know it's stolen, you can recover it off that someone else, no compensation required. That is what the law says, and it's common more or less throughout the world. But when it comes to money or currency, **if I steal a gold coin off you and I then go and spend it somewhere, and the person who takes that money takes it in good faith, not realizing that it was stolen, he can pass it on and you can't recover it.**

Gold still has that fundamental difference, which nothing else has, not even CBDCs, not even cryptocurrencies. So, we're talking about the top, the real top, top asset; and this has been brought out very, very clearly by the West's actions against Russia.

Central banks will be motivated to get their gold under their own control to avoid the same fate as Russia.

Large amounts of gold have been leased out by central banks and are not expected to be released back into the market, causing a tightness in the gold market that will damage fiat currencies.

What we are witnessing is not the gold price rising, but the purchasing power of currencies falling.

I would go further than you suggested. Imagine that you're a central bank, you might even be the Austrian National Bank, and you sort of think, "Hold on, I have got x tonnes stored with the Federal Reserve; I have got x tonnes stored with the Bank of England; I think I'd better get that back under my control, because look what they've done." I don't know whether Russia's got any gold in terms of market liquidity in the Bank of England vaults. We're not given that information; but if they have, that's basically been frozen; so every central banker will be saying, you know, we really need to get our gold back under our control; and even if they haven't got storage facilities, they're going to start building them damn quickly. So this was a major move, and I think it will turn out to be a major mistake by the West. I mean, going back to the Second World War, the Bank of International Settlements still operated as a bank, as far as the Nazis were concerned. It took a neutral position, as indeed Switzerland did. But now, none of the central banks that store earmarked gold on behalf of other central banks are taking that position, and it started with the Bank of England, with Venezuela's gold.

We were told by the Americans, don't give Venezuela back its gold; so what did the Bank of England do? It rolled over and said, right, we're not giving Venezuela its gold. This is not the role of a custodian, and we're seeing these fundamental changes, which I think have got unintended consequences way down the line. And there is another thing, Ronnie, and that is, there was an analyst called Frank Veneroso who gave a speech in Lima, back in 2002, concerning gold leases from the central banks. He concluded in that speech that central banks had probably leased out between ten thousand and fifteen thousand tonnes of gold – fourteen thousand, I think, was the exact figure. Which had become the ornamentation of Indian ladies, you know, and the central banks weren't going to get it back. Now, at that time 15,000 tonnes was roughly half the total world central bank gold reserves. I don't know what's happened today; I would hope the situation hasn't deteriorated; but you can be sure there is a lot of gold out there on lease. Now, not even assuming that that gold is gone forever, if it does come back, I don't think central banks are going to be releasing it. **So there's going to be tightness in the market, which is going to do a lot of damage to fiat currencies.** There's an old saying, "The market always wins", and I think that's what we're going to see.

Mark Valek:

That's so fascinating, and I think there's a lot of agreement from Ronnie and myself with you. When we think about this kind of revaluation, which probably will have to happen to some extent, we see it being forced upon by the market, as you just said, perhaps even kind of in a legislated way. **But what do you think would be a price level that would have to be achieved, so that the system could keep on working?**

Alasdair Macleod:

I never give a price target, and for a start, experience has told me that I never get it right. The second thing is that I think looking at it that way is actually looking at it from the wrong end of the telescope. Really, what we're talking about is not the gold price rising but the purchasing power of currencies falling, so really, your question should be, if I may venture to suggest, how far down do you see currencies' purchasing power collapsing? And I can see that, without action, they

will become completely valueless. Coming back to the way you phrased the question, that means an infinite price of gold, which could be the reciprocal of valuelessness in a paper currency. But I don't think it's going to quite get there because, as I said earlier, **I think that nations will be forced to back their currencies with gold.**

It'll have to be done credibly, and the only way to do it credibly is to reintroduce, if they haven't got it at the moment, gold coin, and make that exchangeable for currency notes at the central bank. If you have a stash of Austrian shillings, say, under a new currency arrangement, rather than euros, you can take it to the central bank, and you can say, "I have got a hundred thousand shillings", or whatever the figure is, and "I want coins" in return for it; and the central bank will be obliged to supply those coins to you.

The only way to stabilize the situation is to return to a gold standard.

That I think is the endpoint, and when that happens, I don't know. It's a pain threshold problem; I think it comes to the point where the Keynesians throw in the towel, let's put it that way. On the one hand you've got the Keynesians who are saying, "Oh, this is impossible to understand. We don't understand it, this is completely wrong, stimulate more", or whatever they come up with. And you'll have the politicians and the central bankers who are in the practical situation of finding that their currency is disappearing down the plughole, becoming worthless. How do we stabilize it? I know that we've turned our backs on gold since 1971, or at least the Americans have forced us to do so. But the only way we can stabilize this is to return to gold; and whether that's with gold, say, at a hundred thousand dollars an ounce, a quarter-million dollars an ounce, or ten thousand dollars, I honestly don't know. But I think it's going to be further down the rabbit hole than we would think possible at this moment.

Mark Valek:

I could imagine. I mean, I actually stated that on Twitter a few weeks ago. That, getting back to Russia, that would be a kind of solution for their problem. They have the gold, and they are in the desperate situation of already having very high inflation. If they really would consider such a thing, they would have to go to some kind of real circulation of gold; and as I said, they could do it, and they could also probably do it politically. I'm not an expert on that, but they would have to somehow opt out of the IMF, right? Because the IMF currently is forbidding you to do such a thing; but at this stage, why shouldn't they do that? Also, they've been pushed out of every international organization I can think of. Why shouldn't they leave the IMF? I don't know if that's a realistic option; any thoughts on that?

Alasdair Macleod:

Yeah, I agree with you entirely, and I would go slightly further and say that my information – I can't verify this – is that actually Russia has got a lot more gold than it declares in its reserves. As one of the major producers in the world, I mean, that statement shouldn't be too surprising. Also, we have seen that President Putin is a "gold bug", if I can put in those terms, or appears to be. So yeah, that's certainly possible; but the problem is you have to get over the overwhelming global establishment consensus, and that is that the way to manage an economy is to have the flexibility to be able to increase the amount of currency and credit in the economy as the primary means of managing the economy.

Russia likely has more gold in its reserves than we know. This coupled with relatively low debt and a flat income tax makes a return to the gold standard possible.

Now, if you're going to go the gold standard route, then effectively, you're turning your back on that. You're saying the economy is not the government's affair; it's the private sector's affair and we should, as much as possible, ensure that we don't intervene. So we're talking about a change in the way in which government views its own economy, but let us posit that if the change is accepted in Russia, then they've got the economy which makes this eminently possible. I mean, as Ronnie said earlier, their level of government debt is closer to 20% than 25%, so you've got a government which has got very little debt, as well as an income tax that is a flat tax at 13%. They don't have the respect for property rights that I would like to see, but that could be dealt with.

Russia might drop a bombshell on us and say: "Do you know what? It's not 2,000 tonnes, we've got 5,000 tonnes".

This is an environment, actually, where they can quite easily introduce a working gold coin standard, not just on the back of the existing reserves, but on the back of more reserves which they could declare and that actually could be the next stage. At some stage, **I think Russia might drop a bombshell on us and say: "Do you know what? It's not 2,000 tonnes, we've got 5,000 tonnes", or whatever the figure is. I mean it would work**, because we're not die-hard Keynesians, but the die-hard Keynesians who run the world have a problem and so, incidentally, do the monetarists, because the monetarists are inflationists, as von Mises realized when he spoke to Milton Friedman at the Mont Pelerin Society way back whenever it was, I think it was in the late 1960s, early 1970s.

Ronnie Stöferle:

I just found a great quote by Mises regarding the wishful thinking around unlimited government, and he called it the "Santa Claus principle". I don't know if you're aware of that, but he said:

"An essential point in the social philosophy of interventionism is the existence of the inexhaustible fund, which can be squeezed forever. The whole system of interventionism collapses when this fountain is drained off, the Santa Claus principle liquidates itself."

I think that's a very good summary, basically, of the discussion that we just had. Mark, is there anything else you want to ask Alasdair?

Mark Valek:

Alasdair, I want to say thank you very much for joining us. It was a great pleasure and looking forward to keeping in touch and following your great research on gold money.

These were the highlights of our interview with Alasdair Macleod. The full version is available for download [here](#).

The video of the entire interview, "Stagflation and a New Gold Standard", can be viewed on YouTube [here](#).

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A New International Order Emerges

“The world is breaking into two distinct economic zones: the “empire of the sea”, or the “Western block” of nations; and the “empire of the land”, or “Eastern block”. The former’s currency is based on fiat money, and the latter’s on the emerging tandem of commodities, gold and oil.”

Charles Gave

Key Takeaways

- 2022 marks a turning point for the international monetary system as we turn away from the US dollar toward a multi-currency world.
- The freezing of Russia’s currency reserves is comparable to Richard Nixon’s closing of the gold window in 1971.
- While the war distracts the West, Moscow and Beijing are intensifying their cooperation.
- The Petrodollar is reeling: The relationship between Saudi Arabia and the U.S. has rarely been worse, and China is making tremendous progress in the Middle East.
- What the world’s monetary architecture will look like when the dust settles is unclear. What seems certain is that gold and commodities will rise in importance significantly.

Central banks are starting to question whether reliance on the U.S. dollar is a good idea, since the United States has been extremely trigger-happy when it comes to the use of sanctions and other economic punishments.

Institute for the Analysis of Global Security

We are witnessing the birth of Bretton Woods III – a new world (monetary) order centered around commodity-based currencies in the East that will likely weaken the Eurodollar system and also contribute to inflationary forces in the West.

Zoltan Pozsar

The year 2022 will go down as a turning point in the history of international monetary policy. Russia’s attack on Ukraine and the subsequent sanctions have changed everything. The battlefields are not only to be found on the ground in Ukraine; another war is being waged in the financial markets. We could witness the emergence of a new global monetary order in real time. We have been covering many of these issues in the pages of this report since 2017, and now they have entered the mainstream. The idea of a multi-reserve-currency world, no longer dominated solely by the US dollar is gaining a strong foothold. China and Russia are moving closer together, and the oil-rich state of Saudi Arabia, a pillar of US hegemony, is turning its back on Washington – and flirting intensely with Beijing. The West’s sanctions against Russia are stoking the flames. *In the words of the Wall Street Journal, “If Russian Currency Reserves Aren’t Really Money, the World Is in for a Shock”.*

Europe is once again caught between a rock and a hard place. The role of the euro is more in question than ever. Is it an “instrument of the new European sovereignty”, as former EU Commission chief Jean-Claude Juncker put it? Or is it worthless to the rest of the world because the EU has (so far) gone along with sanctions against Russia? Much in this story is in flux as we write these lines, and many questions remain unanswered. We will therefore take a look at fundamental developments.

At any rate, thanks to its large gold reserves, Europe should at least be well prepared for what is to come. Because what we are seeing here can also be described as the “return of real stuff”, a new monetary world that revolves largely around gold and commodities. It’s something that the Europeans, Russians and Chinese have wanted for many decades, as our timeline will show. Analyst Zoltan Pozsar of Credit Suisse calls this “Bretton Woods III”, but this new system rather deserves a name of its own. Out of the ashes of the gold-backed US dollar and the petrodollar will emerge something completely new, something that no longer has anything to do with Bretton Woods.

The new monetary world order is multipolar – something Jerome Powell confirmed on March 2, 2022, *when he said*, “It’s possible to have more than one major reserve currency”. Powell also emphasized the advantages of the US dollar in the free struggle of monetary forces: legal certainty and an open, deep capital market. No one, not Europe, not Russia, not China, can match that. At least not for now.

But before we can perceive what a new monetary world would look like, we need to understand the past. We need to go back to 1944, to the founding of the Bretton Woods system, and look at how this system, which is now breaking down, developed. We need to delve into what has been happening since Russia invaded Ukraine; because while the Ukraine war is dominating the headlines, there’s a fight going on in the financial system, and what is happening *there* points the way to the future.

We will therefore focus on the history of the monetary system as we know it, on the role of gold and the emergence of the euro; the growing friendship between

Moscow, Beijing and Riyadh; and Russia's adventurous plans to create a new, digital world currency.

What Has Happened So Far: The Long History of US Dollar Dominance

...there are now real concerns around the longevity of the US dollar as a reserve currency.

Goldman Sachs

To understand how we got into this situation, we need to revisit past decades. It's not easy to keep track of everything happening, but if there is one theme that keeps coming up, it is this: The use of the US dollar as a reserve currency is a long-term political problem because it gives the US too much power ("exorbitant privilege"), and it's an economic problem because a national currency is ill-suited as a world currency ([the Triffin dilemma](#)).

The solution to both these problems is to use a neutral reserve asset. This can be of natural origin, such as gold or other commodities, or artificially created, such as the IMF's Special Drawing Rights (SDR). Both variants have been considered time and again and attempts have even been made to implement them in rudimentary form – but so far without success.

The following timeline gives a brief overview.

1940s

Keynes fails at Bretton Woods and the problem takes its course

July 1944: More than 700 delegates from 44 nations meet at the Mount Washington Hotel in Bretton Woods, New Hampshire. Among them: the US, Canada, Australia, Japan, and some European powers. One year before the end of the war, they decide on the world's new monetary order: the first and, so far, only monetary system based on international treaties.

- The US dollar will be pegged to gold, all other currencies will be pegged to the US dollar. This is a variant of a proposal by the British economist John Maynard Keynes – with one small but important difference: Instead of a new, neutral world reserve currency, yet to be created – called "the bancor" by Keynes – the US dollar will play this crucial role.
 - The Bretton Woods Agreement (BW) cements the role of the US dollar as reserve currency and that of US government bonds (Treasuries) as reserve assets. The US dollar is "as good as gold" and will henceforth play the role of gold in the world monetary system.
 - The International Monetary Fund (IMF) and today's World Bank are created as new, international bureaucracies to prop up the BW system.

1945–1959

After the Second World War, Europe's economy is at rock bottom. National currency reserves have been depleted. At the same time, there is a high demand for goods from the US, where the industrial base is intact. The result is a large US trade surplus and an acute shortage of US dollars in Europe.

The U.S. dollar system was founded at Bretton Woods on three pillars: American military supremacy, American financial hegemony, and American economic prowess.

Dan Oliver

- On paper the IMF and the World Bank are responsible for balancing temporary imbalances by way of loans. But the imbalances are structural, and too large. The US therefore initiates the Marshall Plan to rebuild Western Europe and restore it to solvency.
- The reconstruction of Europe is so successful that the US has its first negative trade balance as early as 1950, a trend that will continue and intensify until today.
- The BW system is now running as planned – but this does not eliminate the systemic problems. In fact, they are just getting started.
- Washington starts to export paper money and import real goods. But the printed paper money is backed by US gold reserves, and those begin to shrink rapidly in the 1950s as other countries exchange their US dollars for gold.

1960s

Triffin discovers his dilemma

In the 1960s, economist Robert Triffin warns of the contradictions in the Bretton Woods system. According to Triffin, the use of a national currency as the main international reserve currency will eventually lead to conflict between said country's national needs and those of the world economy. **Triffin predicts that the gold peg of the US dollar will fail.**

- This contradiction was one of the reasons why Keynes had advocated the introduction of a neutral reserve asset at Bretton Woods.
- In response to Triffin, the IMF introduces Special Drawing Rights (SDRs) in 1969. SDRs are a synthetic reserve currency, representing a basket of other currencies.
- Following their introduction, there are many attempts to introduce SDRs as the major international reserve asset and thus replace the US dollar. All attempts fail due to US resistance.

As early as the 1960s, several measures are taken to stabilize the BW system. The main concern is to maintain the fixed gold price ratio of USD 35 per ounce. Anything else would amount to a devaluation of the US dollar.

- To this end, the London Gold Pool is created in November 1961 and charged with manipulating the free gold market in order to depress the price.
- Under the BW system, it is not possible for individuals to exchange US dollars for gold. Private ownership of gold has even been forbidden to US citizens, since 1933.⁴⁶ Only foreign governments and central banks have the possibility to exchange their US dollars for gold.

In Europe, resentment against the Bretton Woods system grows from the 1960s onward. People feel trapped in an unfair system in which Europe's citizens have to subsidize the high standard of living in the United States.

- The French, under former General Charles De Gaulle, are particularly critical of the BW system. France is the nation that most actively exchanges US dollars for gold.

⁴⁶ See "A Brief History of Gold Confiscations," *In Gold We Trust* report 2021

- French Finance Minister Valéry Giscard d'Estaing coins the term *exorbitant privilege* to describe the ability of the US to print money almost at will and receive real goods in return.
- In 1965, De Gaulle warns of a US dollar crisis in a televised speech and makes the case for a return to the gold standard. His words are strongly reminiscent of the criticisms of Keynes and Triffin. De Gaulle maintains that the US dollar cannot be a “neutral and international medium of trade” and is in fact “a credit instrument reserved for only one state”.

In March 1967, the then president of the Deutsche Bundesbank, Karl Blessing, sends a letter to the board of the Federal Reserve. Blessing promises that Germany will not imitate the French and that Bonn will refrain from exchanging its US dollar reserves for gold in the interest of international cooperation. The so-called “[Blessing letter](#)” of March 30, 1967, goes down in history.

- A few years later, in May 1971, [Karl Blessing describes the concession as a mistake](#): “*I declare to you today that I myself feel personally guilty in this area. I should have been more rigorous with America at the time. The dollars that accrued to us should simply have been rigorously exchanged for gold.*”
- [In this interview](#), Blessing also outlines what the euro should eventually be: a European central bank, independent of the nation states, with clear rules and a hard currency: “*There is no doubt that, if we really had the political will in the EEC, we could form a hard currency bloc whose rates could then fluctuate against the dollar. That would have taken us away from the US dollar standard, which we have today. After all, we practically have the dollar standard.*”
- At the end of 1970, the “Werner Report”, named after Pierre Werner, Prime Minister of Luxembourg, is published. It is the first real plan on the part of Europe to create an economic union within a decade and is regarded as the starting signal for efforts to create a common currency.

1970s

In early August 1971, France under De Gaulle sends a warship to New York to pick up physical gold that France was to receive in return for its US dollars.

The Nixon shock and the birth of the petrodollar

On August 15, 1971, US President Richard Nixon ends the Bretton Woods monetary system after a quarter-century. He cancels the gold peg of the US dollar. At first, this is merely “temporary” and is intended to “strengthen” the US economy. At this point, the US has “only” about 8,000 tonnes of gold in its reserves.

- Europeans are shocked at the unilateral decision. Instead of giving up the “exorbitant privilege” and moving the world to a neutral reserve asset, the US continues to expand its privilege. Starting in 1971, Washington no longer has to fear losing gold when printing money.
- The 1970s see high inflation rates and two oil shocks. The production of US oil reaches its temporary peak at the end of the 1960s, and the Arab oil countries see Nixon’s move as a devaluation of the US dollar. Prices rise and crises break out in the Arab region. For the first time, Western industrialized countries have to deal with oil shortages.

It wasn't the gold standard that failed; it was politics.

Alan Greenspan

We are the Saudi Arabia of dollars.

Luke Gromen

In effect, there is nothing inherently wrong with fiat money, provided we get perfect authority and godlike intelligence for kings.

Aristotle

- In 1972, US President Richard Nixon visits communist China, marking a turning point in relations between the two countries. Nixon spends seven days in China. This signals the start of a new form of cooperation that will jumpstart China's economic development.

In July 1974, newly appointed US Treasury Secretary William Simon flies to Saudi Arabia. The first oil crisis has hit the United States. Simon has previously served as Nixon's energy expert and before that headed Treasury trading at Salomon Brothers. He is a proven expert on the oil and bond markets.

- At these meetings, a deal is negotiated that is to have a massive impact for decades to come. In return for military and political support, Saudi Arabia agrees to recycle its petrodollars into US Treasuries.
- The petrodollar is born. From this point on, the world's reserve currency, the US dollar, is no longer backed by gold but by "black gold". From then on, all countries must hold large reserves of the US currency to pay their energy bills.

The end of the 1970s and the Volcker shock

In 1976, the Bretton Woods system is formally buried by the Jamaica Accords. In the early 1980s, all developed countries allow their currencies to fluctuate. For the first time in history, the whole world is on a pure paper money standard, with one exception: Switzerland formally keeps the franc pegged to gold until 1999.

- In 1979, the US dollar is under tremendous pressure due to the persistently high inflation of recent years. In August of that year, Paul Volcker takes over as head of the Federal Reserve.
- In March 1979, the European Monetary System is created. For the first time, all exchange rates of the participating countries are linked to each other by means of the European currency unit (ECU). This later becomes the euro.
- That summer, core inflation in the US reaches 12%. The gold, silver and commodity markets react sensitively and prices shoot up, which makes the Federal Reserve under Volcker nervous.
- In October 1979, politicians and central bankers of the West meet at an IMF gathering in Belgrade. In the United States, the White House has long since declared the fight against inflation a "national priority". In Belgrade, Paul Volcker seeks the advice of the Europeans, consulting with German Chancellor Helmut Schmidt and Bundesbank Chairman Otmar Emminger, among others.

"In Belgrade ... it became obvious to Volcker that a collapse of the US dollar was a very real possibility, perhaps leading to a financial crisis and pressure to remonetize gold, which the United States had fought doggedly for over a decade. To forestall this, there was only one possible course of action: do whatever was necessary to strengthen the dollar."⁴⁷

Volcker cuts his trip abroad short and [returns to Washington prematurely on October 2](#): *"With his ears still resonating with strongly stated European recommendations for stern action to stem severe dollar weakness on exchange markets."*

⁴⁷ Moffitt, Michael: *World's Money*, 1983, p. 196

- He organizes a secret Federal Reserve meeting on Saturday, October 6, 1979.
- Volcker prevails, setting the stage for a general change of course within the Federal Reserve. Controlling money supply growth should be the most important tool in the fight against inflation in the future. The reserve requirements for banks are tightened.
- In 1979, annual inflation in the US rises to 14%. In the following year, the gold price was to peak at around USD 850. At the beginning of 1981, short-term interest rates would peak at around 20%. Volcker would succeed in stopping inflation - at the expense of the US economy, which slides into recession.

1980s

The stability of the 1980s

In the 1980s, the system stabilized. The Europeans, however, have by now long been working on their own currency, which should make them independent of the US dollar system. The advocates of the SDRs and the IMF were not idle either. In 1984, economist Richard Cooper proposes a global single currency - with a common monetary policy and a common central bank. The US, Europe and Japan are to be the first nations to join.



Photo credit: www.coverbrowser.com

“Get ready for a world currency” – This was the headline of “The Economist” on January 9, 1988. In the article, the creation of a global monetary union is suggested. In this vision the IMF is to assume the role of the world central bank and its SDRs the role of the world currency. In the description, it is striking that the envisaged construction strongly resembles that of the later Euro area: A system whose rules must be followed by all participating states. *The Economist* calls the new currency *phoenix* and predicts its introduction by 2018.

“Each country could use taxes and public spending to offset temporary falls in demand, but it would have to borrow rather than print money to finance its budget deficit. With no recourse to the inflation tax, governments and their creditors would be forced to judge their borrowing and lending plans more carefully than they do today.”

1990s

The introduction of the euro

In December 1995, the EU states agree on a name for the common currency: the euro. On January 1, 1999, the euro is introduced. Gold plays an important role for the new currency from the very beginning. But under the first ECB president, Wim Duisenberg, the euro is not pegged to gold as the US dollar was under the Bretton Woods system.

Instead, gold is treated anew on the Eurosystem’s balance sheet as an independent asset, separate from the currency. Gold is listed on the first line on the ECB’s balance sheet. Four times a year, the value of the reserves is adjusted to the market value. This turns the monetary world upside down.

- A rising gold price is good for the euro because it strengthens the balance sheet. At the same time, it is a signal to EU citizens, who have free access to physical gold, that if the central bank’s management doesn’t suit them, they can save in hard, neutral “money”: gold.

It is no coincidence that the century of total war coincided with the century of central banking.

Ron Paul

The focus of policy in China is no longer creating jobs at any cost...The new focus in China is de-dollarizing at any cost.

Louis Gave

- This system of market valuation of gold has now also been adopted by the central banks of Russia and China, but not by the US.
- To safeguard this system, the **purchase and sale of "investment gold" is exempted from VAT throughout the EU** in October 1998.
- On September 26, 1999, a group of European central banks sign the first **Central Bank Gold Agreement (CBGA)**. The aim: to reassure the market that they will curb their gold sales in the future. The gold price finds its bottom in the coming years and eventually starts to rise.
- Because the UK is still selling about 400 tonnes of gold at rock-bottom prices after the CBGA is signed under then-Chancellor of the Exchequer Gordon Brown, the period between 1999 and 2002 is today nicknamed the "Brown Bottom".

2000s

The fact that the euro is also intended as an energy and reserve currency from the very beginning is never concealed by EU politicians. Even before the introduction of euro cash on January 1, 2002, the new currency is causing a stir. In November 2000, Iraq's President Saddam Hussein decides to switch from using US dollars to euros in the oil trade. The US protests loudly and warns Hussein against this step.

- In February 2003, it is clear: Iraq has made an economically good decision by switching to the euro; the warnings from the US were all wrong. The euro exchange rate has risen significantly over the past three years, and interest rates are also higher than on US dollar accounts.
- In March 2003, the US attacks Iraq. Saddam Hussein is overthrown, and the oil trade is switched back to US dollars. Germany and France are among the biggest opponents of the invasion and refuse to support the US.

The financial crisis and its consequences

In the wake of the great financial crisis and the Lehman bankruptcy, concerns grow again that the US dollar system may have reached its end.

In March 2009, the head of the People's Bank of China (PBoC), Zhou Xiaochuan, speaks out for the first time. **In a remarkable speech** at the Bank for International Settlements (BIS), he calls for a move away from the US dollar and the establishment of a new monetary system. China's central bank chief makes direct reference to the entire monetary history since 1944 and quotes Keynes and his bancor idea.

In November 2009, legendary journalist Robert Fisk reports on an agreement among China, Russia, Japan, the Arab world, and France (i.e., the euro area) to move away from the US dollar-based system.

"In the most profound financial change in recent Middle East history, Gulf Arabs are planning – along with China, Russia, Japan and France – to end dollar dealings for oil, moving instead to a basket of currencies including the Japanese yen and Chinese yuan, the euro, gold and a new, unified currency planned for nations in the Gulf Cooperation Council, including Saudi Arabia, Abu Dhabi, Kuwait and Qatar. 'These plans will change the face of international financial transactions,' one Chinese banker said. America and Britain must be very worried. You will know how worried by the thunder of denials this news will generate."

Russia is just a gas station masquerading as a country.

John McCain

As American power continues to ebb, the dollar will become increasingly unable to rely on geopolitical support.

Dan Oliver

2010s

In November 2010, Vladimir Putin says that Russia will one day join the euro or form a monetary union with Europe.

Also in November 2010, World Bank President Robert Zoellick advocates gold as the “reference point” for a new monetary order.

In February 2011, then IMF chief Dominique Strauss Kahn proposes replacing the US dollar as the world reserve currency with SDRs. He is arrested in New York in May 2011 and resigns as IMF head. The charges against him are dropped by the public prosecutor’s office after several months.

The PBoC announces in November 2013 that it is no longer in China’s interest to expand its reserves of US government bonds.

On July 5, 2014, the then-CEO of the European oil company Total, Christophe de Margerie, speaks out in favor of using the euro in oil trading. On October 21, 2014, de Margerie dies in an accident at Moscow airport. The Total CEO was on his way back from a meeting with Russian Prime Minister Dmitry Medvedev. De Margerie was considered a friend of Russia and a critic of the sanctions imposed on Russia by the West at the time, because of the annexation of Crimea. His private jet had collided with a snowplow. An investigation concludes that the driver of the snowplow was drunk.

Russia and China sign a gas deal in May 2014 that is described as the “holy grail”. It is negotiated for 10 years and is to extend over 30 years.

September 2014: China launches an international gold board in Shanghai, denominating the price of gold in yuan to increase international participation in the Chinese gold market.

Luxembourg central banker and ECB director Yves Mersch says in November 2014 that the ECB “could buy gold to stimulate the economy”. It is the clearest signal yet that euro area central banks are no longer on the sell side of gold.

In his last major speech as EU Commission chief at the end of 2018, Jean-Claude Juncker directly addresses the international role of the euro, saying it needs to be strengthened and calling EU energy trading in US dollars “absurd”. His speech is entitled “The Hour of European Sovereignty”.

2020s

From 2018 to 2022, many bilateral steps will occur between countries such as China, Russia, Iran, Saudi Arabia, and the Europeans. Trade is often switched to national currencies. **But one thing never happens: another global currency conference.**

Instead, the monetary system is redone by political action – such as the freezing of Russian US dollar and euro currency reserves following Russia’s attack on Ukraine in spring 2022.

When money is weaponized

The West's freezing of Russian gold and foreign exchange reserves marks the biggest upheaval in the international monetary system since the Nixon shock of 1971 and the subsequent shift from a US dollar-based gold-forex standard to a system of flexible exchange rates with the unfunded fiat US dollar as the anchor.

"This is a major break in the international monetary order created by Bretton Woods II. The sanctions create de facto a new order in which central bank reserves are now worth only as much as the dominant reserve currencies issuing them want them to be."

Can it be supposed that one day Russia will be in some joint currency zone with Europe? Yes, quite possible... We should move away from the excessive monopoly of the dollar as the only global reserve currency.

Vladimir Putin

A country's currency reserves serve as its piggy bank for difficult times.

Russia has played a special role in the process of de-dollarization long before the war in Ukraine. Among the world's powerful, Vladimir Putin has always been the one who has most clearly opposed the supremacy of the US dollar. In particular, the fact that the US uses the world currency as a tool for sanctions has always been a thorn in his side. Thus, Putin said in 2019: "The United States started using dollar settlements as a tool in the political struggle for some purpose, imposing restrictions on dollar use and cutting the branch they are sitting on, but they will fall with a crash soon".

In the summer of 2021, Putin had another warning ready for Washington, a warning based on his own experience with the fall of the Soviet Union: "The problem with empires is that they think they can afford small errors and mistakes.... There comes a time when they can no longer be dealt with. And the US ... is walking straight along the path of the Soviet Union".

Clear words, which, however, did not land on open ears. Following Putin's attack on Ukraine, the monetary system has become a theater of war. *The Financial Times* also writes about the West's sanctions against Moscow:

"The plan agreed by Yellen and Draghi to freeze a large part of Moscow's \$643bn of foreign currency reserves was something very different: they were effectively declaring financial war on Russia.... This is a very new kind of war – the weaponization of the US dollar and other Western currencies to punish their adversaries."

I took a course in speed reading, learning to read straight down the middle of the page, and I was able to go through War and Peace in 20 minutes. It's about Russia.

Woody Allen

In recent years, Russia has massively shifted its reserves from US dollars to euros. The Russian Central Bank now holds only about 7% of its reserves in US dollars. The fact that Moscow concluded a major gas deal with Beijing in euros, just a few weeks before the invasion, is also an indication that Putin did not expect his euro reserves to be sanctioned. After all, it has long been a goal of the EU to use the euro to make itself independent of the dominance of the US dollar.

That is a goal that now seems far away, as Europe has clearly sided with Washington on the Russia issue – at least so far.

The Western sanctions affect around two-thirds of Russia's currency reserves. The reserves have not disappeared, but Moscow currently has no access. Importantly, the sanctions do not affect the flow of US dollars and euros to Russia at this time. The EU has also not yet imposed an energy embargo. Instead, a complicated construct has been agreed upon in which EU states deposit euros into an account at Gazprombank, euros that **Russia then converts to rubles.**

Still, the sanctioning of reserves is a huge step with huge consequences. The West has “closed the FX window”, in the words of our friend Luke Gromen – who is referring directly to the closing of the gold window by US President Richard Nixon in 1971. **Well-known economist Kenneth Rogoff takes a similar view:**

“It’s an absolutely radical measure to try to freeze assets at a major central bank. It’s a break-the-glass moment.... If you want to look at the long-run picture of dollar dominance in the global economy, believe me, China’s looking at this. They have, I don’t know, \$3 trillion in dollar reserves.”

And China is not the only country where a rethink is now taking place. Louis-Vincent Gave puts himself in the head of rich Saudis:

“Is it too much of a stretch to imagine Western governments in a few years’ time deciding that fossil fuel producers must pay for climate-change-induced damage, leading to Saudi royals facing asset confiscation? To be clear, I am not saying this will happen. Yet if I was a Saudi prince, a few weeks ago I would not have worried about having my Swiss bank account closed; today I would be hedging myself. Previously, such wealthy investors could own assets in the US or Western Europe in the knowledge that while returns on capital may be lousy, at least the return of that capital was assured. If such certitude no longer exists, what is the point of earning US dollars or euros?”

Like Russia, Saudi Arabia is an oil state with an authoritarian ruling structure. As we will show later, their relations with the US are in tatters. It can therefore be assumed that the royal family in Riyadh is following all sanction steps very closely.

Here are Russian President Vladimir Putin’s clear words on sanctions:

“The illegitimate freezing of some of the currency reserves of the Bank of Russia marks the end of the reliability of so-called first-class assets. In fact, the US and the EU have defaulted on their obligations to Russia.... Now everybody knows that financial reserves can simply be stolen. And many countries in the immediate future may begin – I am sure this is what will happen – to convert their paper and digital assets into real reserves of raw materials, land, food, gold.”

This is a strategy that China, for example, has been implementing for a long time. **The Middle Kingdom is sitting on large quantities of industrial and agricultural raw materials.** For many years, they have been buying up land, assets and raw material deposits all over the world. The Greek port of Piraeus is only the most famous example. Putin may talk about the future, but he knows full well that the development described has long since begun.

Now, we have certainly pointed out more than once in the past that gold has no counterparty risk as long as you keep it yourself – and in physical form. Our friend Douglas Pollitt comments on this as follows:

“Who knew credit-based money was so easy to take? But of course it is – by its very nature credit requires a counterparty and if that counterparty chooses not to honor your credit, well, that’s about that. By contrast gold is a ‘credit’ with no one on the other side to rug-pull you.”

Gas is just the beginning...If they want to buy, let them pay either in hard currency...gold, or in currencies that are convenient for us...the national currency. The set of currencies may vary...

Pavel Zalvany, Head of the Russian Energy Committee

The repatriation of gold reserves of the Germans, Austrians and Dutch in 2015 to 2018 suddenly appear in a completely different light. Russia holds around 20% of its reserves in gold and that gold is located exclusively in Russia. Moscow has also made no moves to sell this gold so far. Nevertheless, **the West is trying to block this part of the reserves as well** and is banning trade in Russian gold everywhere possible: in the countries of the G7 and the EU. Admittedly, no one can really prevent Russia from using gold as currency in trade with, say, China, India, or other countries that do not want to comply with Western sanctions.

At the beginning of the crisis **it was speculated** that Russia might be forced to sell their gold. They decided to take a different path.

We’re witnessing a shift towards commodity money among a more fragmented system of currencies moving across disintermediated payment infrastructure. Emerging economies, particularly those removed from global politics, are postured as the first movers towards this shift.

Eric Yakes

Putin’s golden move

Much has been written about Vladimir Putin’s gold plans. Russia has been increasing its gold reserves for years – not without reason. But no one really expected Putin’s next move. Instead of selling gold, the Kremlin set a fixed buying rate for gold at the end of March: 5,000 rubles for a gram of gold. At the same time, they announced that they would only accept rubles for gas deliveries (and later for other commodities).

The combination of these two steps led to a de facto link between gas and gold, which was intended to stabilize and appreciate the ruble. It worked. And it worked so well that the Russian Central Bank lifted the fixed price on April 8. **It did not, however, stop buying gold per se, but said it would “negotiate” prices in the future.**

Three days after the central bank announced it would buy gold from local banks and producers for rubles, Putin’s gas-for-rubles policy came into play. Here, the impact of Western sanctions is directly observable. Russia has no interest in receiving US dollars or euros when they can be frozen immediately. Russian companies are now also required by law to exchange at least 80 percent of the foreign currency they receive into rubles. **Putin’s announcement reads as follows:**

“I would like to stress once again that in a situation where the financial system of Western countries is used as a weapon, when companies from these states refuse to fulfill contracts with Russian banks, enterprises, individuals, when assets in dollars and euros are frozen, it makes no sense to use the currencies of these countries.

In fact, what's going on, what's already happened? We supplied European consumers with our resources, in this case gas, and they received it, paid us in euros, which they then froze themselves. In this regard, there is every reason to believe that we have supplied part of the gas supplied to Europe virtually free of charge."

At the beginning of April, Kremlin spokesman Dmitry Peskov spoke out. He said that the gas-ruble deal was only the "prototype" and that the model would soon be extended to other export goods. He called the blocking of Russian currency reserves by the West a "robbery".

The US are living like parasites off the global economy and their monopoly of the dollar...if over there (in America) there is a systemic malfunction, this will affect everyone.

Vladimir Putin

What are the long-term goals of this policy? **Peskov leaves no doubt about it: The Kremlin wants a new world monetary system to finally replace the last remnants of Bretton Woods:** "It is obvious – even if this is currently a distant prospect – that we will come to some new system, different from the Bretton Woods system".

What followed Putin's announcement was European political theater. The EU countries understandably could not accept suddenly switching to rubles. And while much of the debate in the media revolved around an oil and gas embargo against Russia, German Chancellor Olaf Scholz had to ask Putin to at least continue to accept euros. Putin relented, but not completely.

Europe may continue to pay in euros, Putin said, but the money must flow into a specific account at Gazprombank. This is conveniently exempt from the sanctions, a circumstance that the new deal cements. Since the beginning of April, the gas trade between Europe and Russia has looked like this: Russia allows the gas to continue flowing in exchange for euros or US dollars paid to Gazprombank. The bank then exchanges the money for rubles – the euros concerned are exempt from the sanctions. However, the debt is not discharged until the ruble amount is credited to the seller's account.

That way, both sides can save face. German Chancellor Olaf Scholz and the other EU heads of government can claim that they will continue to insist on payment in euros. Putin can say that he will exchange the money for rubles immediately. And despite the official hostility, both sides are de facto working to change the currency system and end US dollar dominance – a goal Europe and Russia have shared for many decades.

Today, Russia basically does not care in which currency payment is made – as long as this currency is convertible into gold and/or rubles. After the deal with Scholz, this is only not the case for the US dollar: Russia has now opened up the energy market for all other currencies. This is a big step.

Fear provides the catalyst for common sense.

Vladimir Putin

No one has explained it better than Pavel Zavalny, a Russian politician and chairman of the Duma's energy committee. "*Hard money,*" he said recently, "*is only gold for Russia. Friendly nations (and Europe) may also pay in national currencies*". **Only one currency is not accepted, Zavalny said:** "*The dollar ceases to be a means of payment for us, it has lost all interest for us.*" And Zavalny added

that from the Russians' point of view, the US dollar is worth no more than "candy wrappers."

In this interview, Zavalny even showed a willingness to accept Bitcoin for gas, a detail that was heavily emphasized in global coverage of the story. One gets the impression, however, that the Russians were primarily concerned with one central point. Something along the lines of: If that's what our friends want, they can pay however they want, even in Bitcoin. However, states classified as hostile, such as the EU states and the US, will only be able to pay in rubles or gold.

A crisis is unfolding. A crisis of commodities. Commodities are collateral, and collateral is money, and this crisis is about the rising allure of outside money over inside money. Bretton Woods II was built on inside money, and its foundations crumbled a week ago when the G7 seized Russia's FX reserves.

Zoltan Pozsar

Zoltan Pozsar's vision: Bretton Woods 3.0

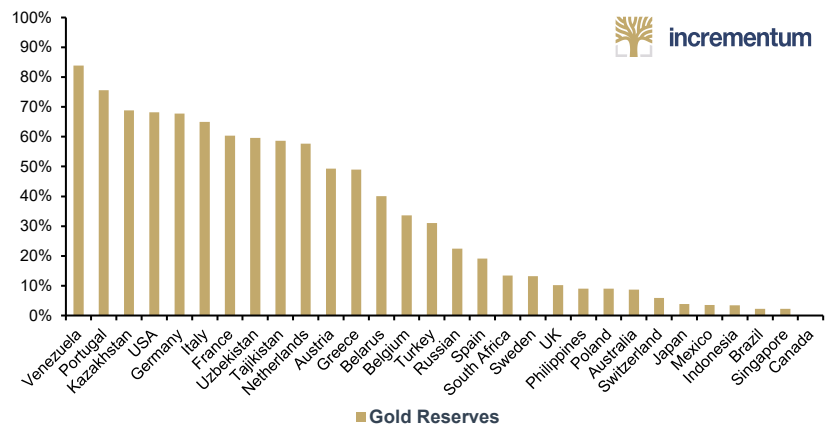
No one in the financial and mainstream media has taken a closer look at these developments than Zoltan Pozsar, an analyst at Credit Suisse.

Similar to our friend Luke Gromen, who speaks of the "closing of the FX window," Pozsar also sees the freezing of Russian currency reserves as a rupture in the international currency system. After Bretton Woods, i.e., the US dollar-gold peg from 1944, and Bretton Woods 2, i.e., the petrodollar/eurodollar standard from 1971, he sees Bretton-Woods III dawning with the war of 2022. **Bretton Woods III, Pozsar says,** will be dominated by more nationalism and protectionism, by higher military budgets and a much greater focus on real assets like gold or commodities, and by inflation – at least in the West: *"This crisis is not like anything we have seen since President Nixon took the US dollar off gold in 1971 – the end of the era of commodity-based money."* **And Pozsar continues:** *"When this crisis (and war) is over, the US dollar should be much weaker and, on the flipside, the renminbi much stronger, backed by a basket of commodities."* **Finally, he sums up,** *"After this war is over, 'money' will never be the same again."*

What is striking in view of the sanctions and this new phase of realpolitik is that Western Europe seems to be in a good position – especially when it comes to gold. With more than 12,000 tonnes, the euro area holds the largest gold reserves in the world. The US still has around 8,000 tonnes. And if you look at the importance of gold reserves relative to other currency reserves, the picture is also clear.

Countries such as Germany (66%), Italy (63%) and France (58%) are well prepared for a world in which commodities act as currency anchors, even if they can hardly boast any domestic commodity production themselves. Portugal, the Netherlands and Austria are also betting on gold, along with the "Stan" states: Kazakhstan, Uzbekistan and Tajikistan.

Gold Reserves, in % of Total Reserves, Q1/2022



Source: World Gold Council, Incrementum AG

Russia and China are building an alliance – and a new world currency

No matter how the international landscape may change, China will continue to strengthen strategic coordination with Russia.

Le Yucheng,
Chinese Vice Foreign
Minister

The fact that the Eurasian Economic Union (EAEU) is working together with China on a “new global monetary system” would have been a sensation a year ago. Even more so, since none other than the influential economist and politician Sergey Glazyev is pushing this plan. Today, after the collapse of cooperation between the West and the East, news of a new monetary system is hardly surprising. But it is relevant nonetheless, as these plans also reveal much about the growing cooperation between Moscow and Beijing. They also fit Zoltan Pozsar’s vision of the monetary future.

On March 11, a videoconference of representatives of China and the Eurasian Economic Union (read: Russia) agreed to plan an “independent international monetary and financial system”.

“As a result of the discussion, it was decided to develop a project for an independent international monetary and financial system. It is assumed that it will be based on a new international currency, which will be calculated as an index of the national currencies of the participating countries and commodity prices.”

In an interview with the Russia-friendly journalist Pepe Escobar, Sergey Glazyev elaborates on how he envisions this financial and monetary system of the future. He outlines the formation of an Eastern IMF that would operate completely independently of the current system. At its core is to be a new, synthetic currency backed by both national currencies and commodities. This resembles **a practical implementation of the system outlined by Zoltan Pozsar on the basis of purely economic considerations.**

With food you control people, with oil you control nations, and with money you control the world.

Henry Kissinger

Glazyev expects the “imminent disintegration” of the US dollar-based global financial system, which will rob the US of its power base. This would be the final step in a development that has been underway for 30 years. In Glazyev’s timeline, this transition to a new global economic order already began with the end of the Soviet Union. The US hegemony in the monetary system will be replaced by a combination of the systems that have been established in China and India in recent decades. Glazyev speaks of a “combination of the advantages of centralized planning and a market economy.”

Glazyev describes three phases of the transition. In phase one, many nations would revert to their own currencies in international trade. This is a trend that we have not only seen since the war in Ukraine.

“This phase is almost over: after Russia’s reserves in dollars, euro, pound, and yen were ‘frozen’, it is unlikely that any sovereign country will continue accumulating reserves in these currencies. Their immediate replacement is national currencies and gold.”

The second step is to create pricing mechanisms that do not require the use of the US dollar. This is also a development we have been seeing for some years, for example in China, where gold and oil are now priced in yuan. But the yuan will not become the direct successor to the US dollar, says Glazyev, because it is not convertible and Chinese capital markets are partly closed to outsiders.

Gold could not take on this role, either, as it is too impractical as a means of payment. Therefore, something new is needed: a “new digital payment currency”.

This is the third step:

“The third and the final stage on the new economic order transition will involve the creation of a new digital payment currency founded through an international agreement based on principles of transparency, fairness, goodwill, and efficiency. I expect that the model of such a monetary unit that we developed will play its role at this stage. A currency like this can be issued by a pool of currency reserves of BRICS countries, which all interested countries will be able to join.”

Given gold's historic store of value as a currency, it's easy to see how this could be a sought-after asset in the years ahead. In a modern twist, the appeal of alternative digital currencies may also build.

Deutsche Bank

At first glance, the plan resembles that of the West, based on the Special Drawing Rights that were created in the 1960s as a neutral reserve asset, based on a currency basket. With one difference: The currency basket of the East will also include a “price index” of important commodities, according to the Russian economist and politician: gold, industrial metals, oil & gas, grain, sugar – and even water.

Every country in the world should be able to participate in the new system. At the same time, debts accrued in the old system could be declared null and void if one wanted to – a process that Glazyev already observes and that poses a further threat to the US dollar system.

It is important to note, however, that this plan is probably not currently being implemented in the way Glazyev envisions. He sees the Russian Central Bank as

still being under the influence of the West. It will take time for Russia's blocking of US dollar reserves to convince other countries that a new system is needed, Glazyev says.

But he is not fighting alone. In an interview at the end of April, for example, the powerful former intelligence chief, Nikolai Patrushev, reported that a group of experts was already working on covering the ruble with gold and raw materials. In doing so, Patrushev, a close ally of Vladimir Putin, provides insight into Russia's specific plans. To create an independent monetary system, there must be a way to anchor the value of the currency – without “tying” it to the US dollar, Patrushev says.

The castle gates will always open for gold-laden donkeys.

Russian Proverb

This point is important, because it is not just about power games and the conflict between West and East, but about basic economics. To truly break away from the US dollar, a new reference point is needed, i.e. gold and commodities, because Russia's true wealth is stored in oil and gas. Patrushev comments on this as follows:

“The West has unilaterally appropriated an intellectual monopoly on the optimal structure of society and has been using it for decades.... We are not opposed to a market economy and participation in global production chains, but we are clearly aware that the West allows other countries to be its partner only when it is profitable for itself. Therefore, the most important condition for ensuring Russia's economic security is to rely on the country's internal potential, a structural adjustment of the national economy on a modern technological basis.”

China is not seen to play an active role in Patrushev's remarks, but the geopolitical route is clear: **“Russia is moving from the European market to the African, Asian and Latin American markets.”** Russia would strengthen its cooperation with the other BRICS countries, i.e., Brazil, India, China and South Africa, and the Shanghai Cooperation Organization (SCO), where India and Pakistan as well as four other countries are involved in addition to China and Russia. The Eurasian Economic Union would receive the most attention, Patrushev says. This is also the vehicle that Sergey Glazyev sees at the heart of the new system.



Source: Russiabriefing.com

To go fast, go alone, to go far, go together.

Chinese proverb

A pact against the West

Alongside Russia, China is always looking for ways to circumvent the US dollar. In doing so, the two countries have been making common cause for years. This trend has intensified tremendously in 2022. The relationship between Moscow and Beijing seems to have never been better. The common enemy: the Western monetary system. **As early as February, Russia announced** that it would no longer use the US currency for exports to China at all.

In the run-up to the Beijing Olympics, **Russia and China also concluded a new, huge gas deal.** The euro was chosen as the settlement currency. A clear signal to the EU: Russia and China want to drop the US dollar, but would have no problem with the euro. However, this deal came about before the war and the sanctions against the Russians' euro reserves.

And that's not all. In early February, shortly before Putin's invasion of Ukraine, Russia and China concluded their largest friendship treaty ever. It is not a formal alliance – for such are fundamentally rejected by China – but it is a pact against America and the West. It is a document that historians might regard as the beginning of a new Cold War, a view also held in the West.

Thus writes the New Yorker:

“Agreements between Moscow and Beijing, including the Treaty of Friendship of 2001, have traditionally been laden with lofty, if vague, rhetoric that faded into forgotten history. But the new and detailed five-thousand-word agreement is more than a collection of the usual tropes, Robert Daly, the director of the Kissinger Institute on China and the United States, at the Wilson Center, in Washington, told me. Although it falls short of a formal alliance, like NATO, the agreement reflects a more elaborate show of

solidarity than any time in the past. "This is a pledge to stand shoulder to shoulder against America and the West, ideologically as well as militarily," Daly said. "This statement might be looked back on as the beginning of Cold War Two."

It has been 14 years since the financial crisis triggered by the US real estate market. Even then, in 2008, when Beijing hosted the Summer Olympic Games, Putin arrived as a guest with a hefty proposal, as then-US Treasury Secretary Hank Paulson describes in his book:

"Putin's proposal was that Russia and China attack the US economically by selling massive amounts of US bonds issued by mortgage lenders Fannie Mae and Freddie Mac, to trigger a huge financial crisis and bring the common enemy to its knees."

China refused at the time, but the Ukraine war and the new pact between Russia and China have changed everything. The friendship between the Russians and Chinese has certainly never been as solid as it is today. Putin and Xi refer to the relationship as a "partnership without limits." In other words, no area of foreign security or economic policy is left out. The Europeans had to experience what this means at a virtual summit with China in early April. Again, Xi backed his ally Putin by deciding to do nothing. Officially, this was a big disappointment for the Europeans, who had hoped that Beijing would put pressure on Moscow.

EU representatives under Josep Borrell had hoped that Xi would take advantage of his good relationship with Putin to get him to negotiate peace with Ukraine. Nothing of the sort happened. China did nothing at all, signaling support for Russia in the Ukraine crisis. Borrell later called the EU-China parley a "dialogue of the deaf." A month later, Beijing is clearly showing where its loyalties lie, even calling the friendship pact with Russia a "new model of international relations."

Because, like Russia, China has much to gain in a world that is no longer dominated by the dollar. That's why Beijing is also lobbying heavily in Saudi Arabia, the US's most important ally in the Middle East; and China's chances have never been better.

Xi and MBS – Pretty Much Best Friends

Nations have no permanent friends or allies, they only have permanent interests.

Lord Palmerston

Only a few weeks after the Russian invasion of Ukraine, an invitation was sent from Riyadh to Beijing: President Xi Jinping should pay a visit to the kingdom. It was the clearest signal yet from Saudi Arabia that the oil state is turning eastward. The relationship with their traditional ally, the United States, has been in tatters for some time. This is most evident at the personal level. Crown Prince Mohammed bin Salman (MBS) had gotten along well with former President Donald Trump. Trump flew to Riyadh on his very first trip abroad and was received with much fanfare. It's an honor the Saudis now want to bestow on the Chinese president.

The Wall Street Journal quotes a Saudi official: “The crown prince and Xi are close friends and both understand that there is huge potential for stronger ties. It is not just “They buy oil from us and we buy weapons from them.”

People are saying, "Oh my God, Saudi Arabia has changed." It's a contradiction. Do you want us to lead, or do you want us to play a supporting role?

Adel al-Jubeir

The young crown prince is not on friendly terms with US President Joe Biden. Virtually every article about the rapprochement between the Saudis and the Chinese mentions how difficult the relationship between Riyadh and Washington is. Biden was vice president under Barack Obama, who actively turned his back on Saudi Arabia and struck the Iran nuclear deal. That deal was important to China, Russia and Europe – and was later rescinded by Trump.

Biden holds MBS responsible for the murder of journalist Jamal Khashoggi. He also refuses to treat MBS as a political equal to the US president. The official head of state remains King Faisal, MBS's father. *In a long interview with US magazine The Atlantic, MBS makes it clear* where this American strategy is driving him: eastward, toward the Chinese: “*Where is the potential in the world today? It's in Saudi Arabia. And if you want to miss it, I believe other people in the East are going to be super happy.*”

After the start of the war in Ukraine, the White House may have suddenly changed its position. *Thus, the Wall Street Journal reported an attempt to contact MBS.* But the crown prince refused to take a call from Joe Biden. And Sheikh Mohammed bin Zayed, the ruler of the United Arab Emirates, also declined to talk to Biden.

All concepts of politics, of whatever kind, are about conflict—how to contain it, or abolish it.

Ralph Miliband

The Gulf states are indignant about the lack of support for Saudi Arabia's war in Yemen and the resumption of negotiations with Iran under Biden. The rulers of the oil states, however, had no qualms about holding telephone conversations with Russian President Vladimir Putin. The tensions between Washington and the Arab world cannot be illustrated much more clearly.

There are no such tensions with China. MBS and Xi are “good friends”. Saudi Arabia is also a central pillar of China's Belt and Road Initiative and in the top three when it comes to Chinese construction projects abroad. Here, the Chinese renminbi is also already involved as a currency.

All of this is important. After all, Saudi Arabia has always been the US's central ally in the Middle East and was the decisive factor in establishing the petrodollar system. However, China has long been the oil state's largest customer. To date, about 80 percent of the global oil market has been transacted in US dollars, and Saudi Arabia has probably been the decisive factor – for decades. But Beijing wants to finally switch the oil trade to the renminbi.

Some 25 percent of Saudi oil exports already go to China, and never have we been closer to a switch to renminbi than in 2022. Russia's attack, sanctions, and Moscow's response have shaken up international trade in energy and currencies. Ahead of Xi's possible visit in May, *Saudi Arabia again signaled a willingness to accept yuan (renminbi) soon.*

Negotiations in this regard have been ongoing since 2016. In 2019, Saudi Aramco, the state oil company, presented plans for bonds in renminbi. China is also actively

pursuing better relations with Saudi Arabia. It supports Riyadh in a nuclear program and has invested in the crown prince's favorite project, [the futuristic city of Neom](#).

In February 2022, plans were revived to jointly build an oil refinery in China. This project has been in planning since 2019, but it was put on hold during the pandemic because of low oil prices. Now it is topical again:

“The fact that this landmark refinery joint venture is back under serious consideration underlines the extremely significant shift in Saudi Arabia’s geopolitical alliances in the past few years – principally away from the US and its allies and toward China and its allies.”

The fact that Norinco, one of the two Chinese companies in this joint venture, is also one of China’s largest arms manufacturers should not go unmentioned; nor should Saudi Arabia’s plans to buy Russian missile systems.

The deal between Riyadh and Washington always had a military component. Protection and material were to be supplied by the US in exchange for oil – and the pricing of oil – in US dollars. But Saudi Arabia is not only diversifying in the oil trade. Since late 2021, it has also been working with China on a missile program. It seems that the exclusive relations between Saudi Arabia and the US are finally history.

China’s renminbi is widely regarded as a potential candidate to supplement the dollar in the international sphere.

Barry Eichengreen

It is only a matter of time before an extremely important oil nation, like Russia, accepts currencies other than the US dollar: renminbi, rupees, or maybe even euros. Russia, along with Saudi Arabia, Angola and Iraq, is one of China’s most important oil suppliers and will be ready at any time to sell even more oil in exchange for renminbi. According to our friends at Gavekal, this increases the pressure on Riyadh, because Beijing can use the oil trade with Russia as a good argument:

“China is the world’s largest oil importer, so what happens if Beijing tells Saudi and other Middle Eastern producers ‘I would love to do more business with you. But when I trade with Russia, that business is denominated in renminbi. Which works so much better for me. So unless you can take renminbi as well, I will likely import more energy from Russia.’”

The consequences of these developments for the US dollar and thus for the international monetary and financial system are serious.

[Gal Luft](#), co-director of the [Institute for the Analysis of Global Security in Washington](#), says: *“The oil market, and by extension the entire global commodities market, is the insurance policy of the status of the dollar as reserve currency. If that block is taken out of the wall, the wall will begin to collapse”.*

Now, of course, there is more to consider in the question of whether the oil trade could be conducted in renminbi (yuan). China’s currency and economy are still hampered by strong capital controls. However, with many Chinese companies now operating in Saudi Arabia, the kingdom needs liquidity in Chinese currency. China

is also very likely to promise further billions in investment in return for a currency conversion in the oil trade, which would further strengthen the link between the two states.

Conclusion: A New International Order Is Emerging

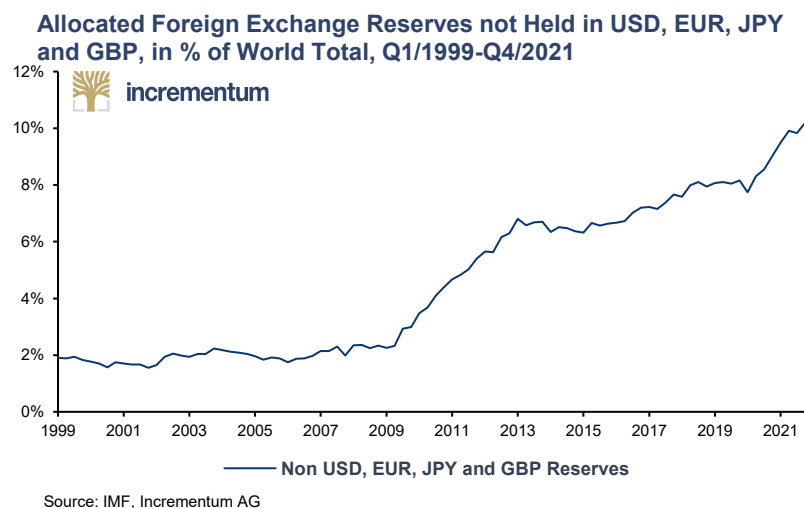
In due time, the dollar, currently the anchor currency for roughly two-thirds of world GDP, could lose nearly half its weight.

Kenneth Rogoff

The sanctions against Russia, the response from Moscow, the Russians and Chinese moving closer together, the indecision of the Europeans, the new love between Saudi Arabia and China – that the world is in upheaval is obvious. Even the IMF, guardian of the US dollar order, is becoming active again. **Kristalina Georgieva, managing director of the IMF, caused a stir with a statement in April:**

“I think we are not paying sufficient attention to the law of unintended consequences. We take decisions with an objective in mind and rarely think through what may happen that is not our objective. And then we wrestle with the impact of it. Take any decision that is a massive decision, like the decision that we need to spend to support the economy. At that time, we did recognize that maybe too much money in circulation and too few goods, but didn’t really quite think through the consequence in a way that upfront would have informed better what we do.”

Then there was this big report that the IMF published shortly after the start of the Ukraine war. It bears the significant title **“The Stealth Erosion of Dollar Dominance”**. The report has a lot going for it, not least because the well-known economist Barry Eichengreen is a co-author.



We find the choice of time period in the above chart particularly relevant. Around the turn of the millennium, the euro was established, the price of gold began to rise, and the dot-com bubble burst. Historically, this was arguably the turning point for the US dollar-dominated system. In our timeline, we show that things moved very quickly from that point on – and that the financial crisis, the pandemic and, most recently, the war in Ukraine accelerated the process further.

Hardly anything illustrates this development more impressively than this news item from the end of April 2022: **Israel is cutting back on its US dollar and euro reserves and is investing reserves in yuan for the first time.**

The freezing of Russia's foreign exchange reserves was another nail in the coffin of the US dollar system. We do not know what exactly will take its place, but the trends we have documented in this chapter point in two directions: The world will become multipolar or bipolar, depending on Europe's choices. And metals and commodities will become more important and either directly or indirectly involved in the monetary system.

The sinews of war are infinite money.

Marcus Tullius Cicero

We are at the end of a development that began in 1944. If Keynes had been listened to back then, perhaps the world would look different today. But the attempts to create a rules-based monetary system have all failed. Politicians like to tout Special Drawing Rights as an option, but that could just be a distraction, a way to point out dissatisfaction with the US dollar system without immediately bringing their own solution into play. The euro is perhaps the best example of what occurs with a rules-based international monetary system: The rules were immediately broken. But the euro's strong gold component should also equip it for the other path, the one that China and Russia are already signaling very clearly: a world in which currencies find their anchor in reality – through reference to commodities, without a direct peg, but designed as a flexible system that is tested daily by the market.

Learn from yesterday, live for today, hope for tomorrow. The important thing is not to stop questioning.

Albert Einstein

It is not easy to put this new monetary order into words, as it is extremely dynamic. But the statements and actions of state leaders, as well as analyses such as those by Zoltan Pozsar and Luke Gromen, all point in this direction. **Let's not forget that the US has large reserves of raw materials – and 8,000 tonnes of gold. These have been lying around unused since Richard Nixon declared the gold window closed.**

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Energy, War & Inflation – Exclusive Interview with Luke Gromen

“We all know what to do, we just don’t know how to get re-elected after we’ve done it.”

Jean-Claude Juncker, former president of the European Commission

Key Takeaways

- Contrary to what we saw in previous crises, we now have a debt crisis at the sovereign level. This is exacerbated by rising energy prices and deglobalization.
- The Federal Reserve needs to hike rates in order to curb inflation on the one hand, but needs higher asset prices in order to obtain higher tax receipts for the Treasury to pay off their deficit on the other.
- Since the fall of the USSR in 1990 there has been a slow and steady acceleration back to a more decentralized global system, primarily around energy.
- China, Russia and others are moving away from pricing oil and other commodities in US dollars. This is causing a backlash from the US, who are trying to protect the petrodollar system.
- This will drive a steady gold bid from foreign central banks over time. Holding physical gold will become more important to central banks.
- The Federal Reserve wants to avoid yield curve control and certainly explicit yield curve control at all costs. It is likely that we will see the US government purchasing Japanese bonds within the next few years.



Luke Gromen is the founder of FFTT, LLC (“Forest for the Trees”), a macro/thematic research firm catering to institutions and sophisticated individual investors.

Luke’s vision for FFTT was to create a firm that would address the opportunity he saw created by applying what customers and former colleagues consistently described as his “unique ability to put the big picture pieces together” during a time when they saw an increasing “silo-ing” of perspectives occurring on Wall Street and in corporate America.

Ronnie Stöferle and Nikolaus Jilch conducted the interview with Luke Gromen on April 20, 2022 via Zoom.

We are publishing the highlights of the interview below. **The full version of the interview is available for download [here](#).**

The video of the entire interview, “Energy, War & Inflation”, can be viewed on YouTube [here](#).





Ronnie Stöferle:

Luke! Thank you very much for taking the time! We featured you for the first time in our . Then we had an interview with you for the *In Gold We Trust report 2018* which we called “The Dollar Appears to be in Zugzwang”. Then, in the *In Gold We Trust report 2020* we did another interview, titled “A Deep Dive into the Geopolitics of Oil, Gold, and Money”. This is our fourth interview, we are truly looking forward to it, there are so many topics to talk about. I would like to start with a Tweet, it is something that you wrote recently in your *FFTT Tree Rings*. You wrote:

*“We want to be very clear; **the current setup may be the scariest setup we have seen in our 27-year career.** For traders that manage a book on a monthly basis, we would recommend to be in maximum defensive position. Cash, short term US treasuries and maybe gold, until the Federal Reserve is forced to come to the rescue.”*

Could you give us your view about all these topics that are currently unfolding and the “everything bubble” that might be crashing at the moment. What do you see happening over the next couple of weeks?

Luke Gromen:

We have an extremely difficult setup in terms of the macro view, where over the last 20 years we had started with an equity bubble, then kicked that up to the banking system via the housing bubble, then kicked that up to the sovereign level, where **we now have the biggest sovereign debt bubble, the first global sovereign debt bubble, in 100 years, since the immediate aftermath of WW1.** This is also the first Western sovereign debt bubble since the end of WW2. This leads to a number of different things. Within this bubble you have an overlay of a commodities crisis of sorts, that we had already in terms of “peak cheap energy”. **The marginal costs of producing energy are moving secularly higher** due to geology. **Now we also have geopolitical tensions on top of that, deglobalization, commodity interruptions from Russia, and from Ukraine.**

We have this setup where the credit risk is at the sovereign level, and sovereigns cannot default. This is not really credit risk, it is duration risk. What duration risk is, is just inflation. The sovereigns, and particularly the Western sovereigns, are in a position where they need to try and manage themselves between inflating enough to inflate away the debt on a debt to GDP basis, in order to make the debt sustainable, while also not inflating so much that they spook the bond market. They are trying to fine-tune where that is. They were probably running at about the correct rate, when we were at 8% CPI in the US, 11.5% nominal GDP growth, it probably needs to be 12%-15% nominal GDP growth in the US to get the debt/GDP to levels that are sustainable, from which the Federal Reserve can raise rates without blowing things up. We have been saying all along that they have not been doing enough, here they are, **they are raising rates but they have not done enough in terms of deleveraging the balance sheet on a debt/GDP basis and now things are starting to blow up.** It’s not surprising to me that things are starting to come unhinged.

The marginal costs of producing energy are moving secularly higher due to geology, we also have geopolitical tensions and on top of that, deglobalization and commodity interruptions from Russia and from Ukraine.

The credit risk is at the sovereign level, and sovereigns cannot default. This is not really credit risk, it is duration risk. What duration risk is, is just inflation.

Inflation is now so high that it is now a political problem, they are triggering a crisis.

The “Putin price hike” is a convenient scapegoat for American politicians.

If they want to crash the system, raising rates is the smart thing to do. If they don't want to crash the system then they need to let inflation run. Having made the decisions they made; you just have to inflate it away, otherwise you are going to cause a bigger calamity than what is already transpiring.

This is a US-centric political problem, and the politicians will realize at some point that people don't like it when their stocks go down.

We have been increasingly warning people in our reports over the last three to six months, that when the Federal Reserve first came out last June and started talking about being more hawkish, I initially thought it was just jawboning because I did not think that they could be that stupid. But they have positively surprised me as to how stupid they could be. I'm saying that tongue in cheek because it is political, **inflation is now so high that it is now a political problem, now they are going to do the wrong thing to address the needs of domestic politics**, and domestic politicians in the USA – and lots of other places – are wrong all the time, and that is where we are. They are triggering a crisis.

The “Putin price hike” is a perfect example of what I was talking about.

I don't know what is more disappointing, the fact that they try to pass that off or the fact that more than half of Americans actually believe it. It is what it is, I don't even think it is good propaganda because it is so easily disprovable, but here we are. This thing was going on well before that and it is a convenient scapegoat for American politicians.

Niko Jilch:

The conventional wisdom would be that if inflation is going up, whatever the reason is, we need to tighten and we need to raise rates. Do I understand you correctly that you think that is stupid and that the Federal Reserve should not be raising rates right now?

Luke Gromen:

Well, that depends on what they want to do. **If they want to crash the system, then it's the smart thing to do. If they don't want to crash the system then they need to let inflation run.** Last year about this time we published a report that estimated that if they wanted to normalize policy without crashing the system they needed to let inflation in the US run somewhere between 12% and 18% for 5 years. That is the level of negative real rates they would have to get to in order to get debt/GDP down from 130% to about 80% which is what we estimated where they could normalize policy without blowing up the system. They managed to get it down from 129% down to 122% with 12% nominal GDP growth and 8% CPI which tells up that our numbers probably were not that far off. But at 122% debt/GDP and 8% CPI they began panicking and now they are tightening and we are already starting to see debt/GDP go back up.

American politicians are worried about inflation, but they are always worried about the wrong thing. They are going to have an asset price problem and an economic problem right around election time if they don't turn course soon.

Niko Jilch:

That is an extremely important point because this is very much political and it is US-centric politically. There are mid-term elections and the administration is trying to fight inflation, that is what it looks like. This seems to be a plan that came from before the war, now they are doing it. Are you saying that they will realize at some point that people don't like it when their stocks go down?

Luke Gromen:

That is exactly what they are going to realize. Stocks and their houses etc.

Central bankers all over the world now seem to have new mandates when it comes to climate change, inequality and other social issues. Do you think they have been pivoting into this “reverse wealth effect”?

The so-called “boomer” generation owns a large proportion of the money available in the economy and they are now spending it. This contributes to the current high inflation numbers we are seeing.

Central bankers are basing monetary policy decisions based on non-monetary criteria, especially on political and environmental issues. This is extremely dangerous and irresponsible because it will have adverse economic effects.

Ronnie Stöferle:

But Luke, didn't Bill Dudley write about this “reverse wealth effect” on Bloomberg? Dudley is not a nobody, he is very influential and he probably talked to his former Federal Reserve friends before publishing that piece. Do you think that is ahead fake or is it a strategy that the Federal Reserve might be pursuing now when realizing that they will have to do something about this inequality? **We know that central bankers all over the world now seem to have new mandates when it comes to climate change**, which seems to be the most important thing for Ms. Lagarde these days. But also fighting inequality, which is something that Lael Brainard and also Jerome Powell refer to quite often. Do you think they have been pivoting into this “reverse wealth effect” and demand destruction, leading to a cooling effect on inflation without causing a recession? The hubris that they have to think that they are trying to fine-tune this thing like it's a thermostat, it's astounding. Do you believe that or is it just a story that they are making up?

Luke Gromen:

I think it is factoring into their thinking. That asset price inflation is driving CPI inflation and my view of this has been that **there is USD 35trn in assets that the baby boomer generation owns and the US policymakers and the US media have spent the last two years scaring the US baby boomers to death**: “You are going to die sooner than expected because of Covid”. Now they are spending their money sooner.

It's a tricky thing and I think the Federal Reserve is seeing that when you really look at the problem, **the reason that the boomers have USD 35trn in wealth is because of policy to sterilize inflation in the first place**. When you look at how these boomers got all this money, in no small part it is deferred accounts. 401k plans, IRA plans, things where there was inflation happening and the **US government gave tax breaks to take that inflation out of the real economy** and put it into asset inflation instead and thereby defer it.

We have two things happening at once in terms of asset inflation. First, asset price inflation that was sterilizing CPI for 40 years is coming back into the economy. Secondly, this is driving velocity – and I don't really care what the velocity numbers say, I think they are BS – but **velocity is coming back, because boomers are long money and short time**. The question then is: Ok, I do think this is happening and I do think the Federal Reserve is thinking about it this way. Is crashing the markets a way to deal with it? William Dudley is the same guy who, in August 2019 wrote an op-ed similar to the one he just wrote about crashing stocks to reduce inflation. He wrote in August of 2019 that the **Federal Reserve should tighten rates to put pressure on Trump, to basically ensure that he lost the election in 2020**. This was 3 weeks before the repo rate spiked, because liquidity was already that tight. The Federal Reserve was already loosening at that point, we were about to have a blowup, the Federal Reserve's balance sheet was literally 3 weeks from beginning to grow again and it hasn't stopped since, and this guy was talking about tightening rates to fight a politician.

This is just **to illustrate how political and how mainstream groupthink in Washington is**. I think this is part of their thought process and he is talking to all

The Federal reserve can get stocks to go down any time they want, but the US government needs asset prices to rise in order to drive tax receipts.

the same people, and they are thinking of it and it is going to be a disaster because they are not running a dial, it's a switch.

I understand what they are doing and I understand why they are doing it, but it is not going to work. **They can get stocks down any time they want**, but the flip side is – and this is the side nobody is talking about – **the problem is at the sovereign level and the US government needs asset prices to rise to drive tax receipts**. When asset prices fall, tax receipts fall and 120% of all-time record tax receipts, at this moment are entitlements, defense, and treasury spending. **They are not even covering the basic spending with all-time record-high high tax receipts** and with asset prices in an “everything bubble”.

If they want to take asset prices down to try and tame inflation, great, but **within months, if not weeks, the Federal Reserve will be in a precarious position because there are no buyers for these treasuries**. You can shift some money out of stocks and into treasuries, but as you do that you are also going to be increasing treasury issuance, because your receipts will be falling along with asset prices. There is this dynamic that nobody is talking about, the importance of asset price inflation driving treasury receipts, primarily through the consumption link which is 2/3 of GDP.

Niko Jilch:

Luke, we talked about “Putin’s price hike” and the funny thing is that here in Europe, where we are closely connected to what is happening, nobody is trying to sell the “inflation is Putin’s price hike” narrative. This tells me something positive about the Europeans, but my question is this: **Under the new circumstances, because the war is driving inflation**, it’s just that not all of the inflation is because of the war. **Will it even be possible to get inflation down with the wage hikes like there are in play now?**

If you take unemployment to 10% to fight inflation, Le Pens are going to pop up all over Europe.

Luke Gromen:

I think **yes, but I question what the collateral damage will be**. If you want to send unemployment in Europe high enough, we can get inflation down. If you send unemployment to 10% or even 20%, you can get inflation down. But if there is a shortage of food, **those types of inflation levels will have political side effects**. We saw Macron winning in France, that might put the side effects on the back burner for now. But if you take unemployment to 10% to fight inflation, Le Pens are going to pop up all over Europe. There is this very established historical precedent for that. This again gets back to the fiscal situation, Europe’s fiscal situation is not good either, what does that imply for budget cuts, or a deflationary spiral?

Taming inflation will have dire costs for Europe. Political populism and high unemployment, and the central bank will have to fund the government because they made all these entitlement promises and now we don’t have any tax receipts at all to fund them. Then they will have to re-do QE.

I question what the collateral damage will be. High unemployment, political unrest, and possibly the rise of political populism could be some of the consequences.

Let's talk about de-dollarization, the war in Russia/Ukraine, and the happening impacts of this on the world monetary system.

It is a matter of urgent national security for China, Russia, and others to move away from pricing energy and commodities in US dollars alone. We are seeing more and more countries actively pursuing this and the US moving to try and slow or halt this process.

I think they can probably do it, but **if you think how draconian the economic downturn needs to be, it needs to be much greater in order to tame inflation this time because of these structural factors.** This will mean that you used to need to take GDP down 3% to get inflation down and now maybe it needs to be down 5% or 8% or maybe 10%, and those numbers are bigger than what we saw in the Covid-19 crisis, and that was enough to crash everything.

Can they do it? Sure. Can they do it without blowing their head off and blowing the economy's head off? Probably not.

Ronnie Stöferle:

I agree, I am not aware of too many soft landings where things worked out well in practice. Luke, there are a great many topics to talk about. I would love to talk about Japan later on, but **let's talk about your main area of expertise, which is de-dollarization.** You are the superstar when it comes to this topic and a few years ago it was a topic only for macro nerds in the gold community, but now it is becoming mainstream.

Let's talk about the Russia/Ukraine war and how it will impact our monetary system. [Zoltan Pozsar wrote about the possibility of Bretton Woods III](#), we know that over the last couple of weeks there was so much going on that it is exciting but also exhausting to follow everything that is going on. From your point of view, what have been the most interesting and most under-researched topics that you have seen over the last couple of weeks?

Luke Gromen:

It has been interesting to see some of the evolution of this de-dollarization theme that you talked about. For me, there has always been a yin and a yang to it, where people want to say that it is an attack by the Chinese and the Russians and these people who are fighting the rules-based global order, and that is part of it. But it is also partly a defense by those same people against the dollar being weaponized against them.

It is literally a matter of acute and urgent national security for China and for Russia and for others to move away from pricing energy, in particular, and also commodities more broadly into dollars alone.

There has been this movement, driven by both geopolitical aggression and geopolitical national defense for these countries to move away from pricing oil, in particular, in US dollars. When we first started talking about this in 2014 – 2017, people thought we were nuts, earlier this year you have on the front page of the Wall Street Journal: [“Saudi Arabia Considers Accepting Yuan Instead of Dollars for Chinese Oil Sales”](#). When you see things like that and you see India in the midst of this crisis with Russia and Ukraine, telling the US: “We will do what makes the most sense for us and that is to buy Russian oil in Rupees”. It is almost formulaic, a week later all of a sudden the US is concerned about human rights violations in India. It's very, very cynical and I am to old to be naïve when I watch these things, you could have predicted it.

Every country has both pro-dollar and pro-de-dollarization factions who have different domestic views, but the de-dollarization factions are rapidly growing and the Russian situation has accelerated it.

Since the fall of the USSR in 1990 there has been this slow and steady acceleration back to a more decentralized system, primarily around energy.

There are indicators pointing toward the IMF possibly trying to set up something like a Bretton Woods III system. Do you see a possibility for a new monetary system built around the IMF, or is the IMF just trying to stay relevant in changing times?

Luke Gromen:

Ultimately this all feeds back into **the de-dollarization theme**, which is: The whole world is realizing that they are going to have their turn in the spanking machine, no matter what, and the spanking machine is the dollar system and the US politicians running it. So they might as well do what is best for their interests.

Within every country, there are both pro-dollar and pro-de-dollarization factions for different domestic self enlightened views But you can see it moving quite steadily and ultimately this Russian situation has accelerated it, because now it is crystal clear that if you do something the US does not like, they are going to confiscate your reserves. The US has been threatening it, they did it to Afghanistan, they did it to the Iranians, but all of those were smaller nations, they were not the world's biggest commodity and energy exporter, they were not the world's biggest country by landmass, they were not a nuclear-armed nation, they were not a G7 nation.

It's an entirely different situation and like I have said before, **everybody has been a bad actor in the eyes of the US over the years. That's not because America is bad or good, it's just how international geopolitics go.**

I don't think people ever really loved this dollar system, I think they accepted it because it was less worse than getting invaded by the USSR, and **as soon as the USSR broke up, since 1990 there has been this slow and steady acceleration back to a more decentralized system, primarily around energy.**

I don't think this de-dollarization is something that can be stopped. It's going to keep moving in bits and starts and I think what Russia did accelerated things quite meaningfully. There is this quote from Frank Zappa:

"The illusion of freedom will continue as long as it's profitable to continue the illusion. At the point where the illusion becomes too expensive to maintain, they will just take down the scenery, they will pull back the curtains, they will move the tables and chairs out of the way and you will see the brick wall at the back of the theater."

I think that by **implementing the Russian sanctions, the US was saying:** "Ok, the curtains are gone, the set is gone, all of the props are gone, here is the hard brick wall". **If you do something we don't like, we are going to grab your money.**

Niko Jilch:

One of the main things in monetary politics for decades has been that the **US dollar is a national currency and also an international currency, and that is a problem.** We have known this since the introduction of the Bretton Woods system, then in the 1960s, Robert Triffin layed out the **Triffin dilemma** and one of the so-called "solutions" was the "special drawing rights" at the International Monetary Fund. A basket of currencies used as an international reserve asset. There have been numerous attempts over the years to reintroduce this. My question is this: **When we are moving into a new monetary system, how high do you think the chances are that the IMF will try to**

set up something like a real Bretton Woods III? Could we see them arranging a conference where they establish new rules and potentially discuss something similar to Special Drawing Rights, because I see the IMF moving on this. If you look at the [interview with IMF director Kristalina Georgieva](#), where she said:

“I think we are not paying sufficient attention to the law of unintended consequences. We make decisions with an objective in mind and rarely think through what may happen that is not our objective. And then we wrestle with the impact of it.”

“We act sometimes like eight years old playing soccer. Here is the ball, we are all at the ball. And we don’t cover the rest of the field.”

Her admitting these things seem crazy. Then there was a report called: [The Stealth Erosion of Dollar Dominance](#), written by Barry Eichengreen, who has been very vocal about the exorbitant privilege, etc. Do you see a possibility for a new monetary system built around the IMF, or is this just the IMF trying to stay relevant in changing times?

Luke Gromen:

I think it is one of those situations where they are just trying to stay relevant. I think they know what the problem is, it is as Jean-Claude Juncker famously said:

“We all know what to do; we just don’t know how to get re-elected after we’ve done it.”

The IMF seems to be having a difficult time deciding between their own members what is the correct way to move forward. This infighting will likely hinder them greatly from making any real progress.

I think it is the same issue for the IMF where they know what they need to do, Eichengreen’s paper (as mentioned above) highlights some of the issues. **The challenges are that you have to get a whole lot of nations together and maybe that was possible 10 years ago, but that does not seem possible now.**

At the IMF you will get a bunch of people together who don’t want to get together. The US is controlling a big part of the IMF and they have to agree, and they don’t want to agree, then there are the different factions in each of the minority voting members of the IMF to agree. I just don’t think they will ever make any progress.

Niko Jilch:

When you look at what China and Russia are doing behind the scenes, they are basically trying to build something like the Special Drawing Rights, something like a “common currency” that is denominated in their local currencies and also commodities. This would tie in with what you are saying and also with what Zoltan Pozsar is saying, then you have Janet Yellen talking about a bifurcated financial system. My question is: **Is it possible that we will see two IMFs, an eastern IMF and a western IMF?**

Luke Gromen:

Yeah, it is. The challenge would be to get all the right people in your club, because if you don’t have enough energy in your club, or you don’t have enough

The key question is what type of resources and manufacturing your side will end up with. China/Russia seem to have a lot more resources and manufacturing output at this stage than the west. This will be problematic for the west and cause problems for the western led side over the long term.

Emerging countries' gold holdings relative to the western world as a percentage of total reserves are minuscule, do you see this as a driver of the gold price? How would this impact the paper market for gold vs holding physical gold?

Yes, this will drive a steady gold bid from foreign central banks over time.

Holding physical gold will become more important to central banks. The paper market for gold will not necessarily "blow up", but we could see a steady move toward physical rather than paper gold.

manufacturing in your club and the other club has more manufacturing and energy, or is more efficient than you are, then your club is going to die over time. You're going to lose.

If the factory of the world, which is China, is married with Russia, who has all these metals and energy, etc., and a quorum of the Middle East participates in that, then the US is left with shale gas, which isn't ramping up. The oil price has been up for 8 weeks and there has been no increase in US shale production and no increase in US oil production, and then you have European manufacturing.

It would be workable, but you will have two competing systems and these competing systems will force the system to be kept more honest. What that looks like is: The US is going to have to either see much higher inflation or really draconian measures to fight inflation and takedown asset prices, which is going to feed itself in the wrong direction on the fiscal side. So, it's possible, but I don't think it's a happy path from here to there.

Ronnie Stöferle:

If we come back to the topic of gold, this decision by the western world to say that: "Your FX reserves are worthless". **Isn't that the best case there could be for owning physical gold over the long term for central banks?**

My question now leads to a topic that has been going on for a while already. What [Kenneth Rogoff said in a piece published by Project Syndicate](#), where he **recommended emerging market countries buy physical gold to hedge their US dollar exposure. Do you see this as a big driver going forward on the demand side for gold and, if yes, wouldn't that also be some sort of threat to the paper market for gold?**

Luke Gromen:

Yes, absolutely. I think it's going to continue to drive a steady gold bid from foreign central banks over time. Importantly, the manner in which we are going after Russia's gold, anything that is held offshore is subject to sanction or seizure. That speaks to the market being physically driven.

We will look back in 5 years and say: "Wow, that was really positive for physical gold". Now, does that blow up the paper market? I think at some point it does, but that is an entirely political construct. **It's not going to matter and then suddenly we wake up a week later and suddenly it matters,** and there are any number of geopolitical or market-driven reasons that you could see that happen. A certain set of political circumstances has to be in place gold to have significant price movements. **We are moving in the right direction in terms of the gold market being more physically driven.** What has happened in regards to these sanctions are likely to be a positive catalyst for that, but when will it really matter? It's hard to know.

Regarding stagflation, what are the main differences between what we saw in the 1970s and our current setup?

The most important difference is the global sovereign debt bubble.

In the 1970s there was a lot of leeway for the US to allow the interest rate to rise and fight inflation/stagflation. This is impossible now.

History shows that not many fiat currency governments go bankrupt instead of printing money.

After WW1, all large industrial nations in the west devalued their currencies vs gold.

Ronnie Stöferle:

Luke, a topic that I wanted to talk about, because it's the leitmotif of this year's *In Gold We Trust* report, is the topic of stagflation. What are the main differences between the stagflation we saw in the 1970s and the current setup?

Luke Gromen:

I think the main difference is by far the **most important difference, which is the global sovereign debt bubble**, and in particular the western sovereign debt bubble. USD as the global reserve currency, they are currently the center of the system. In the 1970s, US debt/GDP was 30%, now it's 125% and moving higher. The point is that in the 1970s there was a lot of leeway for the US to allow the interest rate to rise and fight the inflation/stagflation. When we eventually managed to crack down on it, yes it caused a severe economic contraction and a recession, yes it caused a lot of private-sector bankruptcies, however, there were no risks to the sovereign solvency of the US, the European Union, or Japan. Right now, fractions of the type of rate hikes that we saw in the 1970s will mathematically cause threats to the solvency of the US, European Union, and Japan.

Let's look back in history and see how many times nations with a purely fiat currency has gone bankrupt instead of printing money, it's a really, really short list. They always print money; they don't go bankrupt. That's where we are right now, where there is this collective delusion that we are watching central bankers and governments engage in, and markets are believing them. Like the "Putin price hike", markets actually believe that governments will let themselves go bankrupt. It's crazy, there is no chance. **We have to be cognizant to play that game and understand that in our position, short run, that markets actually believe that central banks will let their sovereigns go bankrupt, there is no chance that's going to happen.** It's really just a question of when circumstances get dire enough to force the central banks to finance these deficits and prevent that insolvency. That's the big difference.

The sovereign balance sheets are just night and day different (from the 1970s); they are reminiscent of post-WW1 Europe. In post WW1 you have the six big industrial powers. The Austro-Hungarian empire, the UK, Germany, France, Russia, Japan, and the USA. Austro-Hungary hyperinflated, Russia hyperinflated, Japan depreciated, I think 80% vs gold, the French devalued at least twice, the UK was amongst the last to go, in 1931 they devalued massively vs gold and the USA went last in 1933 when we devalued 75% against gold. Sovereign debt amongst all these participants in real terms just collapsed. I think that is much more apropos.

I think we are seeing a blend of the 1970s, the immediate aftermath of WW2 and the immediate aftermath of WW1. This is some sort of toxic mix of all those situations. **The most important thing is the sovereign balance sheets globally and in the west in particular. There is just no ability to fight inflation the way that they did in the 1970's.**

Current governments don't want to fight inflation, but they need some kind of new narrative to allow them to print more money.

Central banks are currently crafting this new narrative, some sort of existential crisis that will allow them to come in and "save" the word.

The BOJ tried to implement YCC and the release valve seems to be the yen crashing vs the dollar and vs gold.

What other, possibly similar actions can we expect from the Federal Reserve?

It is likely that we will see the US government purchasing Japanese bonds within the next few years.

The Federal Reserve wants to avoid yield curve control and certainly explicit yield curve control at all costs.

Niko Jilch:

And we don't want to. Nobody actually wants to fight inflation. The Bank for International Settlements said that we are going to see a new age of inflation. **Even if you hike rates and cause the stock market to go down, that is what you need to do before you can print even more money.** You need a new narrative; you need a new crash in order to print more money to "save the world".

Luke Gromen:

I think that is probably **what they are working on right now. This new narrative, the full macroeconomic narrative of "Putin's price hike"**. The narrative will be "Oh, the system crashed, we need to print more money, we need to save you all again, so we central bankers can be heroes again". That is what we are watching in real time.

Ronnie Stöferle:

One example that I think is worth following is what is going on in Japan. The Japanese did many many rounds of quantitative easing, but so far it has not been extremely successful. Now they are also doing "QQE", that's quantitative and qualitative easing, so they are also buying REITs and ETFs and other things.

I have to admit that I thought that when the 10-year bond yield reaches 2%, that would be the level where the Federal Reserve would get very nervous and start talking about yield curve control. Going forward, do you think this would be a measure taken by the Federal Reserve? Will they at some point start buying equities or other assets? Probably not Bitcoin, yet. **What is the next tool that the Federal Reserve has in its toolbox?**

Luke Gromen:

One thing that they can do is that the Federal Reserve can, by their mandate, buy the sovereign debt of other nations. A very likely step if we continue to see a disorderly decline in the yen, for the reasons you just discussed, is that we could see either the Federal Reserve or the United States Exchange Stabilization Fund, the ESF, which is under Treasury, and can do whatever it wants to maintain orderly markets. I think **we could see them buy Japanese Government Bonds**, for the Bank of Japan.

You would see the USA selling dollars and buying yen effectively, to try to stabilize the yen and weaken the dollar, which would help Japan, but also the US because as the dollar weakens against the yen it improves Japanese purchasing power to buy treasuries. **The US has a demand problem for treasuries which will get a lot worse if the yen keeps weakening.** I think that would be the first step, **the Federal Reserve wants to avoid yield curve control at all costs and certainly explicit yield curve control.**

If they can get Japan's current account deficit back into a current account surplus by getting energy prices down, then they can stabilize the yen and the JGB market, if you can do that then you will get a weaker dollar and a stronger yen and more treasury purchases from Japan again. I think you will see, within the next 18 to 24

Where do you see the global monetary system going over the next 10 years?

Middle East, and in particular Saudi Arabia, wants stability, the Chinese also need stability in the Middle East, but there are interests in the US that think along the lines of fostering instability in that region.

Europe's economic future is likely to its east and not its west. Russia and China have big plans economically, including the Belt and Road Initiative.

It seems like the Russians are also interested in connecting the entire Eurasian area and forming some sort of a pan-continental alliance.

months, either the Federal Reserve or the US Exchange Stabilization Fund intervening in the yen, by buying JGBs.

Niko Jilch:

Can we try to get some long-term positive outlook on this whole global situation that we are in right now? Let me give you a few examples: On 22 April we saw Israel adding the renminbi to their currency reserves. Somebody there decided that it is time to buy some yuan. In the middle of April, we saw Kuwait and Saudi Arabia indict Iran to talk about a gas field that all three of them claim and exploit together. Can you talk about what is going on from the long-term perspective globally? Especially, where will Europe be standing?

Luke Gromen:

I think the Middle East desperately wants stability, in particular Saudi Arabia. They want USD 90 oil and stability, that is what they are after. But they have seen nothing but instability for the last 25 years in the Middle East. The Chinese also desperately need stability in the Middle East.

If it comes down to what is a happy version of the outcome, you get **some sort of détente between Eurasia and non-Eurasia has no choice but to go along**, out of commercial interests, and the world prospers, all together. There would have to be some relative wealth influence shift that would take place.

I think ultimately that is what will happen. Basically, you will have Russia as a connector between China and Europe. **In Europe right now, the Federal Reserve is trying to ride two horses with one ass in regards to inflation. They need to convince the bond market that they are not going to inflate away their debt while doing that.**

Europe, on the other hand, is trying to ride two horses with one ass with regards to geopolitics, which is: We are going to keep the Americans happy and thinking we are with them, when **our economic future is really to our east and not our west**. So, the happy version is Eurasia connects and there is this huge boom of economic growth as you bring together the east of Europe and the west of China, the **Belt and Road** fills out, out get economic trade, you get a virtuous cycle, US companies also benefit from this as well, etc., and everyone gets along. That is what I think when I think about those three headlines in sort of a happy scenario.

Niko Jilch:

And the Russian foreign minister, Sergey Lavrov, even during the war is still talking about having a Eurasian union from Lisbon to Vladivostok, when that landed in the European press, everybody thought it was crazy. The Russians wanted to go the euro route, they even used the euro in their dealings with China and India. But then Europe says that they can't access their reserves. If we wanted to, how could we get out of this situation of conflict?

Americans are prepared to fight the Russians down to the last European. The US threw the ball back into the court of Europe and Russia and China. If they keep fighting the Europeans could commit economic suicide. It will be interesting to see how this all plays out.

Was the freezing of the currency reserves by Europe and the US such a big moment as some make it out to be?

We were at the end of a period of great globalization. The question now is what will happen from here?

With globalization breaking down and the rise in energy prices, gold will become increasingly important on the sovereign level and on the individual level in order to preserve purchasing power.

Luke Gromen:

My friend Louis Gave, said a couple of weeks ago that the Americans are prepared to fight the Russians down to the last European. As tongue-in-cheek and brutal as it is, is that what we are watching in real-time? The Europeans didn't freeze US reserves when they invaded Iraq. The Europeans protested but no one did a thing. That is not to say that I am approving or necessarily even trying to equivocate what is happening in Russia and Ukraine with that, but I guess I am. I'm not sure if it is that different.

I don't know where this goes from here, it's almost like the US threw the ball back into the court of Europe and Russia, and China. China isn't doing themselves any favors with their lockdowns. To the extent that that reverberates into US stagflation, maybe that is where we see this show up next, which is: US supply chains keep breaking down, US inflation keeps rising. But it's getting tricky. We are quickly getting to a point where there is not going to be a way to get back.

Niko Jilch:

I have to ask this right now, the freezing of the currency reserves by Europe and especially the US, Kenneth Rogoff, whom Ronnie already quoted earlier, he called it a "break the glass" moment. You only do that once, and the Saudis are looking and the Chinese are looking at this, so from a structural system point of view, that was the west shutting the system down, basically?

Luke Gromen:

Yes. Someone said to me, "that round is downrange", you can't go back and get it. The question is: What does that mean and what is the next move? That ties back to my prior point, **the ball is now back in Eurasia's court**, so are we going to see Putin de-escalate, or are we going to see Eurasia brokering peace, or are we going to see China broker peace, or will we see some sort of big sign where the three of them get together and say: This isn't in any of our interests, let's stop this. All we (Russia) want to do is sell energy to both of you, all you want to do is grow your economies. But we are now all focusing on one thing in this part of the world.

Niko Jilch:

I do have one more question on **the topic of gold** and what I call "the return of real stuff". The report is called *In Gold We Trust* and we are not going to change the name, **but is this a time to really trust in gold**, something that is important **not only for individuals and investors but also on the sovereign level?**

Luke Gromen:

Yes, I think it is. It seems like globalization is breaking down, which has been very disinflationary, which would seem to be inflationary. You have peak cheap energy; **you need a reserve asset that has the ability to rise in price with the rise in the prices of energy and commodities and other inputs.** We were just talking about how the sovereign debt positions of the west, and particularly, the globe more broadly, are such that interest rates cannot be allowed to rise that far to compensate and offset that inflation. **That is why you need a reserve asset like gold and at least hold some of it on the sovereign level and on the individual level to preserve your purchasing power.** Because

circumstances from geopolitical and commercial globalization and commodity standpoint all point to structural inflation and away from short-term economic hiccups that may be as a result of Federal Reserve policy error, that I think they are now well underway of making.

I think gold is one of the few reserve assets. But then you see things like the Swiss National Bank buying US equities etc. Things that are more finite that have the ability to better hedge structural inflation over time, those are the things you want to own.

Ronnie Stöferle:

Luke, I think we should come to an end, I want to thank you very much for taking the time so early and for being a friend and supporter of us. You can follow Luke on [Twitter](#); he is very active and it's always new information. Also have a look at his website, [Forest for the Trees](#), or his book, *The Mr. X Interviews*, on Amazon.

These were the highlights of our interview with Luke Gromen. The full version is available for download [here](#).

The video of the entire interview, “Energy, War & Inflation”, can be viewed on YouTube [here](#).



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District-Scale Gold Exploration in Northwestern Mexico

Why Invest in Reyna Gold?



Large Strategic Land Positions

57,200 ha/572 sq km of strategic land positions on the Mojave-Sonora Megashear and Sierra Madre Occidental Gold-Silver Belt



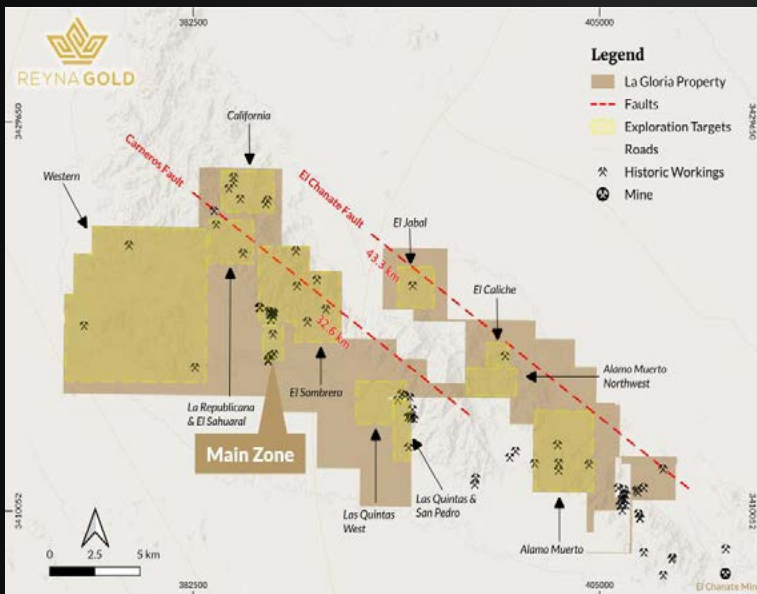
Exceptional Team

Mexican Focused Exploration team led by MAG Silver Co-Founder Dr. Peter Megaw



Strong Support

Strong shareholder base and institutional backing. Raised \$13.6m CAD



La Gloria Flagship Project

- District-Scale 24,215 ha/242 sq km within the heart of the prolific Mojave-Sonora Megashear, where over 35m ounces of gold have been discovered
- 40+ historic workings and multiple high-grade surface samples up to 93.9 g/t gold
- Host rocks and mineralization style similar major deposits on the trend to La Herradura, Mesquite and El Chanate
- Two Regional Faults mapped running over 75km on the property
- Initial High-grade drill results up to 19.6 g/t gold
- Ongoing 10,000 m Phase 1 Drill Program

La Gloria Project Map

China – At the Crossroads

“The Chinese mentality was not understood then either in Europe or America: Europe was at the pinnacle of world power, full of confidence in the present and future, and Europeans found the Chinese amusing for their rejection of paper money and their practice of weighing metallic currency on scales. People presumed that the Chinese were five generations behind us – in reality they were a generation ahead of Europe.”

Felix Somary, *The Raven of Zurich*, 1913

Key Takeaways

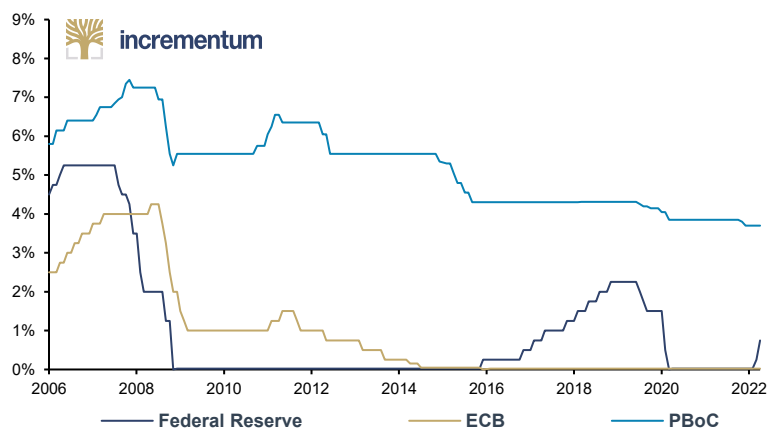
- Xi Jinping seems less and less willing to continue the reform course of his successful predecessors Hu and Zheng. In the medium to long term, this poses the greatest threat to Chinese prosperity.
- The real estate market is in critical condition. New regulations could make investors increasingly look toward gold.
- China is now also rhetorically abandoning interest rate restraint.
- The Chinese zero-Covid strategy is causing severe dislocation, while for most other countries the pandemic seems to be over.
- Chinese gold demand over the next 2–3 years is probably less relevant to price developments than global monetary policy and inflation expectations.

...the real economic struggle between the US and China may not be fought out over trade or technology but end up as a monetary war.

Charles Gave

As recently as last fall, Yi Gang, the governor of China’s central bank, the People’s Bank of China (PBoC), warned against excessively low interest rates and the moral hazard associated with quantitative easing (QE) policies. Yi thus continued the policy of his legendary predecessor Zhou Xiaochuan, who controlled monetary policy in the Middle Kingdom for almost two decades and always proved to be a monetary policy hawk – at least rhetorically. Accordingly, unlike the West, China does not have zero or negative interest rates: Policy rates are 3.70% – dramatically higher than in the Eurozone (0%) and the US (0.75–1%). China’s central bank acted with a great deal of judgment in the crises that preceded Covid-19 – not least because China has rarely been directly affected – and has many more arrows in its monetary, fiscal, and economic policy quiver than its Western counterparts.

Central Bank Policy Rate (Federal Reserve, ECB, PBoC), in %, 01/2006-05/2022



Source: PBoC, Reuters Eikon, Incrementum AG

Less than half a year later, China’s position has apparently changed fundamentally. No less a figure than Xi Jinping himself warned against an interest rate turnaround in his opening speech at the *World Economic Forum 2022*. Although he initially addressed inflation concerns, he then warned against a monetary policy U-turn:

“The global low inflation environment has notably changed, and the risks of inflation driven by multiple factors are surfacing. If major economies slam on the brakes or take a U-turn in their monetary policies, there would be serious negative spillovers. They would present challenges to global economic and financial stability, and developing countries would bear the brunt of it.”

Relations between the US & China are destined to get worse before they get worse.

Graham Allison

In parallel, the PBoC cut key interest rates, although by only 0.1%. In March 2022, the *China Securities Journal*, the PboC’s mouthpiece, announced further interest rate cuts to “stabilize growth”. Xi’s concerns are understandable. If the US does indeed tighten the monetary reins, the Chinese economy would also suffer. All measures to boost consumption in the West also indirectly benefit the Chinese – after all, a large proportion of everyday necessities are manufactured in the Middle Kingdom.

In the face of complex economic and financial situations at both home and abroad, it is necessary to proactively set up an authoritative and efficient system to prevent, resolve financial risks and prepare for rainy days.

**PBOC Statement,
April 6, 2022**

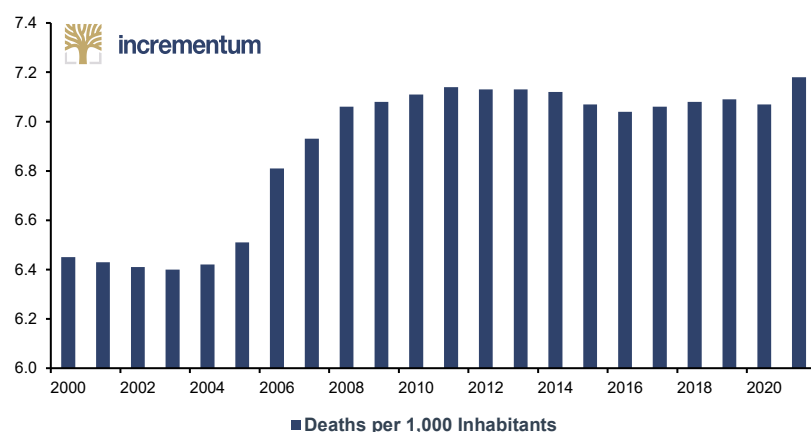
Neither a man, nor a crowd, nor a nation can be trusted to act humanely or to think sanely under the influence of a great fear.

Bertrand Russell

A return of the West to economic prudence, to moderate economic activity, and to consumption that is not financed on credit, would immediately have a direct impact on China’s economy. If the Federal Reserve were to get serious, this would undoubtedly have an impact on the capital flows of foreign investors, and the Middle Kingdom would lose its attractiveness. This at a time when it is clear that China needs foreign capital for continued strong growth, as well as to promote more personal freedoms and a more reliable rule of law. Moreover, the current economic situation in China is anything but rosy. The 5.5% economic growth targeted for 2022 is quite ambitious given the current situation, but on the other hand, it is the absolute lower limit of what is still acceptable from Beijing’s point of view: (even) lower growth would result in rising unemployment, since productivity gains would destroy more jobs than are created by economic growth.

The reasons for this are homemade crises and government programs and concepts that have not been as successful as Beijing had hoped. The Covid-19 pandemic hovers over everything. Although China was officially the first country to emerge from the pandemic, its zero-Covid strategy is becoming more and more expensive for China’s economy, the longer the policy has to be maintained, as the virus becomes endemic in the rest of the world. For the past two years, Chinese trade shows and conventions have been canceled or postponed nonstop. Travel within the country has also become much more difficult and riskier. In 2020, at least 4.5mn small and medium-sized enterprises went bankrupt, and the numbers are likely to be even higher for 2021. In addition, mortality rose to a 20-year high last year – not because of the virus itself but because of the follow-up costs of lockdown policies. *The Diplomat magazine estimates that about 160,000 people* did not receive timely treatment as a result of the extremely strict lockdown regime and died as a result.

Mortality in China (Deaths per 1,000 Inhabitants), 2000-2021



Source: Statista, OECD, Worldbank, Incrementum AG

Ruptured supply chains are now also affecting China, and when the country’s largest ports are regularly closed for a few days due to a Covid-19 outbreak, or when even entire cities are quarantined, uncertainty and costs to the economy grow. Since the outbreak of the

pandemic, it has become virtually impossible for foreign specialists to enter the country: **A not inconsiderable number of expats** in China have left the country or can no longer return to it. Now Omicron, a fairly harmless but highly contagious variant of the coronavirus, has entered China. Shenzhen went into lockdown in early March, 2022, as did many other cities. These lockdowns naturally have serious consequences, not only for China's economy but also for all international partners, suppliers, and supply chains.

Power does not corrupt. Fear corrupts... perhaps the fear of a loss of power.

John Steinbeck

A way out of the lockdown policy is difficult to discern. In the past two years, China's zero-Covid policy has been sold as extremely successful, especially in the face of the relative failure of Western countries to mitigate Covid. A sudden 180° turn is hard to sell, even in a society like China, and would therefore represent an almost unacceptable loss of face, especially for Xi Jinping. In the current phase – Xi wants to be confirmed for a third term in November – this is hardly conceivable.

Contrary to what is perceived in the West, Xi's rule is not without controversy. Within the Chinese Communist Party (CCP), there are more than a few who would be anything but happy with a third term. Premier Li Keqiang, who unlike Xi is considered a profound economist and outspoken reformer, is taking his leave from politics due to his age. At the last press conference on the occasion of the People's Congress in mid-March, **Li Keqiang stated** that the further opening of China was, like the Yangtze, irreversible – which could be understood as a finger pointing at the president. Accordingly, Xi cannot afford to show any weakness at the moment – but revising the zero-Covid strategy would be one. **A real end to the zero-Covid policy can therefore be expected in February of next year at the earliest, with the concluding of the Chinese Spring Festival, and with corresponding consequences for the Chinese economy.**

Moreover, the structure of the fight against the coronavirus provides a massive incentive for all levels of government to take the strongest measures possible. Indeed, if other economic targets cannot be met, **failure can be excused by the fight against the pandemic.** The failure to meet targets is, however, happening at a number of levels.

Power Crisis

Trust, like the soul, never returns once it goes.

Publilius Syrus

The severe electric power crisis that occurred in 2021 for various reasons, especially in southern China, is having greater consequences than generally communicated. Numerous companies have doubts as to whether China can and, above all, will really provide a reliably functioning energy supply in the future. The problem was not only the lack of electricity but the lack of communication. A power cut is (relatively) unproblematic if the affected companies can adjust and prepare for it. But if there is only a terse message that the power will be cut off in an hour, then it is almost impossible for companies to make appropriate preparations. **Japanese companies in particular** have therefore begun to move production sites out of China, or at least to use this circumstance as

an excuse. With the ending of the pandemic (in the West), this trend will be exacerbated.

The pandemic has made Western companies suddenly aware of how vulnerable their supply chains have become due to their focus on China. The war in Ukraine further reinforces this perception. It is foreseeable that in the coming years producers will focus on diversifying production locations to cushion future supply chain disruptions – *resilience and economic sovereignty are the buzzwords*. Even in the short term, the consequences have been painful, particularly at the municipal and provincial levels, where authorities have suffered painful losses in tax revenue: *In November 2021, the decline was more than 11%* compared to the same month last year.

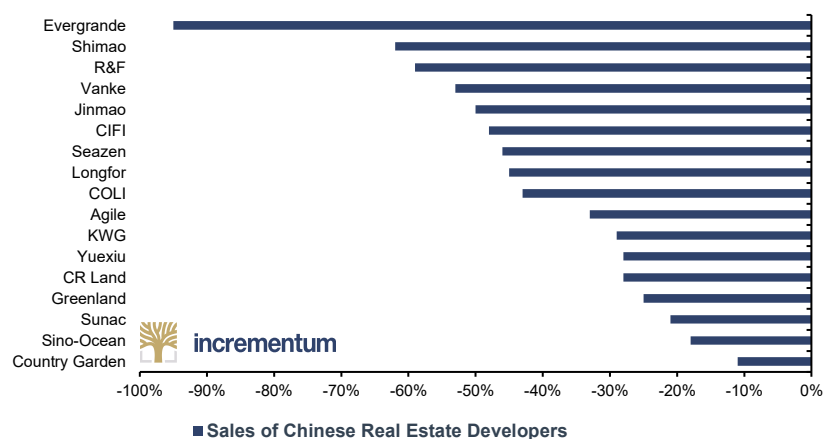
For now, it's clear that the future will not look like the past and today's conventional investment wisdom will be tomorrow's folly: liquid will be the new illiquid; rapid turnover the new patience; niche strategies the new index trackers. What rose furthest in duration's golden age – government and corporate bonds, public equities, private equity, venture, real estate – will fall furthest with its passing.

Dylan Grice

Real Estate Crisis Continues to Smolder

Even more serious is the danger posed by the ever-smoldering real estate crisis. Since *Guangzhou Evergrande*, China's No. 2 real estate developer, was unable to service its debts for the first time in September last year, *dozens of companies have suffered a similar fate*. In addition, Evergrande and nine other companies listed on the Hong Kong Stock Exchange *were unable to submit financial statements* as of the reporting date, March 31. While in developed economies such as the US or Germany (well) below 20% of the gross domestic product depends on the real estate market, in China it is 25–30%. For the Chinese, buying their own home is essential – whether they find a suitable spouse or whether their offspring can attend a good school depends to a large extent on owning the right home. Real estate is by far the most important investment in the Middle Kingdom. What's more, the Chinese know only rising prices. The possibility of the market going in the other direction is virtually inconceivable to them. Accordingly, everyone who can do so invests in real estate. Now, however, this 40-year trend seems to be reversing or at least slowing down considerably. Sales by real estate developers collapsed in January compared with the same month last year.

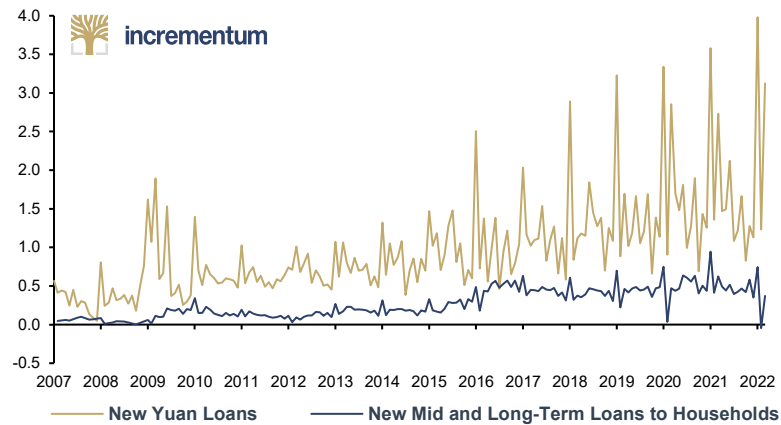
Sales of Chinese Real Estate Developers, yoy%, 01/2022



Source: CRIC, Incrementum AG

This, of course, feeds back into the ability of real estate developers to service the debt and interest that is coming due – this year it will be around USD 120 bn, of which USD 36bn in US dollars. Looking at real estate loans extended in February 2022, this worrying trend will continue on a massive scale.

New Yuan Loans, and New Mid and Long-Term Loans to Households, in CNY trn, 01/2007-03/2022



The collapse is fundamentally due to the unstable position; the instantaneous cause of the crash is secondary.

Didier Sornette

Beijing is now faced with a dilemma that has long been known in the West: If the failing companies are rescued, they will fuel moral hazard and the real estate merry-go-round will continue to spin. If you let them go bankrupt, you risk an uncontrollable crash of the economy. It should also be remembered that, especially for Chinese municipalities, leasing land for real estate projects is an important source of income. A major real estate crisis would cause fiscal revenues to collapse.

In this respect, it is hardly surprising that China is trying a mixture of both paths. Investors will probably have to write off part of their capital, especially if they are based abroad, while attempts are being made to make the dream of homeownership come true for (Chinese) homebuyers. At the same time, efforts are being made to curb the real estate mania, which is why regulations are being tightened. Loans are now (almost) only available for new buildings, and anyone who wants to buy a second or third home is confronted with significantly higher equity requirements. This, however, destroys the market for used apartments. As a result, prices for new buildings continue to soar, especially if they are located in areas that are particularly desirable – for example, because they provide access to a good school. At the same time, it is becoming much more difficult for owners of old apartments to resell or borrow against them. This has a direct impact on the prosperity of citizens.

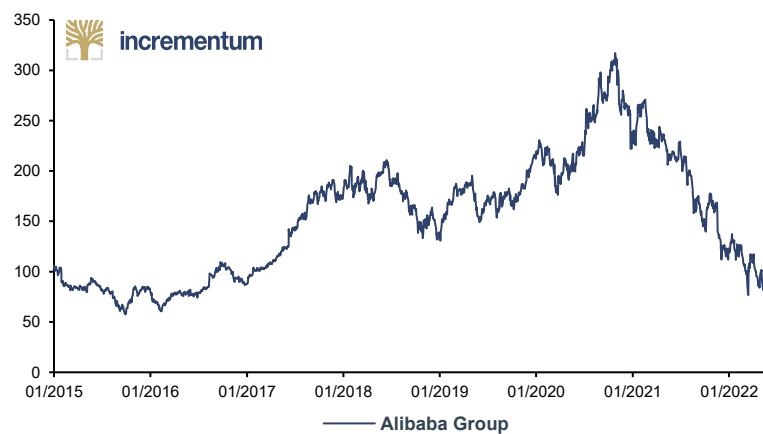
Little Success with Government Programs

The greatest danger in times of turbulence is not the turbulence. It is to act with yesterday's logic.

Peter Drucker

At the same time, various government programs have either not taken off as hoped or are causing a lot of unrest. First and foremost is the latest *Double Reduction program*. Officially, this program aims to ease the load on overburdened students and parents, both in terms of time and, above all, money, because enormous sums are spent on the further education of children in China. For example, the amount of homework was reduced; learning clubs and apps, most of which have to be paid for, were banned; (international) private schools were put on the spot; and English lessons were drastically reduced. The ban on learning apps, in particular, was (also) a completely unexpected attack against the country's tech corporations like Alibaba and Tencent.

Alibaba Group, in USD, 01/2015-05/2022



Experience shows that the most dangerous moment for a bad government is usually just as it's starting on reform.

Alexis de Toqueville

This program has raised doubts about China's continuing on the path of reform. For investors, the decision means sensitive losses on the stock markets; and for tens of thousands of people employed in the eLearning sector, it means the loss of their livelihoods virtually overnight, with their activities thus displaced onto the black market. If the Double Reduction program continues in this manner, in a generation only the upper class will be able to speak, read and write English, because only they can afford unofficial private tutors. The middle class will no longer have access to Western sources. It is much less relevant that they will no longer have access to alternative political news – most Chinese are not very interested in that – but that they will lose the ability to exchange economic, technical, and scientific information with the West. For Western investors, this should be a clear warning sign. The start of the war in Ukraine was, then, the trigger for *an unprecedented outflow of capital*. It remains to be seen whether this program is actually part of a new trend or is just based on short-term motives. But the fact that this development is being received with nervousness even in China reflects Li's analogy regarding the waters of the Yangtze and China's will to reform.

The Double Reduction program is not the only policy program causing trouble. The Belt and Road Initiative (BRI) is coming under increasing criticism, and many widely announced projects have fallen asleep. This is not only because *developing countries are now much more critical of the debt problem*, but often because of

fundamental misunderstandings between Chinese investors and the target countries. The high hopes placed on the program have not been fulfilled so far, and accordingly, domestic coverage of the BRI has also faded significantly into the background. With the Russian invasion of Ukraine, the project also faces the problem that the central overland route connecting China with European markets and passing through Russia and Belarus is no longer usable – and probably permanently so. Alternatives such as through Iran and Turkey must first be further developed and are by no means free of risks.

I worry the Chinese didn't read enough Hemingway about bankruptcy.

Kevin Muir

Made in China 2025, another central program, which aims to achieve market leadership and a 70% share of domestic production in 10 defined sectors, such as semiconductors, robotics, and artificial intelligence by 2025, is threatening to fail – at least in part. In the extremely important area of the semiconductor industry, for example, China is clearly lagging behind. While one of the focal points of global chip production is in the Greater Bay Area around Shenzhen in southern China, innovation is driven by non-(mainland) Chinese companies. While TSMC, IBM, Intel, and Samsung are working on 3nm and 2nm chip technology and these products will reach commercial maturity next year at the latest, the leading Chinese company, Semiconductor Manufacturing International Corporation (SMIC), is struggling to stabilize production in the area of 7nm or 8nm technology to the point where mass production can be started. **One company is at least two chip generations behind. In the semiconductor sector, that amounts to a small eternity.**

We should favor innovation and freedom over regulation.

George Allen

In the AI sector, where China is well positioned, the government put on the brakes massively. The last presidential election in the USA clearly demonstrated to Beijing the power that tech companies can develop in the 21st century. Therefore, they tightened the reins and introduced far-reaching regulations that came into force on March 1, 2022. This is a heavy blow for the AI industry: Many of the regulations are difficult to implement, because the threat of fines and other penalties is extremely high; and in addition, Chinese laws are often not clearly formulated, so that one quite often has to operate in a gray area.

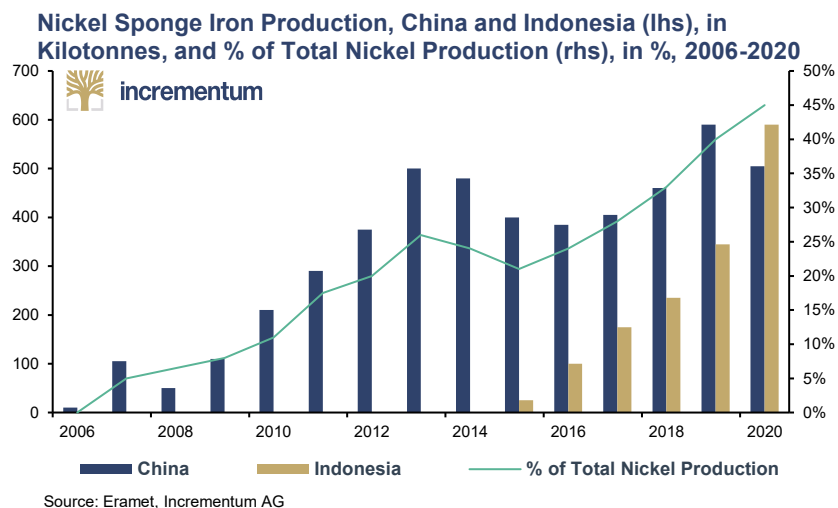
Understanding that China plays the long game is one of the most important insights you can have about what lies ahead. China's leaders know where they want to be five and ten years out.

Stephen Leeb

Uncertainty also pertains with regard to the concept of the two cycles that was officially presented only last year.⁴⁸ Through this, China wants to place itself at the top of the value chain (at least in Asia) and generate future economic growth primarily through its own consumption. The rest of Asia, especially Southeast Asia, is primarily intended to play the role of a supplier of raw materials and intermediate products. However, Indonesia's President Joko Widodo, for example, made it clear at the beginning of the year that the emerging countries of Southeast Asia will by no means be satisfied with this when, in addition to Indonesia's long-standing export ban on nickel, he announced a progressive penalty tax on the export of nickel alloys. Widodo wants to turn Indonesia into a central supplier hub for the EV industry, as nickel is a key building block for high-performance batteries. The move hits China and its steel industry particularly hard, as nickel is elemental to the production of stainless steels. China's steel giants have invested billions of US dollars in Indonesia and built smelters there for the production of nickel-iron alloys in order to circumvent

⁴⁸ See "Gold Mining in China," In Gold We Trust report 2021

the nickel export ban. If the tariffs are maintained, it will be very expensive for China's steel industry, and the attempt to focus more on the production of high-quality steels is likely to be doomed to failure.



Common Prosperity

A society that puts equality before freedom will get neither. A society that puts freedom before equality will get a high degree of both.

Milton Friedman

Socialism is like Neil Diamond music. It's not good and belongs in the past, yet there's a group of people who think that it will eventually catch on if only they keep playing it.

Jeffrey Evan Brooks

In 2021, thanks to a strong yuan and economic recovery, China reached a per capita income of USD 12,468. This would make China a *high-income country*. The threshold for this is USD 12,675. The *middle-income trap* would finally be overcome. But this is only a half-truth; in fact, wealth in China is still very unevenly distributed, which is seen as a problem in many places. While Deng Xiaoping made the statement, surprising for a communist, that as a result of his reforms it was to be accepted that “some people will get rich first,” Xi takes a different position. He wants to strengthen the general level of prosperity: The Chinese should strive for *common prosperity* (共同富裕 *gòngtóng fùyù*). This would shift the focus of economic development to rural areas and *Tier-3 and Tier-4 cities* as a way to address the imbalance in the country.

Consequently, rural China is precisely where Xi enjoys the greatest support – he sees himself as belonging to the peasantry, due to his biography. Xi's father was Xi Zhongxun, who was China's deputy premier between 1959 and 1962. He fell out of favor because of suspected disloyalty to Mao Zedong. During the Cultural Revolution, Xi Jinping was therefore forced to flee to the countryside. He spent most of his adolescence there, a total of 7 years. Without any formal education, he took up studies as a chemical engineer at *Tsinghua University* thanks to the Worker-Farmer-Soldier Program (工农兵学员 *Gōngnóng bīng xuéyuán*). This program placed a special focus on the study of Marxism and the achievements of the People's Liberation Army; chemistry and engineering were actually secondary.

This “common prosperity” is also an important component of the *two cycles concept*. After all, the willingness to consume and the strengthening of domestic demand are the mainstays of this program, for which a broader social

Globalization has created this interlocking fragility. At no time in the history of the universe has the cancellation of a Christmas order in New York meant layoffs in China.

Nassim Taleb

Time erodes everything. Countries included.

Peter Zeihan

prosperity is needed. The problem is that if this is to be brought about through redistribution and regulation, then these measures very quickly have the opposite effect. Especially since the goal of the campaign is also a populist ideological one and, beyond that – at least for individual freedom and any rule of law – a highly dangerous one: *“The common prosperity campaign is most significantly a political – in fact, a populist – strategy to revitalize the roots of communist ideology in China.”*⁴⁹

A further thought: The Chinese economic miracle was one factor, perhaps even the most important factor, in containing the inflationary tendencies inherent in the enormous global expansion of the money supply since the turn of the millennium. China’s determination to be the world’s workbench kept the prices of the vast majority of everyday and consumer goods (relatively) low. Monetary inflation was primarily reflected in asset price inflation. The two-cycle concept in conjunction with the goal of common prosperity could significantly exacerbate inflation, especially in the Western world: China no longer wants to be a workbench, but to position itself at the top end of the value chain. But setting up a new workbench somewhere costs more than just time and money. The unique Chinese conditions, a population that is as large as it is poor and at the same time capable and willing to perform, with a high average IQ, coupled with a stable political order and a (relatively) efficient administration, do not necessarily exist a second time on our planet – certainly not on the scale of China.

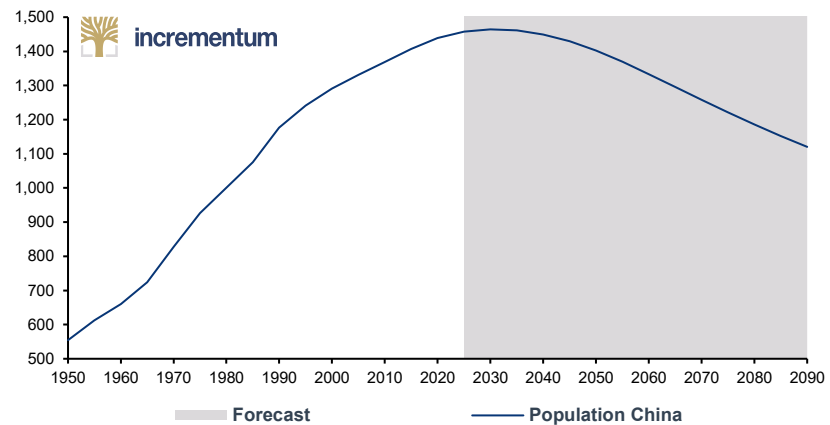
Demography – A Ticking Time Bomb

Moreover, a demographic catastrophe awaits on the horizon.⁵⁰ **Chinese society is aging rapidly.** China’s birth rate continues to fall. **With not even 1.3 children per woman**, it now lags behind most Western industrialized countries. This effect is slightly intensified by emigration, as around 500,000 Chinese leave the country every year. Last year, the population grew **by a negligible 0.034%**. Around the year 2030, the population will start to shrink, with the corresponding consequences for industry but also for the social systems.

⁴⁹ Wu, Guoguang: “China’s Common Prosperity Program – Causes, Challenges and Implications,” Asia Society Policy Institute, New York, 2022, p. 5

⁵⁰ See “Global Demographics Turn Inflationary,” *In Gold We Trust* report 2021

Population China, in mn, 1950-2090

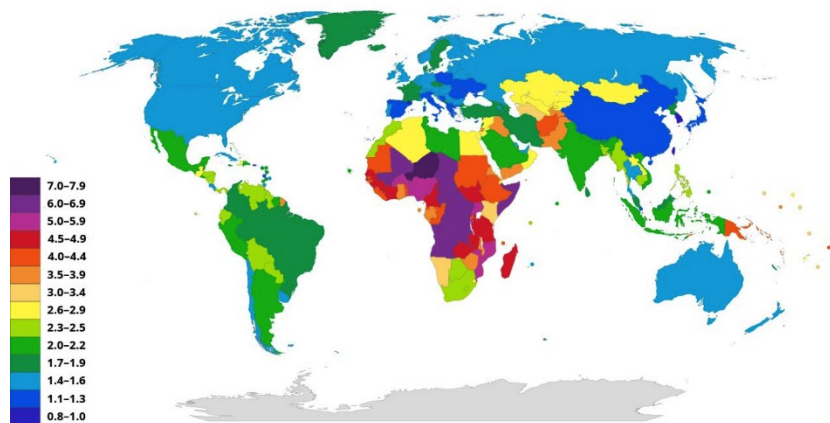


Source: UN, National Bureau of Statistics of China, Incrementum AG

Beginning in 1978... China has been moving in a steady three steps forward/one step back kind of trend—away from the statist teachings of Marx and towards a more market-oriented society... the “Communist Party” still rules, but the degree of coercive state intrusion into individual and corporate lives and decisions has been in clear retreat.

Michael Oliver

China is already struggling with the consequences of demographic change, and the unusually low retirement age of around 55 is being successively raised, as are social security contributions, while benefits are being reduced. But China’s social systems are primarily nongovernmental in nature. It is primarily the responsibility of children who have grown up to take care of their parents who have grown old, for which the parents in turn contribute much more than in the West to the upbringing of their children. This concept of the social division of labor functions remarkably in a traditional agrarian society. Thanks to China’s previous one-child policy, however, this division of labor is now suddenly reaching its limits. The only child of most Chinese families is now expected not only to take care of the parents but also to start a family at the same time. Many Chinese capitulate in the face of this double burden and refuse to start a family. This background also plays an important role in the Double Reduction program mentioned above.



Source: UN, National Bureau of Statistics of China

Above all, however, hovers a dilemma that is presumably insoluble for the CCP. Chinese society needs more individual freedoms and a more reliable rule of law if the prosperity of the population is to continue to increase across the entire social spectrum. This is precisely Xi’s declared goal, which he describes as common prosperity. But this would mean that the CCP would withdraw and intervene less and less in the lives of individual Chinese, as

well as subjecting itself to the law. In fact, this path was followed – at least in part – by Xi’s predecessor, Hu Jintao. At the latest with the outbreak of the Covid-19 pandemic, but in fact probably already from about the middle of Xi’s first term in office, China departed from this path again. Massive recentralization is taking place. Competition among the levels of government, i.e. municipalities, provinces, central government, is being reduced. Private entrepreneurs are again increasingly seen as enemies who deny society its fair share of prosperity. Xi is reaching deep into the toolbox of Maoism, which was thought to have been exhausted long ago. [Austrianchina](#), a blog worth reading, which looks at China from the perspective of the *Austrian School of Economics*, puts it as follows:

“Bit by bit China is being transformed from a country with a decentralized minimalist government nurturing a culture of entrepreneurship, competition and private sector-driven innovation into a country with an increasingly centralized big government propagating the idea that better governance is the cure to all ills.”

End of China’s Gold Hunger?

Whether it’s QE in the West or China’s recent regulatory intervention in the aftermath of the bursting of its equity bubble, market manipulation has become global in scope.

Stephen Roach

But what does all this mean for gold and Chinese gold consumption, which has been a major price driver of the precious metal in recent years? China has not faced a severe economic crisis directly since 1989. At most, the Asian Financial Crisis of 1997–98 hit China’s outposts of Hong Kong and Macau hard, but also allowed then-president Jiang Zemin to implement his reform plans faster and stronger in the face of conservative critics.

Gold, in CNY (lhs) and INR (rhs), 01/1990-05/2022

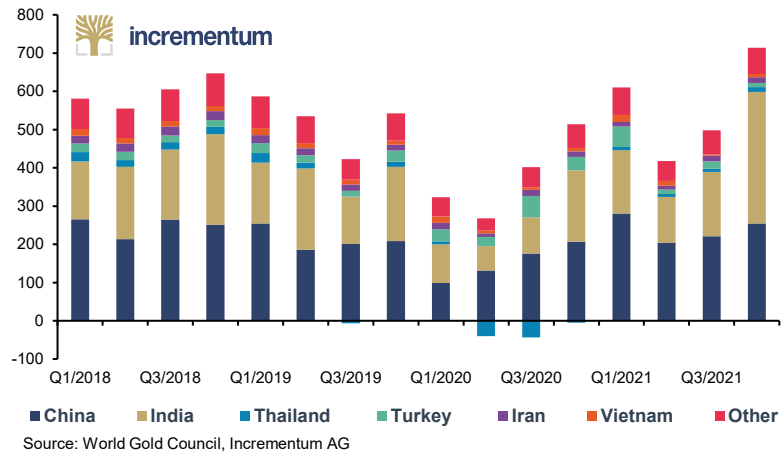


Source: Reuters Eikon, Incrementum AG

The bursting of the *new economy* in 2000 also had rather positive effects in the medium to long term, because even more companies began to look for cheaper production locations. The real estate crisis that struck the US in 2006 barely touched China, while the European debt crisis that hit in 2009 allowed the CCP to get a foot in the logistics doors of Europe. But even in this case, the impact on China’s economy was short-lived. China, in particular, also benefited from the rescue measures of the West, especially in the form of an expansive monetary

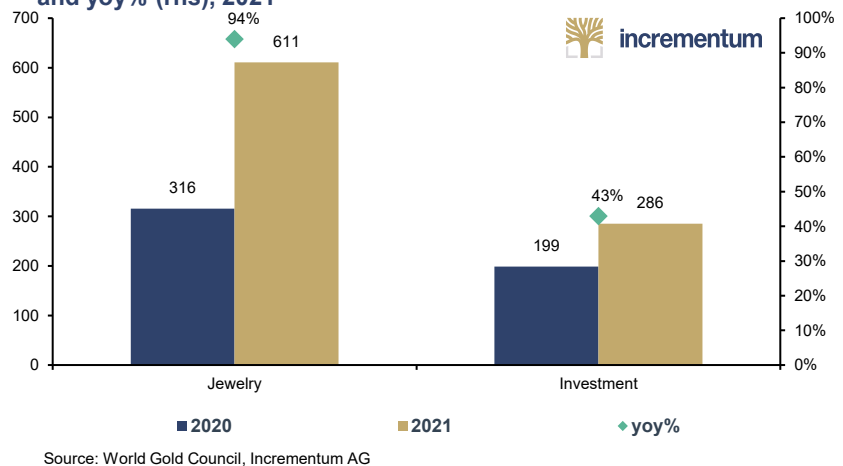
policy. Initially, China came out of the Covid-19 pandemic very well because, unlike the West, it did not have to completely cripple its own economy. Because of the annual Spring Festival, business was at a relative standstill already; it was just that the restart had to be postponed by almost three weeks. **The significant economic slump in the first half of 2020 was again almost completely made up for in the following months – also on the gold market.**

Asian Gold Consumer Demand, in Tonnes, Q1/2018-Q4/2021



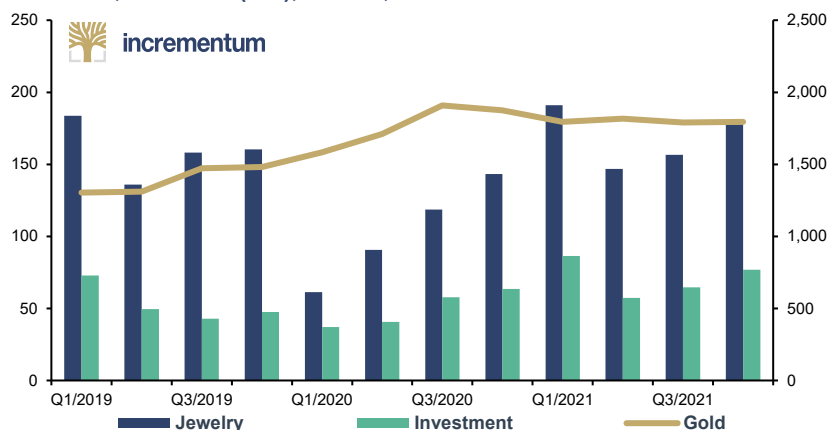
Nevertheless, 2020 naturally remained a weak year for gold, not only in China but throughout Asia. In 2021, however, overall demand picked up significantly. The anticyclical attitude of the Asians was evident once again. Demand only picked up significantly after the gold price marked an all-time high in Q3 2020. Late in Q4, it was precisely the major consumers China and India that returned to the market, naturally justified by the start of the wedding and festival season in India and by the Chinese New Year. This pattern was repeated last year.

Indian Gold Demand for Jewelry and Investment, in Tonnes (lhs), and yoy% (rhs), 2021



China and India in particular saw a significant increase in consumption of jewelry, bullion, and ETFs.

Chinese Gold Demand for Jewelry and Investment (lhs), in Tonnes, and Gold (rhs), in USD, Q1/2019-Q4/2021



Source: World Gold Council, Incrementum AG

Year-on-year, Indian jewelry purchases increased by 93%, Chinese by 63%. Indians in particular confirmed their reputation as anticyclical – around 265t were purchased in Q4/2021. This extremely strong quarter ensured that Indian gold consumption climbed to a six-year high.

Disaster is a strong but appropriate word that applies perfectly to the state of U.S. monetary policy.

Dr. Lacy Hunt

Gold investment by the world’s two largest consumers also rose significantly last year. 285t was purchased in China, 186t in India. Demand also developed positively in the other Asian countries. In Thailand, Indonesia, Singapore, Malaysia, and South Korea, investors bought a total of around 90t of gold; only in Japan were there de facto no inflows. In Q4/2021, around 4t of gold was sold there, leveling out the weak inflows of the previous three quarters.

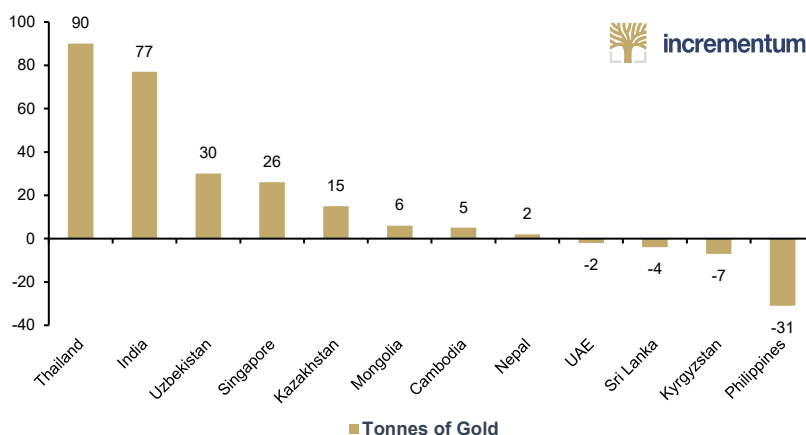
In contrast to the global trend, Chinese and Indian gold ETF investments also increased. At year-end 2021, Chinese gold funds held a record 75.3t, up 14.4t or nearly 25% year-on-year. Around 9t of gold was bought by Indian EFTs. The total investment amount of the funds on the subcontinent thus rose by more than 25% to 37.6t. Thus, these two countries also accounted for the lion’s share of ETF inflows in Asia, a total of 25t. Nevertheless, these financial products play only a subordinate role in China, and even more so in India. This will not change much in the foreseeable future due to investor mentality. Jewelry and physical gold remain the preferred forms of precious metal investment in Asia.

I’m known as a gold bug and everyone laughs at me. But why do central banks own gold now?

Alan Greenspan

Central banks abandoned the restraint they had shown in 2020 and bought significantly more gold. The buyers list was dominated by Asian central banks last year. 7 of the top 10 buyers were from Asia, with the Bank of Thailand leading the field with about 90t and the Reserve Bank of India with 77t. The largest seller was the Philippine central bank, Bangko Sentral ng Pilipinas (BSP), which offloaded about 30t of gold. The decision to manage its reserves more actively was made shortly after the (then) all-time high in August 2020, when gold accounted for about 13% of the island nation’s foreign exchange reserves. Benjamin Diokno, governor of the BSP, defended the decision against sometimes sharp criticism by saying that gold should account for a maximum of 10% of the BSP’s total reserves.

Asian Central Bank Gold Purchases, in Tonnes, 2021



Source: World Gold Council, IMF, InCREMENTUM AG

Demand from central banks should remain high in the coming years.

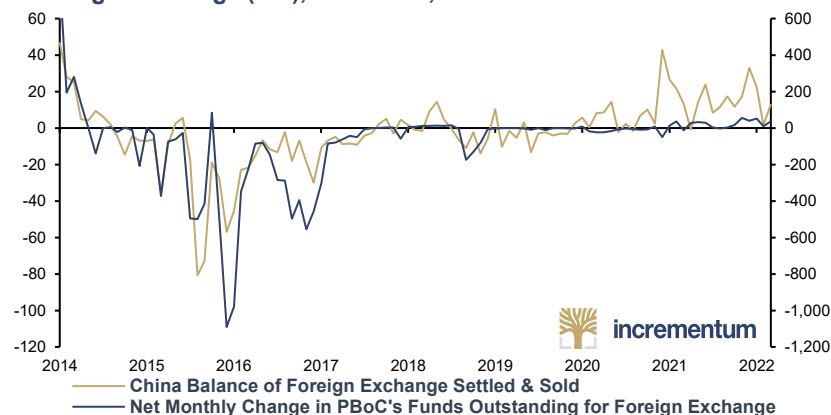
As the expansion of the money supply, which has been pursued for decades, is now likely to reach the full breadth of society, central banks worldwide should tend to expand precious metal reserves.

If you want peace prepare for war.

Flavius Vegetius Renatus

This expansionist tendency was to be exacerbated by the West’s response to Russia’s attack on Ukraine. With the blockade of Russia’s foreign exchange reserves, the Western world has certainly drawn the sharpest sword in terms of sanctions. China’s PBoC holds the largest foreign exchange reserves in the world and is undoubtedly watching the West’s actions with a wary eye. It is safe to assume that Beijing will reconsider, or perhaps has already reconsidered, its strategy that gold should account for no more than about 2% of the PBoC’s portfolio. After all, the West has made it clear with the sanctions against Russia that both the US dollar and the euro are not safe havens in the event of a conflict. Thus, the real, perceived, and potential *rogue states*, of which there are plenty in Asia, will look for alternatives and certainly not disregard physical gold. In this context, it is worth noting an interesting divergence. **There is currently a gap of more than USD 200bn between the PBoC’s on-balance-sheet foreign assets and foreign exchange settlements.**

China Balance of Foreign Exchange Settled & Sold (lhs), in CNY bn, and Net Monthly Change in PBoC’s Funds Outstanding for Foreign Exchange (rhs), in USD bn, 01/2014-03/2022



Source: Bloomberg, InCREMENTUM AG

Those entrapped by the herd instinct are drowned in the deluges of history. But there are always the few who observe, reason, and take precautions, and thus escape the flood. For those few, gold has been the asset of last resort.

Antony Sutton

Some analysts speculate that China has been quietly buying gold on a large scale. This is certainly conceivable, because in the past China has also handled its gold purchases quite discreetly and usually only communicated the purchases much later, if at all. Often, the gold position on the balance sheet was simply increased without any comment. How much gold the PBoC actually holds can therefore not be discerned with absolute certainty. Other reasons can be assumed for the gap as well. It is also conceivable that the PBoC has quietly taken parts of the debts of Chinese real estate developers, especially those denominated in US dollars, onto its books in order to take pressure off them. That China will continue to accumulate gold in view of global developments, and possibly do so even more aggressively, seems only logical.

Official Reserve Assets and Other Foreign Currency Assets (Approximate Market Value), in USD bn, 02/2022

A. Official reserve assets	3,397.39
(1) Foreign currency reserves (in convertible foreign currencies)	3,213.83
(a) Securities	3,211.21
(b) Total currency and deposits with:	2.62
(i) other national central banks, BIS and IMF	1.07
(ii) Banks headquartered in the reporting country	0.89
(iii) Banks headquartered outside the reporting country	0.66
(2) IMF reserve position	10.65
(3) SDRs	53.63
(4) Gold (including gold deposits and, if appropriate, gold swapped)	119.64
Volume in millions of fine troy ounces	62.64
(5) Other reserve assets	-0.35
B. Other foreign currency assets	179.24
Securities not included in official reserve assets	177.89
Loans not included in official reserve assets	1.35

Source: PBoC, Incrementum AG

Any thoughts that China and Russia's strategic relationship will be impaired by Russia's invasion of Ukraine should be dismissed as wishful thinking.

Simon Hunt

Russian countermoves against the sanctions imposed by the West in the financial sector could set in motion a highly exciting development. By linking the ruble, gold, and natural gas, **the Russian central bank has opened a (small) door for the precious metal back into the financial system.** Our advisory board member Jim Rickards, in his book *Currency Wars*, traced a similar scenario during a US government simulation. How China and the PBoC will react to this is currently unclear, especially since the Middle Kingdom is at best indirectly affected for the time being. After all, China is not among the countries that Russia considers *unfriendly*. However, **the latest gas contracts** are denominated in euros.

Conclusion

Under capitalism, people have more cars.

Under communism, they have more parking spaces.

Winston Churchill

We've had a couple hundred bad years, but now we're back.

Shanghai resident

The man who removes a mountain begins by carrying away small stones.

Chinese Proverb

A severe economic slump in the Middle Kingdom will undoubtedly also leave clear traces in the Chinese demand for gold, as suggested by the development of demand in the first half of 2020, for example. China's impending departure from the reform path will also ensure weaker economic development and thus weaker gold demand. At the same time, however, the continued focus and strengthening of rural, more gold-loving areas and the idea of common prosperity are ostensibly positive factors for gold demand. Further regulation of the real estate sector could also shift investor capital toward the gold market because other investment alternatives are both scarce and not in line with the Chinese mentality. **Gold is and will remain deeply rooted in China as well as other Asian societies.**

Moreover, the Chinese central bank's support measures definitely have an inflationary effect and thus tend to be positive for precious metals. However, this also indicates that in the coming years private demand will probably play a less significant role in the pricing of precious metals. The decisive factors are likely to monetary policy and, above all, geopolitical and financial strategy issues. Should the US actually initiate a sustained turnaround in interest rates, China would have to increasingly lower interest rates to support the market.

It remains to be seen what consequences the latest measures of the Russian central bank will have. However, it is highly unlikely that a gold standard supported by China will ultimately emerge, no matter how it is designed. No government in the world will voluntarily (!) put fetters on its fiscal policy-making power – not even with regard to gold. The demographic turnaround that will occur at the end of the decade could then in turn be accompanied by the end of China's hunger for gold. An aging Chinese society might even tend to reduce its gold holdings. **Until then, however, there will still be a lot of water flowing down the Yangtze.**

ADVANCING HIGH-GRADE GOLD ASSETS

BRITISH COLUMBIA - CANADA

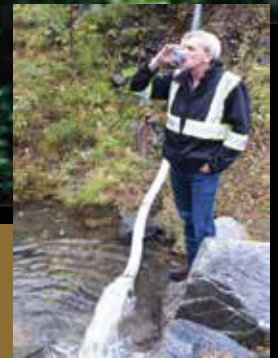
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When Rome Lost Its Reserve Currency

“If you must break the law, do it to seize power: In all other cases observe it.”

Julius Caesar

Key Takeaways

- The Roman world collapsed in a hyperinflationary, economically destructive spiral.
- The process behind Ancient Rome’s rise and fall are disturbingly similar to the situation we face today.
- A comparative economic study of Rome suggests the world is on the precipice of a turbulent transition from an old world order to a new one.
- Rome and countless other empires, both before and after, went through similar stages; and history teaches us that the years and decades ahead will be extremely turbulent.
- In this chapter we look at Rome’s experience in detail and compare it to the United States of today.



***About the author:** This chapter was contributed by our dear friend Hans Fredrik Hansen, who worked as a senior economist for several large multinational oil companies, in the US, Europe and the Middle East.*

No one tells the tale of Diocletian's destructive economic policies better than his contemporary, Lactantius⁵¹, in chapter 7 of his *De Mortibus Persecutorum*:

"There began to be fewer men who paid taxes than there were who received wages; so that the means of the husbandmen being exhausted by enormous impositions, the farms were abandoned, cultivated grounds became woodland, and universal dismay prevailed. ...

He also, when by various extortions he had made all things exceedingly dear, attempted by an ordinance to limit their prices. Then much blood was shed for the veriest trifles; men were afraid to expose aught to sale, and the scarcity became more excessive and grievous than ever, until, in the end, the ordinance, after having proved destructive to multitudes, was from mere necessity abrogated."

Whilst Gaius Aurelius Valerius Diocletianus meant good, his years as a military man gave him a strong predisposition for centralized solutions. Ills plaguing society, more often than not from prior decisions made by the same central authority, found in Diocletian solutions that condemned Europe to a millennium of economic stagnation.

The Free-Market Economy Is Established in Rome

Stop quoting laws; we carry weapons!

Gnaeus Pompeius Magnus

Every socialist is a disguised dictator.

Ludwig von Mises

Before we start, it is important to note that the Roman Empire was an outlier in ancient times. Rome's many farmers were not serfs, but freemen protected by Roman civil law to the same degree as wealthy Roman aristocrats. In the time of the Republic, before Octavian became the first Roman Augustus, a large land-owning oligarchy had risen on back of a constant influx of slaves from newly conquered lands. Real wages came under pressure, and land increasingly became concentrated among the rich and powerful, who bought land from distressed small-scale farmers, who were unable to compete with cheap labour provided by slaves.

Civil wars were fought over the land issue, this led Octavian to understand the importance of creating a successful 'middle-class' from land-owning peasants. When Octavian came out on top in the civil wars of 27BC, he set the Roman Empire on course to freedom. This led Rome on a path toward a proto laissez-faire economy.

Romans were free to seek opportunities across the empire. They were safe, whether they were in one of the many cities, on their farms or whilst travelling along the extensive network of excellent roads and wide-spanning sea routes. Pirates and brigands were a thing of the past. Property rights were secure.

⁵¹ Lucius Caecilius Firmianus signio Lactantius (c. 250 – c. 325) was an advisor to Constantine the Great and published several works which have become important primary sources from the time period.

While most of the Empire was agrarian, historians suggest that the Italian peninsula, and certain parts of the provinces, were 30% urbanized,⁵² and GDP per capita was on par with that of England and Holland before the industrial revolution.⁵³ Well off citizens lived comfortably in houses with central heating, whether their estates were in Rome or close to Hadrian's wall at the outermost part of the Empire. This standard of living was unobtainable to even the most wealthy lords and kings of the Middle Ages.

Let's compete freely. Goddam tariffs! Free trade and free seas—that's what's right!

James Clavell

Complex trade routes spanned across the Mediterranean Sea – and Europe's many rivers – which connected every corner of the Empire. A private merchant fleet ensured grains and other foods, clothes, travelers, and even soldiers were transported across Mare Nostrum. The grain trade from Egypt to the city of Rome was by far the most important of these routes. Traders assured that a single market for commodities across the empire developed.⁵⁴ Willing investors could buy shares in ships and diversify risk to their own liking, similar to modern stock companies.

The Roman economy was, in other words, a free market economy.

Complete with fluctuating market prices to ensure efficient capital allocation. They even had rudimentary markets for loanable funds aided by variable interest rates which, as always, were affected by the fluctuations in money supply.⁵⁵

During Augustus' reign, new precious metals mines were discovered in Spain and Gaul (modern France), this led to increased activity at the Imperial Mint. The rise in spending brought about an economic boom, driven ever higher by lower interest rates, and increasing land values. A boom which eventually, or should we say inevitably, ended with a financial panic, a bust and economic depression that was triggered by rising interest rates and falling land valuations in 33AD⁵⁶ when the inflation in the money supply dried up.

But generally, Romans lived in an environment where peace and freedom flourished, bringing forth prosperity to all within its borders.

By the time of Hadrian, new conquests were a thing of the past. This ended the large influx of slaves, which turned out to be a boon to Roman workers and farmers alike. Over time, even the rich benefitted from this development as freemen had incentives to innovate and improve, something lacking in a dull workforce of slaves. Higher productivity more than made up for higher wages paid to a freeman.

'Capitalism' is a dirty word for many intellectuals, but there are a number of studies showing that open economies and free trade are negatively correlated with genocide and war.

Steven Pinker

It is no wonder Romans were wealthier and more prosperous than their many neighbors who all coveted Roman wealth. It was because of this wealth that invaders of Rome did not want to conquer Rome, but rather to become part of the empire and enjoy the freedom and fortune that came with Roman citizenship. In lieu of becoming a Roman, outsiders at the very least sought trading rights with and within the Empire.

⁵² Rathbone, Dominic: "Grain Prices and Grain Markets in the Roman World," presented at the conference on the Efficiency of Markets in Preindustrial Societies, Amsterdam, May 19-21, 2011

⁵³ Haskell, Henry J.: *The New Deal in Old Rome*, 1947

⁵⁴ Kessler, David and Temin, Peter: "Money and Prices in the Early Roman Empire," *Working Paper 05-11*, April 14, 2005

⁵⁵ Temin, Peter: "A Market Economy in the Early Roman Empire," February 2001

⁵⁶ Haskell, Henry J.: *The New Deal in Old Rome*, 1947, p. 184

The Free-Market Economy Disappears from Rome

This was the situation up to the first half of the third century. If we add another 50 years to that though, to the time of Emperor Diocletian and Constantine, we find that peasants are no longer free, nor are soldiers, carpenters, masons, goldsmiths, or other skilled laborers. They have become bound to their posts. A Roman's new bondage had even become hereditary with sons and grandsons expected to assume the same occupation as their forefathers. This new form of slavery⁵⁷ had even become entrenched in, and protected by, the same Roman civil law which proudly served freemen just a generation prior.

The world is not a wish granting factory.

Augustus (Gaius Octavius)

I was reading in the paper today that Congress wants to replace the dollar bill with a coin.

They've already done it. It's called a nickel.

Jay Leno

Inflation is as violent as a mugger, as frightening as an armed robber, and as deadly as a hitman.

Ronald Reagan

What can explain such a radical transformation? The people of Rome certainly did not choose the new dismal state of affairs out of their own volition. It had to be forced upon them.

The reasons for this are manifold, complex, and often mutually reinforcing. Most have heard of invading Barbarians and unruly armies led by usurping generals, but few know about the havoc created by exponential inflation in the relatively sophisticated market economy of Rome.

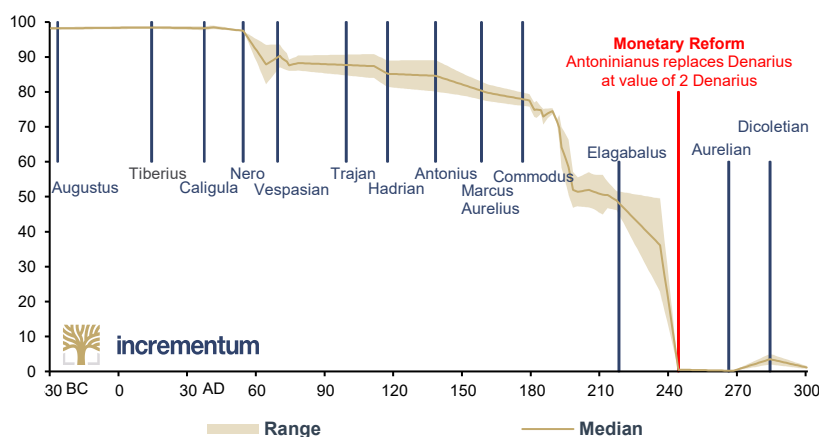
Inflation took the form of diluting silver content in coins. Every new ruler minted new coins to proclaim to the civilized world and beyond that he was now in charge. The process of reducing silver content of new coins as they retired older ones became modus operandi. New mints retained their face value, but lost intrinsic value. Gold coins were often exempt from debasement because the standard gold coin, the aureus, was used as a store wealth for the rich and politically connected. The exchange rate between the silver denarius and gold aureus diverged ever more, which concentrated wealth among the already rich in a hidden regressive tax on the poor.

Such trickery worked like magic at first, but gradually problems of escalating prices led to a vicious cycle where Gresham's Law ensured taxes were paid in diluted money, while good money was hoarded. Successive emperors therefore had to dilute coins ever more just to keep up. By the crisis of the third century, Roman coins had a silver content of less than half a percent. Some coins found from the reign of Claudius II Gothicus (268-270AD) had a silver content of 0.02 percent. Needless to say, prices skyrocketed.

For example, one measure of Egyptian wheat, which sold for seven to eight drachmaes in the second century, cost 120,000 drachmaes in the third century. This equals an annual average price inflation of 10-15%, but there was little structural price inflation present in 250AD, and even by 260AD it did not pay to melt old silver coins into new ones. Thus, it is safe to say that most of that price inflation occurred in a very short time span, from around 260 to 270AD. **In many places the monetary economy ceased to exist, and traders had to resort to barter.**

⁵⁷ Rostytzeff, Michael: "The Problem of the Origin of Serfdom in the Roman Empire," *The Journal of Land & Public Utility Economics*, Vol. 2, No. 2, April 1926, pp. 198-207

Silver Content in Roman Denarius, in %, 30 BC-300 AD



Source: Langmuir, Robin (2018), Author's Calculations, Incrementum AG

The first panacea for a mismanaged nation is inflation of the currency; the second is war. Both bring a temporary prosperity; both bring a permanent ruin.

Ernest Hemingway

The curious task of economics is to demonstrate to men how little they really know about what they imagine they can design.

Friedrich August von Hayek

When Diocletian finally managed to end the cycle of military coups and countercoups, he was faced with an enormous problem. How to pay for his expanded army? Diocletian increased the number of soldiers from ~350 thousand men to between 500 and 600 thousand, but he could not pay for his army with worthless cash.

The new Augustus therefore also decided to use barter, or tax payment in-kind. Diocletian's enlarged bureaucracy calculated backwards; starting by how much grain, weapons, transportation, tents, leather etc. five hundred thousand soldiers needed, and from that they determined in-kind taxation. This system had slowly evolved before Diocletian, but it was he who formalized and entrenched it in law.

Imperial bureaucrats quickly realized that they could not ask every town or farming community to provide an equal share of all the various products needed. This was unreasonable and to inefficient to ever work, so they came up with relative prices. Curiously, Diocletian's bureaucrats found a practical application in Ricardo's postulate of comparative advantage around 1,500 years before Ricardo's famous "On the Principles of Political Economy and Taxation".

A farming community with productive barley fields would supply a certain number of bushels, which had to be priced relative to everything else. A merchant shipper on the other hand would supply X-amount of nautical miles worth of transport corresponding to the value of bushels supplied from the farming community. Weapon manufacturers, leather tanners, wine producers, shoemakers and a full range of other suppliers all went into Diocletian's fiendishly complicated ledgers.

It is easy to see how this repressed innovation in the Roman economy as price signals disappeared. By keeping relative prices fixed, tax rates would also vary considerably from one harvest to the next. A year of bumper crops meant low tax rates relative to others, just as a poor harvest had the opposite effect. The state had no incentive to substitute expensive items for cheaper since they operated with fixed amounts of, say, bushels of barley, and did not consider the market price of goods.

Cleopatra's nose, had it been shorter, the whole face of the world would have changed.

Blaise Pascal

The economic system therefore stopped responding to price signals. Making matters worse, the newly established and, highly complex, tax system, could not allow people to freely move around the empire or find alternative employment. Any incentives to optimize were therefore further eroded. From a bureaucratic point of view, workers changing their occupation or moving to a new city, would see the government's tedious and expensive census network derailed. To get around this problem, Diocletian, an old army general, simply ordered men to stay put. A tanner on the day of Diocletian's directive thus became a tanner till death. Not only was the poor tanner bound to his position, his son and grandson were also obligated by law to become tanners.

It did not take long before the Roman economy was run by people stuck in occupations they were ill fit to perform; mindlessly producing what they had always produced, unmoved by any notion of relative scarcity, unable and unwilling to innovate and improve. A dearth of, say, farmers, did nothing to incentive new farmers, or for existing farmers to rotate crops according to changes in relative prices. With innovation stifled, Roman society cemented itself into a structure completely powerless to change with changing circumstances.

The reforms Diocletian stubbornly introduced did not only leave his Empire doomed, but also set the European economy back a millennium. **His economic policies are the reason we to this day have occupational surnames.** Zimmermann, Ziegler, Schumacher, Spengler, Wagner, Bauer, Fischer, Gerber, Jäger, Müller are all well known to Germans and a product of an old feudal society where each man was born into his post. Just as Diocletian ordered.

The Destructive Effect of the Roman Welfare State

Either I find a way or I make one.

Hannibal

Diocletian's illogical reforms are the logical endpoint of policy choices taken centuries before him. Republican leaders and Emperors determined Diocletian's policy choices for him by myopically, but expediently, implementing reforms which incrementally led to monetary – and by extension – imperial collapse.

Take for example the old grain dole, a remnant from the Republican days when the two populist Gracchus brothers sought public office by handing out subsidized grain to the have-nots of the Eternal City. In 124BC, Gaius Gracchus finally got his populist grain dole legislation enacted despite stiff opposition from Senators draped in the Roman ideal of self-reliance and low taxes. Expedient for Gracchus but devastating for Rome; with enough time his policy will be among those that greatly exacerbated the inflationary cycle.

The story of Gracchus the populist and Piso, a strict conservative, satisfyingly demonstrates how the new-fangled ideas clashed with old. Piso, consul at the time, was a particularly adamant opponent of Gracchian populism, so it came as a big

surprise to Gracchus when he spotted Piso in the throng, waiting patiently in line for his state subsidized handout.

Puzzled, Gracchus enquired Piso about his apparent hypocrisy: “I shouldn’t like it, Gracchus,” Piso replied, brilliantly if I may say so, “if the bright idea should come into your head to divide up my property among all the citizens. But if you should do it, I would be on hand to get my share.”

As expected, subsidized grain soon became free, and by the time of Augustus 320,000 Romans were provided food on the dole daily. Augustus and others tried to reign in the spendthrift policy, but it proved impossible. Rome was never a democracy, but its leaders still feared the people and often had to placate them.

Policies that aim to thwart market forces rarely work, and usually fall victim to the law of unintended consequences.

Lawrence Summers

Rome’s welfare state was not only a heavy burden on the state’s coffers, it also led to perverse incentives for productive members of Roman society. Subsistence farming meant back-breaking work for the scant privilege of paying taxes and barley filling up your family’s belly. As time went by and inflation eroded away any extra purchasing power a farmer may have accumulated, he would eventually prefer free grain – which was later expanded to bread, oil and wine – over his tough life on the farm. Skilled and unskilled workers alike undoubtedly were driven by the same incentive.

Unintended consequences from government policies, no matter how well meaning, always catch up in the end. Fewer farmers and workers to pay taxes, and consequently, more people on the dole meant a need for more inflation to plug the gap between increased government spending and lower tax revenue. This inflation brought about a further reduction in productive members and the cycle repeats itself ad infinitum.

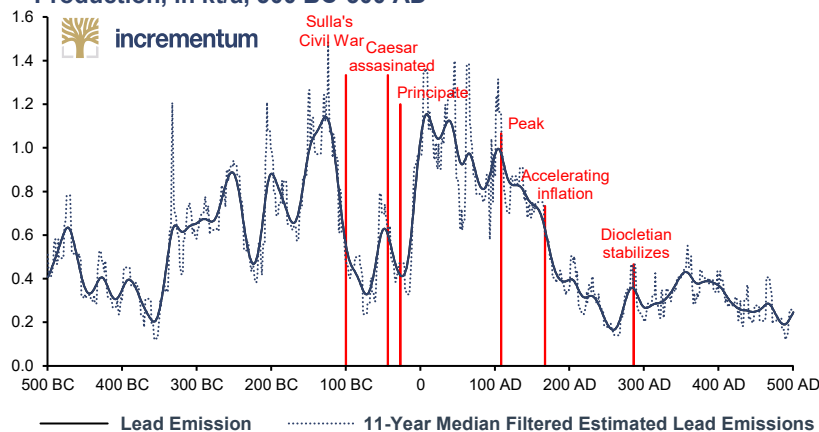
I shall be a good politician. Even if it kills me. Or if it kills anyone else, for that matter.

Marcus Antonius

It is not only in lower farm yields that we see the adverse effects of inflationary policies. By studying lead emissions we can get an idea of how bad inflation was for the productive manufacturing capacity of Rome. Lead was the primary source of metallurgical output throughout the Empire. Any changes in production of the metal is a good proxy for the state of the overall economy.

Lead emissions found in ice cores show how industrial production collapsed, from a peak around 100AD, to a trough in the third century from which it never recovered.

Lead Emission Derived from Ice Cores as Proxy for Industrial Production, in kt/a, 500 BC-500 AD



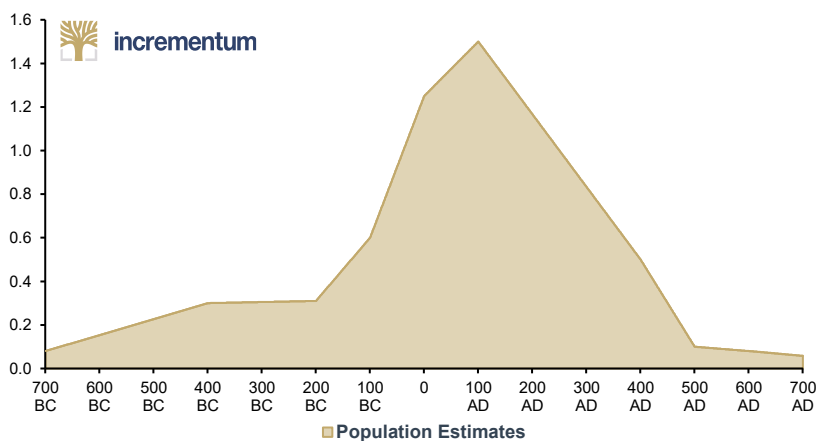
Source: McConnell, J.R. et al. (2018), Author's Calculations, Incrementum AG

While acknowledging the many limitations of using lead emissions as a proxy for industrial production, we can cautiously say that Roman manufacturing output declined by about 80% from peak to trough and was still about 75% below its peak 200 years after its nadir around 260AD.⁵⁸

To be ignorant of what occurred before you were born is to remain always a child.
Marcus Tullius Cicero

Much has been said about the utter destruction of city life in Rome, but little is understood of why Romans gave up on the city. Historians are not economists, and more often than not that is a good thing, but to explain the de-urbanization, or ruralization, of Rome, knowledge of monetary systems can be quite helpful. The eternal city turned out to be transient. Although there are large differences in estimates of Rome's population, several scholars claim it was as high as 1.5 million at its zenith, while some claim it was as high as two million.

Population Estimates: City of Rome, in mn, 700 BC-700 AD



Source: Twine, Kevin (1992), Author's Claculations, Incrementum AG

Not long after Romulus founded the city named after him in 753BC, it is estimated to have had a population of about eighty thousand. In 700AD its population was reduced to a mere seventy thousand, and in 1100AD less than forty thousand.

⁵⁸ The author used a statistical filter to smooth out volatility in the dataset to better show trends in lead emissions.

How Inflation Threw Rome Back into the Barter Economy

As shown, inflation caused a breakdown of the monetary system and a re-introduction of barter. Barter is incompatible with specialization and economies of scale.

Inflation is like a country where nobody speaks the truth. It introduces an element of deceit into all our economic dealings.

Henry C. Wallich

Producing at scale necessitates, among other things, large purchases of raw materials which cannot be paid for without money. Specializing in, say, masonry, makes direct transactions very difficult. How should the baker pay the mason for the newly erected wall? It is worth several thousand loafs of bread, but the stonemason cannot possibly eat those before they turn stale. Money is the institution that enables indirect transfer between parties and even more importantly, allows for temporal transactions.

City life means a high degree of specialization and large-scale manufacturing. Without the institution of money, large cities become unsustainable and must shrink down in scale in order to function – exactly what happened to Roman cities. Societal effects, exponentially positive with the introduction of money, division of labor, specialization and increased productivity, turn negative, falling at an ever-faster rate when the institution of money and indirect exchange disappears.

The story of Constantinople's Theodosian walls will help you understand what I mean. Theodosius II ordered the famous defensive walls built in 404AD and his walls stood solid against attempted sieges for centuries. Even the mighty Umayyad Caliphate had to abandon their siege of 717AD in the face of Constantinople's impregnable walls, and never managed to conquer Byzantium. However, additions and repairs done 400 years later are shown to be of inferior quality to the original walls. Knowledge, expertise, and the technology needed to construct sturdy walls simply disappeared. This regression most certainly occurred across all sectors of the economy, and probably also in the army.

Every expansion of the personal division of labor brings advantages to all who take part in it.

Ludwig von Mises

With cities come specialization, leading to invention, and later, innovations to be commercialized. Productive societies are always spawned from cities. Knowledge is somehow stored in the DNA of its people through the city. New generations are brought up with centuries of accumulated wisdom at their disposal. Wisdom they themselves can improve upon and pass on to the next generation. **When cities disappear, knowledge slowly fades away with them and subsequent generations intellectually regress.**

Literacy rates substantiates my hypothesis. Ten percent of the population is estimated to have been able to read at Rome's height, compared to only one percent during the European Middle Ages. When the tide eventually turns for the better, old understandings, skills and knowledge must be re-learned.

Europe lost a millennium of wisdom when Rome succumbed to the inflationary spell, and we can only marvel in our imagination at the potential technological advancement we could have had today, if Europe did not spend centuries stuck in

Superficial goals lead to superficial results.
Atilla the Hun

post-Romanian dark ages. It is true that the Church did make significant contributions to science, but the economic structure that followed Diocletian was unable to commercialize new discoveries.

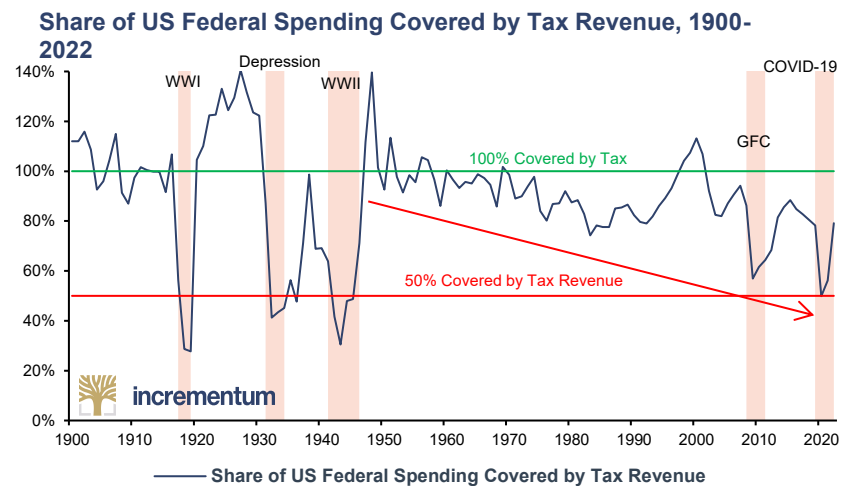
The story of the Theodosian walls proves beyond doubt that inflation, if taken to the extreme, is catastrophic for society. Even as Aurelian and later Diocletian managed to stabilize the precious metal content in Roman coins, price inflation continued unabated through the process of the rising velocity of money, which is perfectly described by the actions of a Roman official upon hearing that another debasement of coinage was coming. The official wrote to his servant, instructing him to “Hurry, spend all my money you have; buy me any kinds of goods at whatever prices they are available.”⁵⁹

When trust in Roman coins fell, it could not easily be regained. Prices thus continued to soar even when the silver content was stable. In Bruce Bartlett’s words, “the fall of Rome was fundamentally due to economic deterioration resulting from excessive taxation, inflation and overregulation.”⁶⁰

The US Walks in Rome’s Footsteps to Ruin

Sooner or later, everything old is new again.
Stephen King

The Roman experience looks eerily similar to the present US economic situation. Just like ancient Rome, the USA enjoys the privilege and shoulders the burden of enforcing its “Washington Consensus” on the world, but like late-stage Rome, the US cannot fund its army and welfare state through taxation alone.



As Rome had to resort to currency debasement to pay for its welfare/warfare state, the US finds itself increasingly unable to fund current expenditures through taxation. For each downcycle the US relies ever more on a complex process of bond issuance, covert, and more recently, overt inflationary policies to ensure the once mighty Empire can pay its bills.

⁵⁹ Martin, Thomas R.: *Ancient Rome: From Romulus to Justinian*, Yale University Press, 2012, p. 174

⁶⁰ Bartlett, Bruce: “How Excessive Government Killed Ancient Rome,” *Cato Journal*, Vol. 14, 1994, p. 301

A gold standard is to moochers and looters in the government what sunshine and garlic are to vampires.

Herman Cain

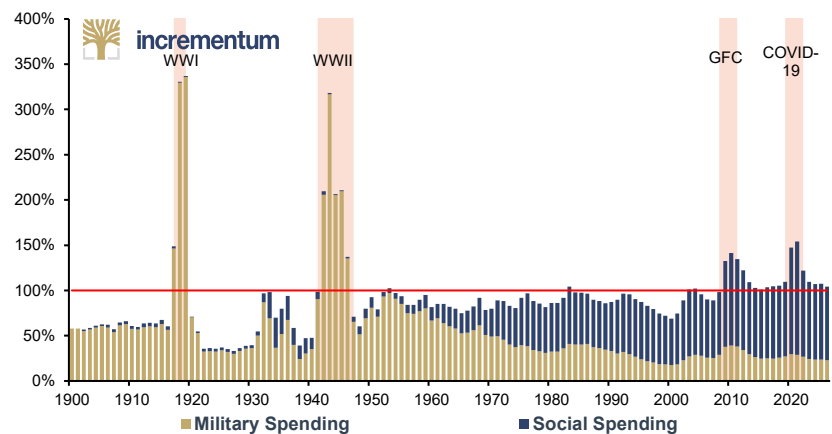
Although the US saw expenditures soar during the world wars, large subsequent surpluses allowed the Federal fiscal house to remain in order. When the last vestiges of the old Gold Standard were abandoned in the 1970s, the spending dynamic changed as the Empire no longer needed to adhere to a sound fiscal policy. Funding was secured via the central bank. The modern-day Empire felt entitled to take full advantage of its ‘exorbitant privilege’ to keep its soldiers and plebs content, docile and obedient.

During the Global Financial Crisis (GFC), taxes covered less than 60% of outlays, down from an average of ~90% in preceding decades. In the course of the Covid-19 shutdowns the US government funded less than 50% of its outlays from taxation.

Rome found itself equally tied down by a Gordian knot. The ancient Empire had to fund its army above all else. Emperor Severus famously advised his sons Caracalla and Geta to “*Be harmonious, enrich the soldiers, scorn all others*”⁶¹ to remain in power.

Similarly, the US has to placate its industrial military complex, but even more important to modern day ‘Emperors’ is to mollify the ~60% of its population who are either on state welfare or directly employed by the government.

US Military and Social Spending as Share of Tax Receipts, 1900-2025e



Source: OMB, usgovernmentsspending.com, Author's Calculations, Incrementum AG

Welfare and warfare spending equates to more than 100% of all tax receipts, and it has proven just as hard to cut back on ‘bread and circus’ spending today as it was for Augustus 2000 years ago.

The productivity of the people backs the currency.

William E. Simon

Needless to say, the increasing share of resources allocated to current consumption, as opposed to productive investments, has zapped all energy from the system, and growth is stagnant. The only way to record ‘growth’ in the annals of the Empire is to count debt-fueled consumption as a measure of an expanding economy. And the only way to fund that ‘growth’ is to fully exploit the US dollar’s reserve currency status. To maintain that status though, Washington must keep

⁶¹ Dio, Cassius: *Roman History*, published in Vol. IX of the Loeb Classical Library edition, 1927, p. 273

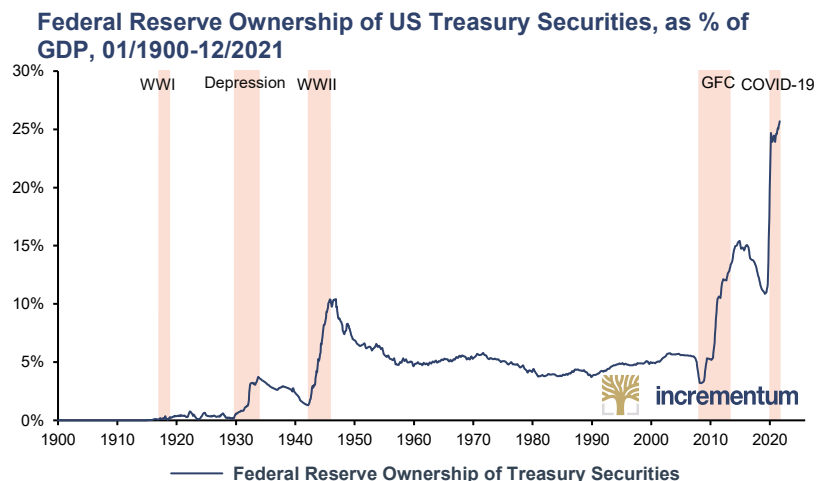
funding the vast military-industrial complex, which acts as the all-important stick used to threaten anyone brave enough to deviate from Imperial policy.

In this not-so-merry-go-round, unfunded spending on the Imperial army is necessitated to maintain its stick's threat level. This only serves to ensure spending can continue, but at the same time, this spending circle cannot be sustained forever.

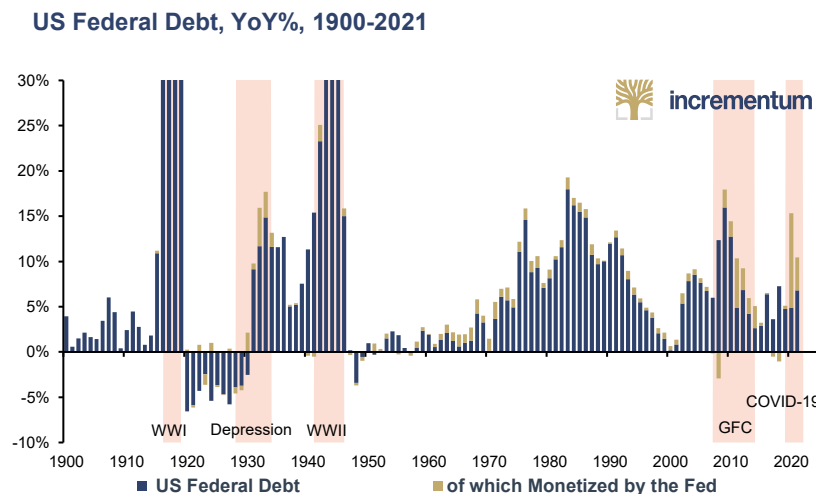
History, with all her volumes vast, hath but one page.

Lord Byron

Also like Rome, the US Empire has resorted to 'coin clipping and debasement' to keep the wheels turning. Tax revenues aren't even close to keeping up with spending requirements, and bond issuance covers the difference. However, from 2009 the colossal amount of bonds needed could no longer be issued in honest markets, prompting the Imperial Bank at the Eccles building to step in. In 2020 the Federal government covered less than 50% of its spending via taxes, and more than two-thirds of the ~50% bond issuance needed to cover the shortfall was monetized by the Federal Reserve.



Source: Reinhart, Carmen & Kenneth Rogoff (2010), Author's Calculations, Incrementum AG



Source: Reinhart, Carmen & Kenneth Rogoff (2010), Author's Calculations, Incrementum AG

Monetary inflation caused wealth inequities in ancient times just as it does today. That in turn creates political polarization. Rome in times past, and the US today both became incapable of implementing the needed reforms.

The Descent of the US Has Already Begun

The end game has begun. When a weakened Roman army lost the Battle of Adrianople against the Goth's in 378 it became clear to foes and friends alike that Rome was no longer indestructible. Foes took the momentum while friends sought new alliances to secure their fiefdoms in the coming post-Roman world.

Furthermore, I think [the central bank] must be destroyed.

Cato the Elder

Rome's defeat at Adrianople acted as a catalyst, just like the sinking by the Japanese of Britain's most advanced battleship in the South China Sea on December 10th, 1941, prompting Pacific allies to turn toward Washington rather than London for protection. This date marked the end of Britain's Empire.

The humiliating US defeat in Afghanistan has had the same psychosocial impact on the world. Few allies believe the US have the political will or the resources to protect them if needed. If one ally decides to leave the Imperial order, others will follow suit. America's adversaries are increasingly emboldened. They see this as an opportunity to carve out larger spheres of influence for themselves.

Great empires are not maintained by timidity.

Tacitus

Russia's move in Ukraine is directly related to its perception that the Western world is splintered and too exhausted to act. Worryingly, the only way for the US to maintain imperial discipline will be to prove everyone else wrong. A large, but non-existential conflict is the only way to sway opinions in capitals around the world. Defending Ukraine at all costs could have been a way to show the world that the US army should not yet be discarded, but with Russia's invasion that option is no longer available to the US.

It is the ultimate Catch-22. By doing nothing, the Empire will crumble. Alternatively, they can surprise adversaries by acting, but that would risk conflagration of hostilities with potential bankruptcy and military defeat. Such is the predicament facing Imperial strategists. What they ultimately conclude is their best course of action, will profoundly affect us all.

Inflation of the money supply will undoubtedly continue unabated; spending cannot be reined in without an internally unifying, but externally derived existential crisis. Adversaries know this and will continuously prod Washington for weaknesses.

A surprisingly draconian sanction regime imposed on Russia made others, most notably China, fully understand what awaits them if Beijing forces Taiwan back into the fold. The majority of Russia's USD 500-600bn worth of FX reserves were made worthless overnight.

China is even more exposed. The whole point of keeping reserves is to have a war chest in times of crisis. If those reserves can be frozen overnight, they no

longer serve their main purpose. We will see regional payment systems and foreign exchange reserves moving away from fiat currency and into unencumbered assets, those that are not simultaneously someone else's liability, such as precious metals.

Fighting the Symptoms Accelerates the Descent

We appeal to the devotion of all, that the decision made [for a price edict on maximum prices...] ...be observed with generous obedience.

Diocletian

Frustrated with persistently rising prices, even after stabilizing the silver content in the Denarius, Diocletian issued his infamous price edict on maximum prices **Edictum de Pretiis Rerum Venalium** in 301AD, covering basically all goods and services. Punishable by death, no seller could sell at prices exceeding Diocletian's view of what constituted a fair sum.

The edict was issued at a very late stage. This suggests that some remnants of the old laissez-faire attitude was still embedded in Roman ways, but Diocletian eventually became vexed enough to implement it, despite his adviser's better judgment.

As expected, the amount of goods and services available on the market declined even more, and the number of plebians seeking 'refuge' on the dole grew even larger. It was a disaster. Thankfully, as soon as Diocletian abdicated in 305AD, the edict was promptly rescinded.

History repeats itself, but in such cunning disguise that we never detect the resemblance until the damage is done.

Sydney J. Harris

The United States, also a nation of rugged individualism and free markets, imposed a price edict on crude oil in the 1970s, under a Republican President no less, with the exact same result. In the most bureaucratic fashion possible, the Nixonian law on maximum price applied only to 'old oil', that is oil already in production.

As Nixon and his bureaucrats soon discovered, Gresham's law doesn't only apply to money. Oil companies soon started to hoard 'old oil' and sold as much 'new oil' at higher price they could. In the end, the edict led to shortages, economic dislocations, and a severe recession.

The object of life is not to be on the side of the majority, but to escape finding oneself in the ranks of the insane.

Marcus Aurelius

Stupid economic ideas are hard to eradicate, and so Diocletian's edict has been revived recently. With re-election in mind, Victor Orban looked at a price inflation rate of over 7% while he fretted over how angry Hungarians will cast their vote. Orban has therefore imposed price caps on fuel and some basic foodstuffs such as flour, sugar, milk, pork legs and chicken breasts. In addition, mortgage interest rates were frozen for the first half of 2022, as since May 2021 Hungary's central bank, the MNB, has raised interest rates 11 times so far, from 0.60% to 5.40%.

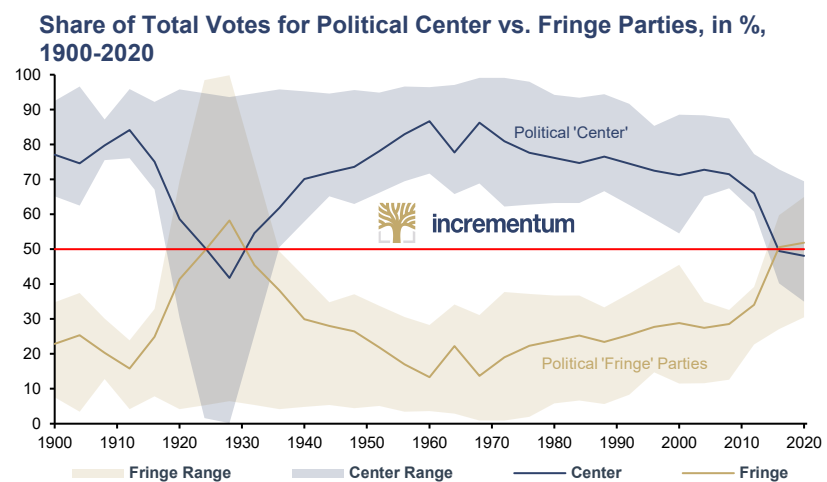
The Polish government's decisions were economically wiser. They have implemented temporary tax cuts to supplement household income, as the populace has to spend more, due to price increases.

With a new geopolitical order comes a new financial order. The transition to a new equilibrium will be volatile and highly inflationary as the old reserve currency gives way to a new. During this transition, the political center – already stretched thin – will fail. We see this more clearly in Europe’s parliamentary structure than in the US two-party system, but we know the differences between Republicans and Democrats are the widest in over a century.

History is seasonal, and winter is coming.

Neil Howe

In today’s Europe, ‘mainstream’ parties together hold 40-60% of the vote. Four decades ago, they held 80-95%. One more crisis and the center falls far below 50%. This means politics becomes even more radicalized. Even if the so-called ‘mainstream’ parties cling on to power, they will only be able to do so by moving the center to avoid being flanked by populist’s ‘fringe’ parties.



It is easy to see how populists will take advantage of the situation, blaming runaway inflation on past governments, greedy businessmen or foreign elements. Luring a desperate electorate with quick fixes such as price controls or other state-imposed measures. No matter who comes out on top, the result is a dramatic change in political direction.⁶²

War, pandemic, lockdowns and failing supply chains spreading across the globe – intertwined between friends and foes alike – have revealed weaknesses inherent in the current system.

Our system works on trust... Remove trust and it affects the creditworthiness of an individual or company. Remove trust from a system and the entire system can unravel very quickly.

Jeff Booth

Politically expedient solutions will be aimed at autarky and away from globalism. Russia will never trust the Western world again and China is taking notes. The West understands that they cannot be reliant on Russian energy, grain and metals. Neither can they put their trust in steady supplies from Asian manufacturing hubs. Onshoring will be the new mantra, but that also implies sub-optimal capital allocation when viewed through a simple motive to maximize profits.

Political control over the ‘commanding heights,’ defined ever broader, will take precedent. To achieve this, politicians will start by handing out tax-sponsored financial incentives. This could include paying for utilities in order to keep larger

⁶² See “From Decades Where Nothing Happens to Weeks Where Decades Happen,” In Gold We Trust report 2021

Monetary decline tends to coincide with the decline of governments and dynasties. Those who claim “this time is different” simply have no idea how much it is the same.

Nathan Lewis

Civilization is an interlude between ice ages.

Will Durant

There is no security in life, only opportunity.

Mark Twain

strategic reserves of fuel and increase their carrying capacity. The same goes for vaccines and production of medication, personal protective equipment, and above all else energy and food. Europe has pursued a ‘green transition’ with zeal, less due to their concern of global warming, but rather driven by their reliance on imported fuels. **Now they will double down on green energy, which is tantamount to self-sufficiency.**

While these are still to be considered minor steps, politicians know incentives and suasion will only take things so far, while the plebiscites will demand stronger political action as soaring price inflation keep reducing their real wages. Price controls may help placate a myopic electorate, but the next step will be to impose capital controls to force savings into national champions and lock capital inside the realm. ‘Independent’ central banks will guarantee real yields stay negative. With nowhere to hide, debt will be inflated away at the expense of creditors and savers. Economic growth will suffer as a consequence.

Conclusion

Crisis always precedes grand projects of state intervention.

Unfortunately, the process is more often than not demanded by a desperate people, who gladly trade their freedoms for action. Covid-19 taught us how easily a free society can fall prey to fear, the greatest ally to self-aggrandizing populists.

Diocletian was the answer to Rome’s crisis. A ruthless ruler who ended the idea of the Emperor being the Principate – merely the first citizen among many – and transformed the office to the Dominate, where his word was law. In Diocletian, the empire was ruled by a man that could change the course of a whole continent on a whim. The result was complete collapse.

At our stage in history the path forward is set in stone. A Dominate will be put in charge to fix the myriad of problems that have accumulated over decades of mismanagement.

The history of Rome is not unique. Several Empires throughout history have gone through the same rise and eventual fall. The transition from the old to a new world order cannot happen without causing a lot of friction. We will go through another transition over the next decades. It will be turbulent, but where there is volatility there is also opportunity.

Why Does Fiat Money Seemingly Work?

“The most important thing to remember is that inflation is not an act of God. ... Inflation is a policy.”

Ludwig von Mises

Key Takeaways

- History is rife with examples of governments inflating their money supply. This has always ended with monetary collapse. A primary example is the fall of the Roman Empire.
- This can also be observed in England’s medieval tally stick system that allowed the king to use goldsmiths as fractional reserve bankers, and in John Law’s disastrous experiments with paper money in France in the 18th century.
- Legal-tender legislation is required in order for the public to accept and use fiat currency. This innovation has allowed paper money to push gold out of circulation even as the purchasing power of fiat currencies has dropped considerably.
- In a free market, fiat money would never come into existence. While a true free market may not always choose gold, a free market in money would never lead to fiat.
- Governments use fiat currency to siphon wealth away from productive citizens into the coffers of nonproductive bureaucrats and financiers. This is a de facto hidden tax on citizens.
- Government-mandated fiat currency simply does not work in the long run. This is evident through empirical evidence and basic reason. Every fiat currency system in history has failed, except the current one, which has not failed... yet.



In memory of Heinz Blasnik

A couple of months ago, Heinz Blasnik, a brilliant mind, long-time collaborator and good friend, passed away. **With this article**, which first appeared on June 27, 2007 on "Mish's Global Economic Trend Analysis" (now "Mish Talk"), we want to commemorate him. At that time Heinz was using his first alias, *Trotsky*. **The reprinted text** is a slightly revised version published on February 21, 2015 on www.acting-man.com, Heinz's blog, under his latter pseudonym *Pater Tenebrarum*. This article demonstrates Heinz's deep and broad knowledge, his witty intellect, and his excellent writing skills. RIP, dear friend!

Introducing Money

Imagine three men living on a small island. Tony operates the local salt mine, and then there is Pete, the fisherman and Tom, the apple grower. They have a barter trading system set up: Tony exchanges his salt for Pete's fish and Tom's apples, and they in turn trade fish and apples between each other.

One day Pete says, "I have an idea. Instead of fish, I will from now on give you pieces of papyrus with numbers marked on them". (Papyrus grows in great quantities nearby, but has so far not been of practical use to any of the islanders.) Pete continues: "One papyrus mark will represent 1 fish or 5 apples or 2 bags of salt, according to our current barter exchange rates. This will make it easier for us to trade with each other. We won't have to lug fishes, apples and salt around all the time. Instead, we can simply present the pieces of papyrus to each other, and they can later be exchanged for our products on demand."



John Law at a young age – the world's first Keynesian economist
"Portrait of John Law", by Casimir Balthazar
Photo credit: [wikimedia.org](https://commons.wikimedia.org/wiki/File:John_Law.jpg)

Paper money eventually returns to its intrinsic value – zero.

Voltaire

In short, Pete wants to modernize their little island economy by introducing money – and he already has one of those new papyrus notes with him, which he is eager to trade for salt. However, the others would immediately realize that there is a problem: The papyrus per se is not of any value, since none of them have found a use for it as yet. If they were all to agree on using the papyrus as a medium of exchange, its value would rest on a promise alone – Pete's promise that any papyrus he issues will actually be "backed" by fish, which would make Tony and Tom willing to accept it in exchange for salt and apples.

Since papyrus grows in great abundance on the island, Pete could easily issue money by the bucket load. Both Tony and Tom like Pete, but they can see that the idea of installing him as the island's papyrus banker would likely tempt him into taking advantage of them. In fact, it is unlikely that any of the other islanders would ever use papyrus as money.

There is no honest man — not one — that can resist the attraction of gold!

Aristophanes

It is far more likely that they would use another good as a medium for indirect exchange, one for which there is an actual demand (for instance, a rare type of sea-shell that is prized as an ornament and only seldom found on the island). **In short, in a free market, only something that enjoys an already established demand due to its use value would emerge as a medium of exchange. An object widely considered as worthless would never become money in a free market.**

However, today we all use irredeemable paper money. How did essentially worthless objects come to be widely accepted as money? Let us take a brief detour and look at a few slices of monetary history.

Flashback: Rome 27 BC – AD 301

Rome's long history of inflation and monetary debasement actually started with Caesar's successor, Augustus, whose inflationary method was at least not a prima facie fraud. He simply ordered the mines to overproduce silver so as to finance the empire that had grown greatly in size under Caesar and himself. When this overproduction began to have inflationary effects, **Augustus wisely decided to cut back on the issuance of coins. This was the last time that a Roman emperor attempted to correct a monetary policy blunder by honest means**, aside from a brief flash of monetary rectitude under Emperor Aurelius some 280 years later.

The natural tendency of the state is inflation.

Murray Rothbard

Under Augustus' successors, the situation deteriorated at a rapid clip. Claudius, Caligula and Nero all embarked on enormous spending sprees that depleted Rome's treasury. It was Nero who first came up with the idea to actually debase coins by reducing their silver content, in AD 64, and things quickly went downhill from there.

It should be mentioned that Mark Anthony financed the army he used in his fight against Augustus with debased coinage as well. These coins remained in circulation for a long time, in line with **Gresham's Law** – "bad money drives good money from circulation".

In AD 274 the soldier-emperor Aurelius (who ruled from AD 270–AD 275) entered the scene with a well-intentioned monetary reform, by fixing the silver-copper content of the then most widely used coin, the Antoninianus, at a 1:20 ratio. However, shortly after this reform was instituted, the coin's silver content resumed its inexorable decline.



Emperor Diocletian, the price fixer
Photo credit: hellenicaworld.com

The only lesson you can learn from history is that it repeats itself.

Bangambiki Habyarimana

In AD 301 Emperor Diocletian tried his hand at reform, this time **by instituting price controls** to mask the effects of his inflationary policies, a policy repeated by numerous politicians many times thereafter, **in spite of the fact that it can be shown both theoretically and empirically that it never works** (Richard Nixon's ill-fated experiment with price controls serves as a fairly recent example, as does a similar policy currently enacted in Venezuela).

Diocletian's price control edict, *De Pretiis Rerum Venalium* (which he soon repealed, as it proved unenforceable in spite of harsh punishments meted out to people trying to circumvent it), accelerated Rome's downfall, as goods simply began to disappear from the marketplace. Merchants would rather hide their goods than abide by an edict forcing them to sell them at a loss. **Shortages of goods are an inevitable effect of price controls.**

It is no exaggeration to state that monetary inflation combined with subsidies and attempts to centrally control important aspects of the economy eventually caused Rome's downfall. **The ancient Romans at least had the excuse that they were not familiar with economic and monetary theory.** As this brief look at Rome's monetary history shows, **governments have engaged in theft from the citizenry via monetary debasement from the very dawn of Western civilization.**

Money Substitutes Enter the Scene

How was the leap from debasing coinage to outright fiat money accomplished? There are two distinct intertwined historical developments that ultimately led to the present system. **Fractional reserve banking** was first practiced by the forerunners of modern day commercial banks, namely goldsmiths.



A goldsmith deposit receipt from 1729
Photo credit: britishmuseum.org

If you owe your bank a hundred pounds, you have a problem. But if you owe a million, it has.

John Maynard Keynes

Goldsmiths were used as depositories for gold and silver, and **the receipts they issued for such deposits soon began to circulate as the first bank notes** – especially once they hit upon the idea of issuing “bearer” receipts instead of tying receipts to specific deposits. This has obvious advantages. Since one gold coin is as good as any other of the same weight and fineness, there is obviously no need for the strict allocation of deposits.

The convenience of carrying and using these banknotes instead of lugging around bags of gold and silver soon made them popular, and it didn’t take long for the goldsmiths to realize that the actual coin deposits were rarely withdrawn in great quantities. Instead, the receipts would remain in circulation, being regarded as perfect money substitutes. It followed from this that one could temporarily lend deposits out and collect interest on such loans. This was problematic from a legal perspective, as demand deposits should be available at all times.

New Golden Rule of Fractional Reserve Banking: He who creates the "fool's gold" controls the fools.

Orrin Woodward

Moreover, since the originally issued receipts remained in circulation, the total money supply actually increased once these deposits were lent out. In fact, many **goldsmiths simply issued additional receipts for gold, even if they were not actually backed by deposits** (with a similar effect on the broadly defined money supply). This was an early form of fractional reserve banking, namely lending out far more receipts for money than one actually holds in one’s vaults. Obviously, this activity was fraudulent (though some people claim it was merely ingenious). Nevertheless, **it is perfectly legal today, although it remains in**

essence the same fraud it has always been. The main difference is that today it is a far more sophisticated, as well as officially sanctioned, fraud.

When banknotes were still backed (at least partially) by specie on deposit, the expansion of money substitutes was frequently held in check by bank runs (or, from a banker's perspective, the fear of bank runs). Nowadays, no such fear exists. The lender of last resort – the central bank – can (up to a point) prevent bank runs by conjuring new money out of thin air and making it available to banks in distress.

Tally Sticks and Charles II

The other historical development that can be seen as an important ancestor of the modern day fiat money system is England's application of the medieval tally stick system of recording payments. Taxes in the largely agricultural economy of the Middle Ages were usually paid in the form of goods, and these payments were recorded with notches on wooden sticks that were then split in half length-wise (one half remained with the tax-paying serf, as proof of payment). This was an ingenious method of preventing counterfeiting of receipts, as the two halves of a tally stick perfectly match and every tally stick is unique.

You don't pay taxes, they take taxes.

Chris Rock

In AD 1100, King Henry the First ascended the English throne and adopted the tally stick method for the purpose of recording tax payments. By the time of Henry II's reign, taxes were paid twice a year, and a secondary market for tally sticks recording the partial tax payment made at Easter developed. Tally sticks were circulating in the secondary market at a discount to their face value and were accepted as payment for goods and services, since they could be later presented to the exchequer as proof of taxes paid.

It didn't take long for the king and his treasurer to realize that they could actually issue tally sticks in advance, in order to finance "emergency spending" (such emergencies often involved war). The sale of these claims to future tax revenue created the market for government debt – which is an essential part of today's fiat money system as well.



"A wooden stick for recording transactions. Made in England in the third quarter of the thirteenth century, the first stick reads '£9.4s.4d. from Fulk Basset for the farm of Wycombe'; probably Fulco Basset, bishop of London, who died of the plague in 1259. The second one reads: '£4. 8p. from Robert of Curclington for an injustice.'" Photo credit: oldcurrencyexchange.com

The power to tax is the power to destroy.

John Marshall

After a brief hiatus of experimentation with a pseudo-republican government under Oliver Cromwell, the English monarchy was reinstated in 1660 and Charles II began his reign, albeit with vastly reduced powers, especially in the realm of taxation. Since Charles had to beg the parliament for money, he struggled mightily with paying his vast pile of bills. Whenever Charles wrangled permission to raise

*Running on, running on empty
Running on, running blind
Running on, running into the sun
But I'm running behind*
Jackson Browne

taxes from parliament, he immediately went to cash in these future tax receipts by selling tally sticks to London's goldsmiths at a discount. Such debt was payable to the bearer, which allowed the goldsmiths to sell it in the secondary market to raise yet more funds that could be lent to the king.

They also began to pay interest to depositors, in order to attract still more funds. At that stage of the game, the goldsmiths figured they had a good thing going for them, since **the king was widely regarded as the equivalent of a modern-day triple A-rated sovereign borrower, who could always be relied upon to cover his debts with future tax receipts. No one thought it problematic that the vaults soon contained far more wooden sticks than gold.** An active market in this government debt developed, and the goldsmiths profited handsomely.

The king meanwhile hatched a cunning plan: He decided to circumvent Parliament and began to issue tally sticks as he pleased (as an aside, one half of such a stick, which was given to the party advancing funds, had a handle and was called the *stock*, while the other half was called the *foil*. The term *stock* has evolved to describe shares in publicly listed corporations). Not surprisingly, Charles was more than happy to exchange sticks of wood for gold and **soon kicked off a sizable credit boom by vastly increasing his production of wooden sticks.**

*To carry on war, three things are
necessary: money, money, and
yet more money.*
Gian Giacomo Trivulzio

So what did the king do with all the gold he received for his tally sticks? During his 25-year reign he waged three wars, all of which he lost (two against the Dutch, one against the French); he survived 4 different Parliaments (only the first of which wasn't hostile to him); he helped to establish the East India Company, made numerous shady deals with Louis XIV of France (his cousin), sired a horde of illegitimate children of which he acknowledged 14, and was renowned across the lands for his hedonistic court. That, along with the king's ability to talk London's goldsmiths into handing over their gold for wooden sticks, may explain why Charles was nicknamed *the Merry Monarch*.



Contents of a typical London goldsmith's safe at the height of the king's borrowing spree.
Photo credit: [The National Archives](#)

There was of course a natural limit to this debt expansion. **Once all the money attracted from depositors had been transferred to the king, additional deposits could only be acquired by means of offering higher interest rates than previously.** By 1671 the annual discount on the King's debt had reached 10%. As redemption demands nearly overwhelmed the funds raised by

new debt issues, the king's cunning plan had clearly ceased to work. However, Charles suddenly and quite conveniently remembered that there was a law against usury on the statute books, and lo and behold, interest rates in excess of 6% were actually not permissible.

Since all his recently issued debt carried a far bigger discount, he simply declared the debt illegal, and stopped making payments on it (with a few judiciously selected exceptions, i.e., it was a selective default). **Overnight, the king's tally sticks reverted back to what they had really always been – worthless sticks of wood.** The king's creditors, chiefly the goldsmiths and their customers, had quite literally “**drawn the short end of the stick**” (if you have ever wondered where this expression comes from, now you know).

Although tally sticks were still used until the early 19th century, and even formed part of the capital of the Bank of England when it was founded in 1694, the secondary market never really recovered from this blow. With the stroke of a pen, Charles had killed off the better part of London's budding banking system and transformed countless of his creditors into destitute and quite involuntary donors to the crown.

To add insult to injury, Charles even gained a propaganda victory, as the public blamed the goldsmiths for the ensuing mess. They were of course not entirely innocent, since they had proved quite gullible (a bit like the people buying government bonds with negative yields today...). Eventually, in 1834, all the still extant tally sticks were burned in the coal furnaces under the House of Lords – and by mistake, the entire Palace of Westminster burned down with them.



J.M.W. Turner's painting "The Burning of the Houses of Lords and Commons" in 1834.
Turner had witnessed the event firsthand.
Photo credit: [wikimedia.org](https://commons.wikimedia.org/wiki/File:Turner_-_The_Burning_of_the_Houses_of_Lords_and_Commons.jpg)

The ideas which now pass for brilliant innovations and advances are in fact mere revivals of ancient errors.

Henry Hazlitt

What the tally stick system did however achieve was to plant the idea of how a fiat money system might actually be made to work. The tally stick system and the transformation of goldsmiths from deposit-taking institutions into bankers practicing fractional reserve banking delivered the basics of the structure of the modern monetary system.

John Law's Fiat Money Experiment in France

It was a Scotsman, John Law – ironically born in the very year (1671) when Charles II defaulted on his debt – who attempted the first great fiat money experiment inspired by these ideas. Living in exile in France, he found a willing partner in Philippe II, the Duc d'Orléans, who was the regent of a near-bankrupt state and proved eager to put Law's ideas into practice.



Philippe duc d'Orléans régent de France. When Louis XIV of France died in 1715, Philippe d'Orléans became regent to the then five-year-old king. Together with John Law, he proceeded to completely wreck France's economy.
Copper engraving, 1750

Photo credit: britishmuseum.org

More paper money cannot make a society richer, of course – it is just more printed paper.

Otherwise, why is it that there are still poor countries and poor people around?

Hans-Hermann Hoppe

John Law's basic idea was that the more money there is in circulation, the greater the prosperity of a country would be. He discussed his ideas in a treatise published in 1705, entitled *Money and Trade Considered*. In Law's own words: "Domestic trade depends upon money. A greater quantity [of money] employs more people than a lesser quantity. An addition, the money adds to the value of the country". Considering the above quote, John Law was arguably the world's first Keynesian economist. He evidently thought that economic growth was the result of "spending". John Law became France's comptroller general of finances and set up the Banque Générale Privée (later renamed the Banque Royale), which **used French government debt as the bulk of its reserves and began to emit paper money ostensibly "backed" by this debt – however, with a promise attached that the notes could be converted to gold coin on demand. There was actually neither an ability nor a willingness to keep this promise.**

In an effort to make the new paper money more palatable to a distrustful public, it was decided to **make it acceptable for payment of taxes** (this idea is key and as noted above was the reason why English tally sticks were able to function as a secondary medium of exchange). A credit and asset boom of vast proportions ensued, and became especially pronounced after Law decided to float shares of the Compagnie des Indes, a.k.a. the Mississippi Company, which enjoyed a trade monopoly with the New World and the West Indies.

Between 1719 and 1720 shares in the company rose from 500 to 10,000 livres. Predictably, the bubble eventually burst, and the stock lost 97% of its peak value in the subsequent bust. Enraged and nervous financiers tried to convert their Banque

Royale banknotes into specie in the ensuing economic crisis, but naturally, the central bank's promise of convertibility could not be fulfilled – it had inflated the supply of bank notes way too much (in the end, its notes traded at discounts of up to 99% of their face value).

The government at first tried to stem the tide with edicts forbidding the private ownership of gold, but the enraged population eventually drove Law into exile, and **the fiat money experiment ended with the Banque Royale closing its doors forever, leaving France in a far worse economic position than before the experiment.** Countless “paper millionaires” had become destitute paupers.



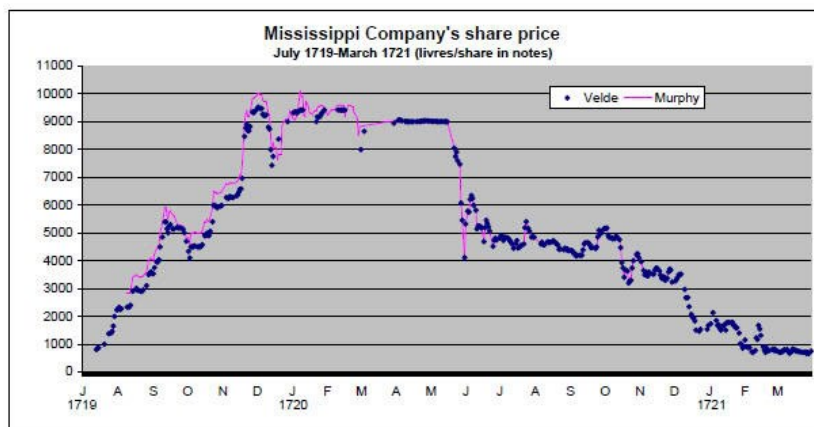
La rue Quincampoix à Paris, en mars 1720, après la panique déclenchée par les ennemis de Law qui réalisèrent brusquement leurs actions et leurs billets. Gravure d'Antoine Humblot. (Bibliothèque nationale, Paris.)

1720: Investors in John Law's Mississippi Company scam are desperate to get their money back. Copper engraving by Antoine Humblot; Photo credit: [pinterest.fr](https://www.pinterest.fr)

Never underestimate the power of bad ideas. They must be refuted again and again.

Lew Rockwell

The economic crisis following the collapse of Law's Mississippi enterprise and fiat money scheme gripped all of Europe – the eloquent master of fiat disaster had seduced investors from all over the continent, many of whom suddenly found themselves penniless. Confidence in other European banks and companies eroded as well, and a great many bankruptcies ensued. Still, Law's idea, evidently copied from the tally stick system, that fiat money could be supported by making it the medium in which tax obligations could be discharged, was not forgotten.



Share price of John Law's "Compagnie des Indes" – eventually the stock made a complete round trip. Source: [Dave Smant: Mississippi Bubble 1720](#)

There are several historical examples similar to the above, for instance the fiat money inflation in France under the revolutionary assembly, which took place a scant 70 years after John Law had ruined the country and which ruined it all over again. **Numerous hyperinflation episodes occurred in the course of the 20th century as well, always in connection with attempts to fund government spending with the printing press.**

From Coin Clipping to Fiat Money

There is only one institution that can arrogate to itself the power legally to trade by means of rubber checks: the government. And it is the only institution that can mortgage your future without your knowledge or consent: government securities...are promissory notes...on your future production.

Ayn Rand

For a long time, states were forced to accept gold's role as money. The introduction of irredeemable paper money wasn't considered viable, and failed experiments such as John Law's served to dissuade governments from pursuing the idea further. Rather, **heads of state resorted to coin clipping or otherwise diluting the precious metals content of coins if they wished to rob the citizenry via inflation. These early instances of inflation by means of reducing the precious metals content of coins led to the downfall of entire empires**, with the Roman empire the most prominent. However, the tally stick system and John Law demonstrated how public demand for fiat currency could be generated, namely **by means of the government's accepting it for payment of taxes.**

This is why pieces of paper with some ink slapped on them are not laughed out of the room straight away. The two major pillars of this system are based on coercion: directly via the legal tender laws, which decree that fiat currency must be used in and accepted for all payments of debt, public or private, and indirectly via the demand for fiat money as a means to discharge tax obligations. It is safe to say that without this second criterion, it would have been impossible for governments to "monetize" irredeemable paper.

The mere legal proclamation that something shall be money does not suffice to make it money in the economic sense, just as the "official demonetization" of a market-chosen money commodity cannot rob it entirely of its monetary characteristics. **It is necessary that market participants use whatever object has been declared to be legal money in commercial transactions.** Only if they are doing so, then it is money.

Paper money is liable to be abused, has been, is, and forever will be abused, in every country in which it is permitted.

Thomas Jefferson

As noted above, banknotes were originally merely money substitutes – claims to definite weights of metallic money held in bank vaults. People were getting used to these money substitutes representing money, and governments instituted the changeover to fiat money by robbing these money substitutes of their convertibility, gambling that people would continue to use them in commercial transaction anyway, out of habit. **Nowadays banknotes are no longer money substitutes, but have effectively become standard money.** Money substitutes consist of two kinds of deposit money: uncovered (fiduciary media for which no counterpart in the form of standard money exists) and covered money substitutes (deposit money for which bank reserves exist, either in the form of vault cash or as reserves held at the central bank).

What is also extremely important for the system to function is **faith in the value of government debt**, which rests on the conviction that governments will be able to extract enough wealth from their citizens in the future to repay that debt. Government bonds serve, so to speak, as the main “backing” of bank notes and their digital counterparts in circulation. They tie governments and the banking system together via the central bank. The central bank has the power to “monetize” such debt by creating new money out of thin air and using it to buy debt securities. This roundabout way of going about money creation is an essential part of the confidence game.

Theft of Purchasing Power

Since the central bank’s balance sheet is largely composed of government debt, the bank has an incentive to manage the public’s “inflation expectations” and inflate the currency as inconspicuously as possible. This does of course not mean that the inflation racket is inhibited per se. The theft has merely been organized in such a manner that people don’t complain too much. The frog is boiled slowly, so to speak.

Inflation is the one form of taxation that can be imposed without legislation.

Milton Friedman

If the government had to actually raise taxes instead of borrowing the staggering sums of money it uses to keep its welfare/warfare programs running and the vote-buying mechanism well-oiled, it would have to raise taxes by so much that it would face a rebellion. **Instead, government resorts to inflation. From the government’s perspective, money supply inflation is nothing but a cleverly disguised tax.**

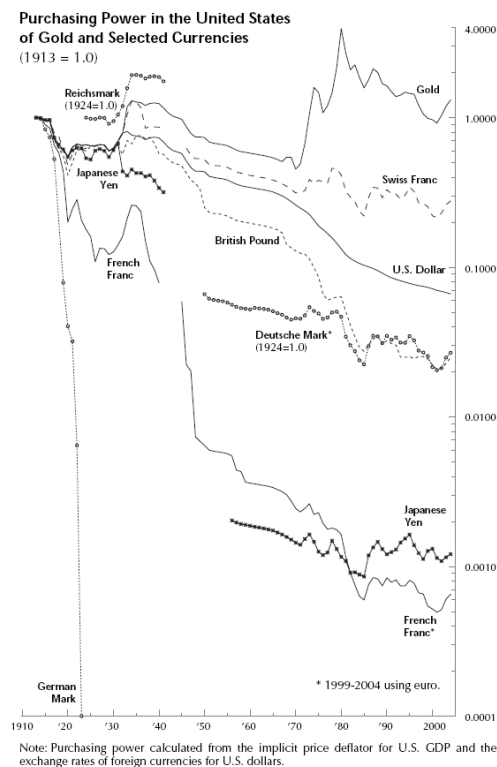


Photo credit: Gold Eagle

The chart above depicts fiat currencies in the 20th century. Countless monetary catastrophes have unfolded around the world at varying speeds since the establishment of the Federal Reserve. This chart is dated and doesn't include the large gain in gold's purchasing power vs. fiat currencies since 2005.

Inflation is when you pay fifteen dollars for the ten-dollar haircut you used to get for five dollars when you had hair.

Sam Ewing

In a missive published in 2007, veteran market analyst Richard Russell reminisced about the monthly salary of USD 125 his first job after college earned him and the then very high USD 22.50 per month he had to pay for his USD 10,000 GI life insurance policy. A new car cost USD 450 at the time. Those were princely sums in the 1940s but have become chump change now.

This devaluation has obviously not happened overnight, although one can happen very quickly if the public's confidence in the money-issuing authority crumbles. **The public has become inured to the "inflation tax", as it is proceeding at what appears to be a snail's pace** (at least according to the government's official inflation measures). **It is of course not possible to measure the "general level of prices"**. There is an array of exchange ratios between money and countless disparate goods, the adding up of which simply makes no sense. Money itself is subject to the forces of supply and demand, just as the goods it is exchanged for are, leaving no fixed yardstick against which price changes can be measured. As a result, these inflation measures have to be taken with a big barrel of salt.

Inflation takes from the ignorant and gives to the well informed.

Venita Van Caspel

With legal tender legislation in place, fiat money has pushed gold out of circulation. No one is going to use sound money for transactions when he has the choice of using an unsound money instead. **Over time, gold has increasingly moved from the world's monetary bureaucracies into private hands, serving as a store of value and insurance against the failure of the modern fiat money experiment.** Note, though, that the opposite will happen if an unsound money becomes entirely useless as a medium of exchange: In that event, people will adopt an alternative medium of exchange that they expect to hold its value better. For example, during Zimbabwe's hyperinflation, Zimbabweans began to use US dollars, the South African rand, and gold dust for payments.

On a global basis, only about 2.5% of all official central bank reserves are held in the form of gold these days. Some countries hold far larger percentages of their reserves in gold, most notably the US and many European countries; but even so, these reserves pale in comparison to the amount of fiat money and central bank credit they have issued.

Everybody Is Happy

It is also important to note that although they are being subjected to a hidden tax, most citizens actually are quite happy with things as they are. As Gary North once observed, everybody involved appears to be happy, the robbers as well as the robbed. The banks are happy to be part of a cartel led by the central bank, which gives them immense latitude in indulging in consistent and flagrant overtrading of

their capital, spurred on by the moral hazard created by having a “lender of last resort” backstopping them, which can conjure up money out of thin air without limit. Politicians and bureaucrats are happy because there is very little restriction on their spending and there is nothing stopping them from buying votes or indulging in whatever pet projects they happen to dream up.

*Today is already the tomorrow
which the bad economist
yesterday urged us to ignore.*

Henry Hazlitt

And lastly, among the people who should actually rise up in protest, there are large subgroups that are either wards of the state and dependent on its largesse (the shameful secret of the welfare state is that it makes irresponsible slaves out of what would otherwise be free and responsible people) or have amassed so much debt in the pursuit of instant gratification that they are quite happy to see money being devalued at a steady pace. **In a nation where the majority are debtors, inflation is the politically most palatable form of monetary policy.** After all, everybody is focused on the short term (politicians and bureaucrats on their terms of office, consumers on their debt and their desire to buy more things they don't need with money they don't have, and so forth).

Few people stop to consider that this policy means ruin in the long run. Over time, the middle and lower classes will see their real incomes and living standards shrink ever more, **while the true beneficiaries of inflation – those who get first dibs on newly created fiat money – amass more and more wealth in a kind of reverse redistribution from later receivers.**

Wealth Producers Have No Say

*Production is the only answer to
inflation.*

Chester Bowles

Savers and genuine wealth producers are put at a great disadvantage by inflation. Wealth generators have to contend with the fact that the creation of additional money creates a demand for scarce goods without a preceding contribution to the pool of savings. Nothing can be exchanged for something, and their own savings will no longer allow them to exercise demand for goods to the extent they expected. Not surprisingly, **the small elite that actually profits from the fiat money system is quite content to take the long-term view. Actual producers of wealth are a very small group, too small to have a decisive voice in how things should be run.** They would all have to go on strike if they wanted to exercise some pressure, a la John Galt. Unfortunately, big established businesses are usually in bed with the state and are happy with the status quo as well – their main aim is to keep competition from upstarts at bay, so they are quite content with the various methods by which the market economy is hampered. They give lip service to the idea of truly free, competitive markets, but concurrently lobby for anticompetitive regulations all the time.

Decades of Successful Propaganda

*Those who are capable of
tyranny are capable of perjury
to sustain it.*

Lysander Spooner

The propaganda effort in support of the fiat money system has been enormous over the decades, and has been quite successful. Former Federal Reserve chairman Alan Greenspan once told Ron Paul on the occasion of his semiannual testimony in Congress that he believed “*We have had extraordinary success in replicating the*

features of a gold standard". We are quite sure he was aware that this is actually not the case. And yet, apart from Ron Paul, no congressman would have even thought of questioning this absurd assertion. **One would think that the fact that the US dollar – one of the world's "better" fiat currencies – has lost 97% of its purchasing power since the Federal Reserve has been in business speaks for itself.** Mises has already shown in 1920 that socialist central economic planning is literally impossible. No rational economy can be centrally planned. Central banking simply represents a special case of the theorem of the impossibility of socialism, applied to the financial sphere.

There is still a market economy operating, hampered though it is, alongside the huge swathes of economic activity that have been appropriated by parasitic entities such as the state and its dependents. **The part of the economy that can be considered relatively free produces all of our wealth.** It unwittingly supports the fiat money system's continued viability by doing what it does best, namely by enhancing productivity, thereby exerting downward pressure on the prices of goods and services – which works against the upside pressure on prices created by monetary inflation.

Economic Interventionism vs. the Free Market

Socialism is an alternative to capitalism as potassium cyanide is an alternative to water.

Ludwig von Mises

Apologists for the current system laud its "flexibility". This is nothing more than an argument in favor of interventionism based on the misguided belief that the market economy is inherently prone to "failure". Another commonly heard argument is: "If the economy is to grow, the supply of money must grow as well", as if that were immediately obvious. In fact, many people believe this to be a truism, as it sounds superficially convincing. **In reality, increasing the supply of money confers no benefit whatsoever on society at large.** It is not important how much money one has in terms of numbers in a bank account, it is important what this money can buy. In a free market, the prices of goods and services will tend to steadily decline over time. That is the inevitable result of increasing productivity. This is why **the widely accepted tenet that "we need constant inflation of the money supply to enable the economy to grow" is misguided.**

Morality is only moral when it is voluntary.

Lincoln Steffens

It is not 100% certain that a truly free market economy would settle on using gold as money nowadays, although the chances seem good that it would play an important role. It seems highly probable that the previous historical period of trial and error that has led to the establishment of precious metals as money would still be widely regarded as likely to produce a satisfactory outcome. It is however not really important whether gold or something else would emerge as money. **What is important is that the decision on what should be used as money would be arrived at voluntarily by the actions of market participants.**

In an unhampered free market with a relatively stable supply of money, the supply of and demand for money would still be subject to fluctuations, but it is a good bet that these would be small. A freely arrived at market interest rate would at all times correctly signal to entrepreneurs what the state of society-wide time

*A Law cannot give to Bills that
intrinsic Value, which the
universal Consent of Mankind
has annexed to Silver and Gold.*

John Locke

preferences was at any given point in time, allowing them to allocate capital in the most efficient manner.

By contrast, in a fiat money system in which interest rates are administered by a bureaucratic central economic planning agency, the signals sent by interest rates to entrepreneurs about expected future consumer demand and the true cost of capital are continually falsified and thereby encourage malinvestment of scarce capital. Phases during which the supply of credit and money expands strongly and malinvestments proliferate are known as “economic booms”, and everybody loves them. **When a boom turns to bust and the liquidation of malinvested capital becomes necessary, few people are aware that the preceding boom is at fault.** And so the cry for more monetary and fiscal intervention arises, which lengthens and deepens the malaise by putting malinvested capital on artificial life support.

Government mandated fiat currency simply does not work in the long run. We have empirical evidence galore – **every fiat currency system in history has failed, except the current one, which has not failed yet.** The modern fiat money system is more ingeniously designed than its historical predecessors and has a far greater amount of accumulated real wealth to draw sustenance from, so it seems likely that it will be relatively long-lived as far as fiat money systems go.

In a truly free market, fiat money would never come into existence, though. Greenspan was wrong – government bureaucrats cannot create something “as good as gold” by decree.



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Gold Storage: Fact Checking Germany, Canada, and the UK

“The most contrarian thing of all is not to oppose the crowd but to think for yourself.”

Peter Thiel

Key Takeaways

- In turbulent times investment decisions turn towards wealth preservation rather than profit-seeking. Rather than a focus on the price of gold, investing in physical gold involves concepts of trust, security, risk diversification, and hedging against the vulnerabilities of the current monetary system.
- The outbreak of the Covid-19 pandemic has heralded the final innings of the current era. With blinding speed, liberties are taken away by emergency orders, while the cracks in the financial system threaten to break it apart under the weight of global indebtedness – rising inflation rates being just one symptom of many. The question of wealth preservation is receiving renewed attention.
- Most recently, wealth confiscation has become socially acceptable again. Maintaining ownership of your bullion in a secure storage facility is just as important as the investment decision to diversify into gold.
- In previous years' *In Gold We Trust* reports we have covered Liechtenstein, Switzerland, Singapore, New Zealand, Australia, and Dubai as well as the USA, Cayman Islands, and Austria as storage locations for gold bullion.
- This year we will examine Germany, Canada and the UK including the Channel Islands as jurisdictions for secure gold storage.

Why the Safe Storage of Gold Is More Important Than Ever

There's no harm in hoping for the best as long as you're prepared for the worst.

Stephen King

With the Covid-19 crisis unfolding over the past two years, the aging process of the global financial system has only experienced further acceleration. Never before has the public debt load reached such heights, in a world more interconnected than ever before, making it a global issue rather than a regional one. At the same time, the political response to this global health emergency has significantly weakened people's trust and confidence in societal institutions, including science, democracy, and law and order.

The outbreak of the Ukraine crisis has proven to be an additional catalyst: In response to Russia's actions, the West has levied hefty economic sanctions against Russia. Amongst the first measures was the seizing of Russia's foreign exchange reserves and the freezing of assets of over 400 individuals with allegedly close ties to Putin. However, the ultimate goal of the Western authorities is precisely to adjust the legal framework in order to permanently confiscate the assets frozen under the sanctions-regime. This is nothing but a slippery slope. Once the rule of law has been suspended for a so-called justified exceptional case, then the exception can be expanded arbitrarily. All this brings a new urgency to confronting the obstacles to wealth preservation.

If you decide you want to buy gold, you have the weight of history behind you.

Herb Stein

Gold has weathered many crises in the past and thus, unsurprisingly, many turn towards the precious metal in times of uncertainty when looking for a trusted investment disconnected from the financial system. The principal objective for physical gold holdings is that they serve as a strategic asset, uncorrelated to financial markets while at the same time providing access to liquidity.

Gold is exceptional in providing such independence from the global financial system, eliminating all counterparty risk. Being both indestructible and portable allows it to be stored hidden in a vault, even for centuries, without risking a loss of purchasing power due to default. Increasingly appreciated is gold's cyber immunity, protecting it from nefarious hackers. In combination these features make gold an effective risk-diversifier.

The determination of a secure storage location is a highly personal decision that must be tailored to the bullion owner and involves careful considerations of security, third-party trust, and liquidity. **There is no one-size-fits-all solution for a gold investor.** Different jurisdictions can be compared along measures like economic freedom, rule of law and enforcement of private property rights, political and economic stability, and historical track record of the country.

In previous years' *In Gold We Trust* reports we have covered Liechtenstein, Switzerland, Singapore, New Zealand, Australia, and Dubai, as well as the USA, Cayman Islands, and Austria as storage locations for gold bullion.⁶³ This year we will examine Germany, Canada and the UK including the Channel Islands as jurisdictions for secure gold storage.

⁶³ See "Gold Storage: Fact Checking Austria, the USA, and the Cayman Islands," *In Gold We Trust* report 2021, "Gold Storage – Fact Checking New Zealand, Australia, and Dubai," *In Gold We Trust* report 2020, "Gold Storage: Fact Checking Liechtenstein, Switzerland, and Singapore," *In Gold We Trust* report 2019

Germany – the Reliable Constant in the Heart of Europe



Photo credit: wikimedia

Located in the heart of Europe, the Federal Republic of Germany has become the world's fourth largest economy (USD 3.8trn) and the economic powerhouse of Europe, garnering fame for its precision, acumen, and efficiency.

Poor old Germany. Too big for Europe, too small for the world.
Henry Kissinger

Bordered by nine countries – Poland, Czech Republic, Austria, Switzerland, France, Luxembourg, Belgium, the Netherlands, and Denmark – Germany is situated on the North European Plain, with access to the North Sea and Baltic Sea and mountainous terrain in the south stretching towards the Alps. With a surface area of 350,000 sq. km, it is only the 7th largest country in Europe, yet with the Danube, Rhine, Oder, and Elbe Rivers, Germany has the most concentrated navigable river system in the world, which allowed it to become one of the leading export nations despite having few physical resources. The lack of natural boundaries, both towards the east and the west, in combination with Germany's overall flat topography make the country vulnerable to invasion. Over centuries these topographic imperatives have shaped Germany's greater strategy: gaining regional dominance through internal stability and strength in order to deter neighbors from invasion.

It would be illogical to assume that all conditions remain stable.
Spock, commanding officer, starship Enterprise

This strategy has not always proven successful, locking the country in an ongoing rise-and-fall cycle. For centuries the territories of today's Germany were a collection of kingdoms, principalities, and city-states that formed part of the 1000-year-long Holy Roman Empire. Only in 1871, after three major wars, did a unified Germany emerge, dominated by Prussia. However, the precarious balance of power in Europe could not be sustained for long. When tensions again escalated

Two thousand years ago, the proudest boast was “civis romanus sum”. Today, in the world of freedom, the proudest boast is “Ich bin ein Berliner!”

John F. Kennedy

Germans know what they do because everywhere they go there’s a ‘made in Germany’ label on it, they can feel proud of Volkswagens, Audis, Mercedes.

Evan Davis

If my theory of relativity is proven successful, Germany will claim me as a German and France will declare that I am a citizen of the world. Should my theory prove untrue, France will say that I am a German and Germany will declare that I am a Jew.

Albert Einstein

toward World War I, Germany saw itself as obliged under multilateral defense agreements among the powers to support Austria by declaring war on Russia, thus triggering a two-front conflict, as France was in alliance with Russia – an outcome that Germany had historically sought to avoid.

After its defeat in World War I, Germany was allowed to remain as a republic by bearing war-reparation costs, but it was no longer a monarchy. Hyperinflation caused by the war-reparation costs and increasing societal division paved the path to Hitler’s rise, the Nazi –regime, and World War II. With the end of World War II, Germany was divided. While East Germany became part of the Soviet-dominated Eastern Bloc, West Germany became a founding member of the European Communities (ECSC, EEC, and Euratom) and NATO. This division ended only with reunification in 1990, almost exactly one year after the fall of the Berlin Wall.

A crucial factor in Germany’s rise to becoming one of the world’s strongest economies was its the successful leveraging of its high-quality manufacturing sector towards global exports, supported by German efficiency and a well-educated workforce. “Made in Germany” says it all. **Originally imposed by the British as a label suggesting inferior quality**, today it has become a unique selling point, promising excellent quality, durability, and reliability. Furthermore, Germany’s decentralized and federated governance structure facilitated the emergence of a strong small and medium-sized business landscape with a multitude of champions in niche sectors. The success of Germany is further based on a sound rule of law – **it ranks 5th on the WJP Rule of Law Index** – while **corruption is very low**. As a result, Germany offers a high living standard to its population of just over 83mn. In 2019, **it ranked 6th on the Human Development Index**.

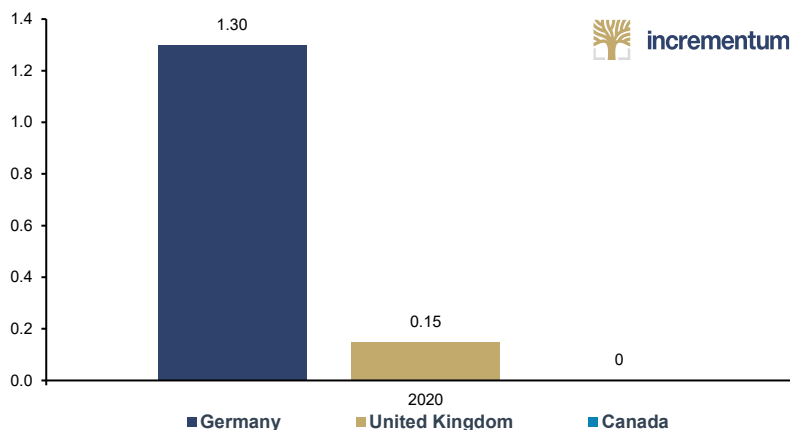
An important role in Germany’s social stability is played by the country’s extensive wealth redistribution, providing a generous system of government services from free education to universal healthcare to pensions to the German population. However, this setup is increasingly facing challenges, as the German population is aging rapidly. **With a fertility rate below 1.6 and a median age of 46 years, Germany is heading for a demographic demise – unless it can be counteracted.** This trend will only reinforce the country’s dependency on exports – for many years it has registered a trade surplus contributing almost 50% of Germany’s GDP.

Exemplary of the German mentality is fiscal prudence, reinforced through the hyperinflation of the Weimar Republic. Unlike most other European countries, Germany has been determined to maintain a “black zero”, that is, a balanced federal budget. Since 2012 the debt-to-GDP ratio even reversed, falling below the Maastricht criterion of 60% again. However, the economic difficulties caused by the Covid-19 crisis proved too challenging, and Germany decided to abandon its self-imposed fiscal reticence to prevent an economic recession, resulting in a 10% jump in the debt-to-GDP ratio.

The German central bank, the Bundesbank, **has the second largest physical gold reserves** after the US, currently 3,359 tonnes. In relative terms this equates to a 65% share of Germany’s total FX reserves, similar to the US’s share. The majority of those reserves were accumulated in the 1950s and 1960s by converting US dollar

surpluses. Significant payments in gold were made upon the foundation of the European Monetary System and upon the creation of the European Central Bank. Since 2000 the country's gold holdings have decreased only slightly, for the purpose of minting coins. Headlines were made by the German Bundesbank's gold repatriation scheme, which brought more than 600 tonnes of gold back to Germany, making Frankfurt home to one of the largest stockpiles of gold in the world.

Central Bank Gold Reserves per Capita, in Troy Ounces, 2020



The Germans, by the way, are whimsical people! - With their deep thoughts and ideas, which they look for everywhere and put in everywhere, they make their lives more burdensome rather than easier.

J. W. von Goethe

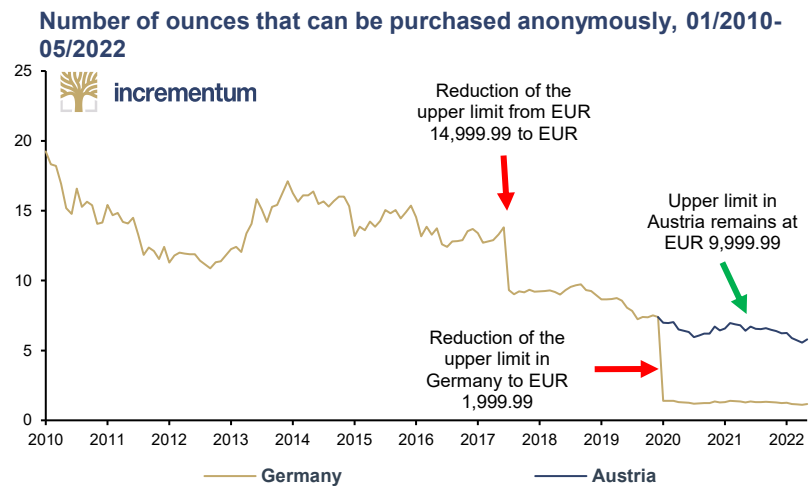
You cannot find a bank safe deposit box in Germany because every single one has already been taken and stuffed with gold and silver.

Wilhelm Hankel

Gold enjoys great popularity amongst German retail investors.

According to a study conducted by the German Reisebank and the Research Center for Financial Services at Steinbeis University Berlin, German adults own an average of 75 grams of gold. This number includes a 4-gram increase – or 5.6% – since the outbreak of the Covid-19 crisis. It is estimated that more than 60% of gold owners are invested in jewelry, while only every fourth German adult is invested in physical gold such as coins and bars. With gold holdings of about 7,500 tonnes, German private individuals own 2.7 times as much gold as the German central bank. In total, approximately 12,000 tonnes of gold are being held in Germany.

The German gold market operates in a decentralized network of banks, refineries, wholesalers, and retailers. Due to geographical proximity, the German gold market is also well integrated with those of Switzerland and Austria. **Important for gold investors is the exemption of gold from the VAT, while silver, platinum, and palladium do fall under this tax or are subject to differential taxation.** In addition, price gains on gold are tax-free for private investors after the speculation period of one year. In the course of increased efforts against money laundering, cash-loving Germany has clamped down on cash transactions in recent years. While in 2017 the upper limit for anonymous cash payments for gold purchases stood at 14,999.99 EUR, it was subsequently reduced to 1999.99 EUR in 2020.



Learning German is what eternity was made for.

Mark Twain

Further challenges for the private and anonymous ownership of gold lie ahead. A member state of the EU, Germany could become subject to a European Asset Registry – once it is implemented. The EU Commission has already given the order for an initial “[Feasibility Study for a European Asset Registry in the Context of the Fight Against AML and Tax Evasion](#)”. The main objective of such an EU-wide asset registry is to build a huge central database containing all assets, including art, real estate, cryptocurrencies – and gold.

While the advantages of Germany’s strong legal and political environment, supported by a resilient economic system are obvious, its risk-averse but very gold-friendly culture make Germany to one of the top bullion storage jurisdictions in the world.

Canada – the Most Unpretentious Place to Store Gold



Photo credit: Pixabay

Canada is a broad land – broad in mind, broad in spirit, and broad in physical expanse.

Harry S. Truman

I've been to Canada, and I've always gotten the impression that I could take the country over in about two days.

Jon Stewart

Canadians have been so busy explaining to the Americans that we aren't British, and to the British that we aren't Americans that we haven't had time to become Canadians.

Helen G. McPherson

Canada is the world's second largest country by land surface, covering an area of 9,984,670 km², yet with only 36mn inhabitants it ranks amongst the least densely populated countries. As many parts of Canada are uninhabitable, either due to climate or terrain, the majority of its population is settled in a narrow corridor along the US-Canadian border. This border is over 7,000 km long and is the longest in the world, stretching from the Atlantic to the Pacific. Toronto is Canada's largest city and is well-known to gold investors as the mining capital of the world. Ottawa, the capital of Canada, is a small city, while Montreal is the cultural hub and one of the oldest cities in North America. Vancouver is a trendy, bustling port on the Pacific Ocean.

Perhaps Canada's most unique geographical feature is the Canadian Shield, also known as the Laurentian Plateau, an area mostly scoured by glaciers and left with thousands of shallow lakes and thin soil. The Shield, extending over about 8mn square kilometers and covering more than half of Canada, makes those regions difficult to inhabit, thus pushing the population centers southward. Together with the Rocky Mountains in the west and Canada's sheer size, it presents Canada's main geographical challenge: maintaining unity across the various population centers. One of the early efforts to overcome this challenge was the construction of the Canadian Pacific Railway in the second half of the 19th century.

The first European colonists from France and Great Britain arrived in the late 15th and 16th centuries, establishing the first permanent settlements at Port Royal (in 1605) and Quebec City (in 1608). In 1763, after the Seven Years War, France ceded most of its territories on the North American continent to the UK. The legacy of two languages remains today. About a century later, the Dominion of Canada was established, uniting three British North American provinces, the Province of Canada, Nova Scotia, and New Brunswick, into one federation. Over the next 82 years Canada continued to integrate other parts of British North America, resulting in the current nation of ten provinces and three territories that has been in place since 1949.

Politically, Canada has had a responsible government, i.e., one that has adhered to the principle of parliamentary accountability, since 1848; yet Britain ruled in matters of foreign policy and defense. Under the Statute of Westminster, the British Parliament acknowledged Canada as co-equal with the United Kingdom in 1931, then granted Canada full sovereignty under the Canada Act in 1982. Today, Canada is a federal parliamentary constitutional monarchy. Queen Elizabeth II is the reigning monarch, providing the source of authority, albeit today in rather a symbolic manner. The Canadian Parliament is dominated by the two relatively centrist parties, the governing Liberals and the opposition Conservatives.

Given its British legacy, Canada's legal system follows common law, with the exception of Quebec, which follows the French tradition of civil law. In a worldwide comparison, Canada's legal system ranks amongst the top ten judiciaries. This picture is confirmed repeatedly by **high scores regarding property rights** and by **low scores regarding corruption**.

Emergencies' have always been the pretext on which the safeguards of individual liberty have been eroded.

Friedrich August von Hayek

If you know the lessons of history, you know it's time to learn analog.

Simon Mikhailovich

When you run in debt; you give to another power over your liberty.

Benjamin Franklin

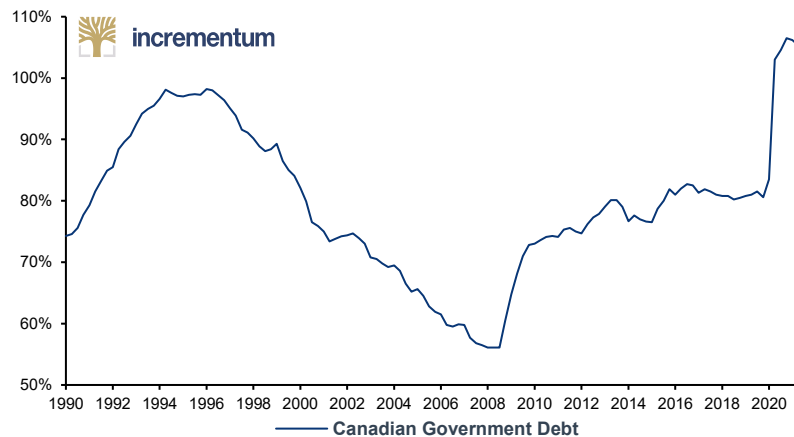
Unease amongst investors mounted recently, when the Canadian finance minister enforced the freezing of financial assets of individuals related to the trucker-convoy protests. This was possible only through the use of the Emergencies Act, which was resorted to for the first time since the law was passed in 1988. **The banks were instructed by the authorities** to freeze assets and suspend bank accounts without a court order and without facing civil liability. Moreover, under the umbrella of the Emergencies Act, Prime Minister Justin Trudeau expanded the country's anti-money laundering and counterterrorist financing legislation, making all payment services providers and crowd-funding platforms subject to FINTRAC reporting. **Canada's state of emergency is over, but the cat is out of the bag – all digital assets are subject to government sanction at any time and without any due process.**

With an economy worth USD 1,644bn, Canada rank among the G10 countries, just behind Italy in the 9th position and ahead of Russia in the 11th spot. Because of its geographical imperatives, transporting goods proved most efficient across the southern border, leading to strong trade relations with the US. In 2021, Canadian exports to the US amounted to USD 378bn, making the US its main export market. Meanwhile, US exports to Canada stood at USD 306bn. These numbers highlight how economically integrated the two countries are. Moreover, Canada has a significant interest in maintaining peaceful relations with its powerful neighbor.

While challenging for habitation, the Canadian Shield has proven highly valuable from an economic perspective. With the third-largest oil deposits after Venezuela and Saudi Arabia, as well as industrial minerals, metals, and lumber, **Canada has commodity resources estimated to be worth more than USD 33trn.** This commodity treasure is an important driver of the Canadian economy and provides the country a high standard of living. Unsurprisingly, Canada also ranks amongst the top stock exchange centers for mining and energy stocks in the world **with more than 550 companies in the extractive sector listed.**

In spite of the nation's massive commodity treasure and steady economic growth, fiscal imprudence by the government has increased its vulnerability to an economic slowdown. Due to Covid-19 fiscal spending, Canada's public debt load saw a huge increase from 87% of GDP in 2019 to 117% of GDP in 2020, reaching a similar level to Spain's. In 2021, the public debt load slightly decreased to 112% of GDP. A similar extreme is seen in Canada's private household debt level, currently at the equivalent of 110% of GDP, largely stemming from mortgages facilitated by low interest rates.

Canadian Government Debt, as % of GDP, Q1/1990-Q3/2021



Source: BIS, Incrementum AG

If you postpone a reckoning, you almost always have to pay back with interest.

Rick Rule

Canada’s gold mining industry, the fifth largest in the world, is well known amongst gold investors. Home to a multitude of gold mines, Canada produces **about 182 tonnes of gold per year**. While a lot of the gold is sold internationally via the London Gold Market, Canada is also home to one of the largest mints, the Royal Canadian Mint, established in 1908. Besides coining the national currency, the mint also offers its services to other central banks. Famously, the Royal Canadian Mint’s refinery was the first to achieve .9999 purity, the so-called “four nines”. The Canadian Maple Leaf is amongst the biggest selling investment coins in the world. In 2007 the Royal Canadian Mint was included in the Guinness World Records for producing the largest ever gold coin, weighing 100 kg and of 99.999% purity, a “five nines” coin.



Photo credit: Royal Canadian Mint/ Monnaie Royale Canadienne

Given Canada’s close connections with precious metals, it came as a surprise when the Canadian Central Bank fully emptied its gold vaults in 2016 – it is now the only G7 member without any gold bullion holdings. The finance department, through spokesperson Dave Barnabe, **provided the following explanation**: “*The decision to sell the gold was not tied to a specific gold price, and sales are being conducted over a long period and in a controlled manner*”. He continued, “*The government has a long-standing policy of diversifying its portfolio by selling physical commodities (such as gold) and instead investing in financial assets that are*

Apparently, the sponsors of the 1923 Act did not realize that when Canada went back on the gold standard, as she did in 1926, the effects of the operations of the Act would be vitally different from what they were during the paper money period.

James Creighton, 1933

The only difference between a tax man and a taxidermist is that the taxidermist leaves the skin.

Mark Twain

I believe the world needs more Canada.

Bono

*easily tradable and that have deep markets of buyers and sellers". However, in 2021 rumors emerged that **Canada had added 100 tonnes of gold to their reserves.***

Founded only in 1934, in the aftermath of the Great Depression, the Bank of Canada is amongst the younger central banks. However, supported by close ties to its British counterpart, the Bank of Canada quickly gained in importance. Gold played a crucial role. Canada had introduced the gold standard in 1855, long before the Bank of Canada was founded. The Canadian dollar was valued at par with the US dollar and at CAD 4.867 to the British sovereign. During World War I, Canada abandoned the gold standard and returned to gold redeemability only temporarily between 1926 and 1931, before banning gold exports in October 1931 and suspending the redemption of Dominion notes in gold in April 1933.

Nevertheless, the government's interest in gold remained, **and in 1936 the idea emerged** of Britain acquiring Canadian gold and storing it in Canadian vaults. Increasing the Bank of Canada's gold trading activities was also meant **to strengthen its mandate** "to regulate credit and currency in the best interests of the economic life of the nation, to control and protect the external value of the national monetary unit". When international gold demand saw a huge increase throughout the 1930s, Canada began to tighten regulatory oversight over the gold market. The Royal Canadian Mint became the country's principal refiner, **while the 1932 Gold Export Act required licensing** from the finance minister for any export of gold. In other words, the Canadian government had the preemptive right to buy gold, as it had discretion over the provision of export licensing. Only a few years later, financial settlements in gold were outlawed, too. The introduction of the confidential British earmark account – a courtesy function amongst central banks entailing gold deliveries and safekeeping – was a step that became increasingly significant during World War II, providing the fundament for various central banks to store their gold in Canadian vaults.

Canada is a popular place amongst gold investors, given its close ties to the gold industry and the favorable tax status of precious metals investments. Gold, silver and platinum are exempt from taxation in Canada, provided that they meet the required purity level – 99.5% for gold and platinum, 99.9% for silver – and come in the form of a bar, ingot, coin or wafer. Palladium, on the other hand, is subject to the goods and service tax (GST) and/or the harmonized sales tax (HST). Also, all sellers of precious metals are also liable to undertake KYC measures, while **FINTRAC reporting requirements** apply to cash transactions exceeding CAD 10,000. **The Royal Canadian Mint does offer vaulting services** to financial institutions – **about 10% of Switzerland's gold holdings** are being stored in Canada – as well as to business clients. **Other private vaulting services** exist, too.

All in all, Canada is an appealing jurisdiction for gold storage, given its strong historical connection to the gold mining industry and its track record of being a stable and peaceful country.

United Kingdom – the World’s Largest Gold Vault



Photo credit: Pixabay

There’s an accent shift, on average, every 25 miles in England.

David Crystal

We have really everything in common with America nowadays except, of course, language.

Oscar Wilde

If you want to swim across the English Channel from England to France - you have to leave your doubt on the beach in England.

Lewis Gordon

The United Kingdom of Great Britain and Northern Ireland, oftentimes just referred to as the UK or Britain, is a unitary sovereign island state located on the greater part of the British Isles archipelago off the northwestern coast of the European mainland. The largest island within the archipelago is the island of Great Britain, where the UK’s capital, London, is located. The three islands Isle of Man, Guernsey, and Jersey are not part of the UK, but as Crown Dependencies the UK does defend them militarily. Together with the northern part of the island of Ireland and many smaller surrounding islands, the UK totals an area of 242,500 km². Surrounded by waters, it faces the Atlantic Ocean in the West, the Irish Sea in the northwest and the North Sea in the east. The English Channel, in parts as narrow as 35 km, separates the UK from the European continent. The rugged coastline of the UK, extending over 12,500 kilometers in length, has served as a geographical barrier to a multitude of invasion attempts over the centuries.

The UK consists of four countries: England, Wales, Scotland, and Northern Ireland. The rugged topography of the UK contributed to the emergence of cultural differences among the four countries. A unitary parliamentary democracy and constitutional monarchy, the UK’s current head of state, since 1952, is Queen Elizabeth II. She is also head of the Commonwealth of Nations, consisting of 54 member states and former territories of the British Empire, amongst them Canada and Australia.

Historically, the British Isles have always been a target of interest for invaders. In 55 and 54 BC the Romans, led by Caesar, attempted two invasions, and later southern Britain became part of the Roman Empire. Over the next one thousand years, there was an endless series of invasions from the Europeans: from the Germanic Anglo-Saxons in 400 AD, the Scandinavian Vikings in the 9th century, the Danish crown in the 10th and 11th centuries, the Spaniards in the 16th

The sun never sets on the British Empire. But it rises every morning. The sky must get awfully crowded.

Stephen Wright

The English are not a very spiritual people, so they invented cricket to give them some idea of eternity.

George Bernard Shaw

You find no man, at all intellectual, who is willing to leave London. No, Sir, when a man is tired of London, he is tired of life; for there is in London all that life can afford.

Samuel Johnson

century, and the French in the 19th century. In other words, Britain's main geopolitical challenge was defense against invasion, which it sought to accomplish by building a strong naval force and, beyond that, by engaging selectively on the European continent to prevent the emergence of a dominant power.

The Kingdom of Great Britain was only established in 1707, by politically uniting the two kingdoms of England and Scotland under the Treaty of Union.

A century later, the Act of Union 1800 merged Great Britain with Ireland, establishing the United Kingdom of Great Britain and Ireland. Throughout those years, Great Britain rose to become the world's principal naval force and imperial power, establishing the British Empire. Forced into both world wars, the UK emerged victorious, albeit with heavy losses. After the Second World War, the UK became one of the five permanent members of the UN Security Council and had a leading role, together with the US, in establishing the IMF, the World Bank, and NATO. While the postwar 20th century was marked by the economic recovery from the war, most colonies of the British Empire sought independence. Maintaining close ties with its European neighbors, the UK was a founding member of the European Free Trade Association (EFTA), as well as a founding member of the European Union after joining the European Communities in 1972; but the UK resisted joining the monetary union and the Maastricht Treaty. Following a national referendum in 2016, with the majority voting for leaving the European Union, since January 2020 the UK is no longer a member state of the EU.

The birthplace of the Industrial Revolution and once the largest empire in history, Britain today is still amongst the largest powers in the world, exercising significant influence on the international stage. The UK is a recognized nuclear power, has the fifth largest military budget, and maintains a strong presence on the world stage, although not with the power it wielded during the days of the British Empire. In 2021 the British economy was estimated at USD 3.1trn, the 5th largest in the world, while its currency, the British pound, is the fifth largest reserve currency in the world. Often casually referred to as *sterling* or *cable* or *quid*, the Great British pound is the oldest surviving national currency, dating back to the 7th century.

Just like all fiat currencies, its purchasing power has declined significantly over the past 14 centuries, but to be fair, all of its historical competitors are marked at zero and are no longer in existence.

The emergence of London as one of the world's major financial centers played an important role in Britain's gold history. A port city already back in the 16th and 17th centuries, London rose to be an important trading center, home to the East India Trading Company. The Napoleonic invasion of Amsterdam triggered a further influx of traders who relocated to London, allowing the city to overtake Amsterdam as the most important trading hub. In 1565 the Royal Exchange was founded, and a century later Lloyd's coffee house in Lombard Street became the birthplace of London's world-leading insurance market.



Photo credit: wikimedia

The maxim of the British people is "Business as usual".

Winston Churchill

Men of business in England do not like the currency question. They are perplexed to define accurately what money is: how to count they know, but what to count they do not know.

Walter Bagehot

In 1694, the Bank of England opened its doors, and the first purpose-built vaults were set up only a couple years later upon high demand, as lots of gold was shipped from Brazil to London in the first gold rush in 1687. In 1750, the London Good Delivery List was introduced, formally recognizing refineries that were allowed to trade on the London gold market. As of today, [this list](#) is still the most recognized accreditation in the gold market, although it is now the responsibility of the independent London Bullion Market Association (LBMA). [In the vaults of LBMA members](#) currently a record quantity of gold is held, amounting to 9,636 tonnes, which equates to approximately 770,877 gold bars, as well as 35,191 tonnes of silver, which equates to approximately 1,173,049 silver bars.

Reputedly, the Bank of England has the second largest vault in the world after the Federal Reserve in New York. The Bank of England is clearly one of the globe's largest custodians of gold, both for central banks and institutional customers. As of the beginning of 2022, [the amount of gold stored in the vaults of the Bank of England stood at almost 5800 tonnes of gold.](#) In the Bank's 326-year history no gold has ever been stolen from its vaults.

Each day physical gold worth some USD 60bn is being traded in London, making London the center of global gold trade. The sheer quantity of precious metals stored in the vaults of London underpins the enormous size of the market and secures its liquidity. The UK's profound and long-lived cultural and financial history, founded on the tenet that precious metals are equal to money, as well as its direct access to the largest gold market in the world, make the UK an excellent location to store gold.



Photo credit: pixabay

True progress lies in the direction of decentralization, both territorial and functional, in the development of the spirit of local and personal initiative, and of free federation from the simple to the compound, in lieu of the present hierarchy from the center to the periphery.

Peter Kropotkin

I hope for nothing in this world so ardently as once again to see that paradise called England. I long to embrace again all my old friends there.

Cosimo III de' Medici

Highly interesting, too, for bullion investors are the three British crown dependencies: the Bailiwick of Guernsey, comprising the islands of Alderney, Brecqhou, Guernsey, Herm, Jethou, Lihou, and Sark; the Bailiwick of Jersey, comprising the island of Jersey and uninhabited islets such as Écréhous and Minquiers; and the Isle of Man.⁶⁴ They do not form part of the UK but are self-governing possessions of the British Crown for which the UK bears the responsibility of military defense as well as international representation. Unlike the UK they never were members of the European Union but only formed part of the customs union. Approximately 260,000 people live on the various islands of the three crown dependencies. Their legislative independence from the UK is unique, as is the fact that both the Bailiwick of Guernsey and the Bailiwick of Jersey consist of several jurisdictions.

With a history dating back more than 1000 years, these islands have a long track record of a stable legal and political system. Above all, their local governance approach allowed for the decision making to focus on the best interests of the islands. On those grounds, the exceptional combination of legal and political stability plus financial innovation emerged, letting Jersey and Guernsey rise to being favored offshore financial jurisdictions.

An obvious example of this approach is each island's independence to establish its own tax scheme. **On Guernsey**, for example, there is a flat income tax of 20% with a liability cap, while no capital gains, inheritance, capital transfer, or value added taxes are levied. Similarly, **the jurisdiction of Jersey** also applies a 0% default tax rate for corporations, with exceptions for financial and utilities companies. Propelling the islands' reputation as tax havens was a now-closed European VAT tax loophole known as **low value consignment relief (LVCR)**, which allowed for VAT-free importing of goods valued at less than 22 EUR. The absence of any form of value added tax or goods and sales tax has helped to create a **very interesting bullion storage location**, especially as some bullion investments are also exempt from the UK capital gains tax.

Unlike many other offshore jurisdictions, Jersey, Guernsey, and the Isle of Man have a long track record of professionalism, financial prudence, and compliance with international standards. **All three crown dependencies are committed to**

⁶⁴ Many thanks to Swen Lorenz from Sarnia Asset Management for the detailed insights.

A miniature of all the Western world. Such wildness and such sophistication, such oldness and such newness.

Sir John Betjeman

Even in the rain and mist, the arrival at Guernsey is splendid.

Victor Hugo

The World has changed and changed utterly – although we may not realize it yet. We are likely on course for massive disruption, inflation, rising geopolitical crisis and uncertainty, and a high probability of stagflation. But – don't tell anyone.

Bill Blain

improving transparency and establishing an effective exchange of information in tax matters. Give their secure but innovative environment, these unique islands have earned the appellation “**British Switzerland by the Sea**”.

Guernsey alone is home to more than 1,400 investment entities, 30 international banks, more than 850 insurance firms, and over 150 investment funds, **with a total of more than GBP 270bn** under management. Less known is the fact that Guernsey has its own stock exchange, **TISE**, listing more than 3,500 securities with a market capitalization of more than GBP 500bn. **Big names listed** include Netflix and Refinitiv.

All in all, the UK including the Channel Islands offers a great proposition to any gold investor looking for a safe gold storage location.

Conclusion – Weighing Risks

The single most important step in selecting a gold storage location is to thoroughly examine and critically evaluate existing market risks. While geopolitical factors and jurisdictional peculiarities play a significant role, the final determinant is usually the investor's personal situation and preferences. Certainly, all three jurisdictions we have covered can make a strong case for providing a secure gold storage solution. Germany scores high with its stable political-economic environment; Canada can make its case with its large gold industry and proximity to the US market; while the UK has by far the longest history with gold and provides unique access to the most liquid and transparent precious metals market.



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The Synchronous Equity and Gold Price Model

“I don’t think anybody has a very good model of what makes gold prices go up or down.”

Janet Yellen

Key Takeaways

- The *Synchronous Equity and Gold Price Model* explains the price movement of the S&P 500 and the USD price of gold using only two variables: the US M2 money supply as the *base driver* and investor confidence as the *control valve*.
- The model is based on the following two key observations:
 1. An index that adds the price of the S&P 500 to the price of 1.5 ounces of gold reflects the development of the US M2 money supply comparatively accurately.
 2. The value split between equities and gold in this index can be explained by current investor confidence.
- The *Synchronous Equity and Gold Price Model* delivers convincing results – both in backtesting and in validating future forecasts – making it interesting not only to gold investors.



***About the author:** Dietmar Knoll is a banker and worked for four decades in corporate banking at Deutsche Bank AG, most recently as a restructuring expert in risk management advisory. In his retirement, he is researching the question of what really drives the price of gold.*

In this chapter, we will explore what a new validation approach suggests to us about the importance of money supply and investor confidence, and what future scenarios you can prepare for with it.⁶⁵

“For the fact that gold has served as money, asset, or store of wealth since time immemorial, remarkably little is known about how the price of the precious metal has come about at all” – From the investment magazine Institutional Money in an article entitled “Die Stunde der Spekulanten” (“The Hour of the Speculators”), published in March 2020.

Anyone who wants to grapple with the question of which factors really explain the gold price must deal with many different theories.

Furthermore, gold does not generate any cash flows, and thus there are – unlike in equities and real estate – no commonly used valuation methods.

As a general rule, the most successful man in life is the man who has the best information.

Benjamin Disraeli

Some observers consider the yields of US TIPS as the key determinant of the gold price, while others point to ETF holdings. Market sentiment is also said to play a role. Other factors alluded to are trends in the money supply, the US Dollar Index, consumer price inflation, the yield on 10-year US Treasuries, the Federal Reserve’s total assets, the equity market, the global economy, credit spreads, the unemployment rate, budget deficits, government debt, mine production, physical supply and demand, as well as the wedding season in India and geopolitical tensions and crises in general. However, this list of possible influencing factors is by no means complete.

This situation leaves the average investor perplexed.

The Synchronous Equity and Gold Price Model (SEGPM)

The correlation between money supply and the prices of individual assets is widely discussed in academia and in financial markets.

Professor Mathias Binswanger argues in his book *Geld aus dem Nichts* (“Money ex nihilo”) that the correlation between money supply growth and equity market prices can be observed from as early as the end of the 19th century – especially in the US. In his opinion, inflation tends to shift from the real economy to financial markets in times of booming equity prices.

One of the first things taught in introductory statistics textbooks is that correlation is not causation. It is also one of the first things forgotten.

Thomas Sowell

The relationship between equity prices and the price of gold is also much-discussed. The widespread opinion is that these markets mostly correlate negatively with each other. However, a truly stable relationship – over longer periods of time – does not exist.

No broader study has yet been conducted on whether and, if so, how a joint investment in equities and gold correlates with the money supply. This is surprising, because an investment diversified as such is said to have positive

⁶⁵ You can reach the author at knoll-dietmar@gmx.de.

We try to create a situation where we're the casino. It's like how an actuary would set insurance rates. Predictability, predictability, predictability. What's the path to least risk? What's the greater chance of getting some return on this asset?

Billy Beane

portfolio characteristics in terms of volatility and risk and could therefore also have a more direct relationship with changes in the money supply.

The logic behind the Synchronous Equity and Gold Price Model (SEGPM) is that there has been a close and predictable relationship between the money supply and the prices of equities and gold for the last 50 years. However, this close relationship is overlaid by investor confidence, which – as a control valve, so to speak – regulates the allocation between these two assets and – depending on the situation – prefers one or the other. Therefore, looking at the relationship between equities and gold prices, together with the money supply, using a 50/50 approach, eliminates the influence of investor confidence and reveals the direct relationship between money supply and the prices of both assets.

The SEGPM derived from these analyses is aimed at medium- and long-term-oriented investors and is intended to serve as a general guide – not to be used only in difficult investment times.

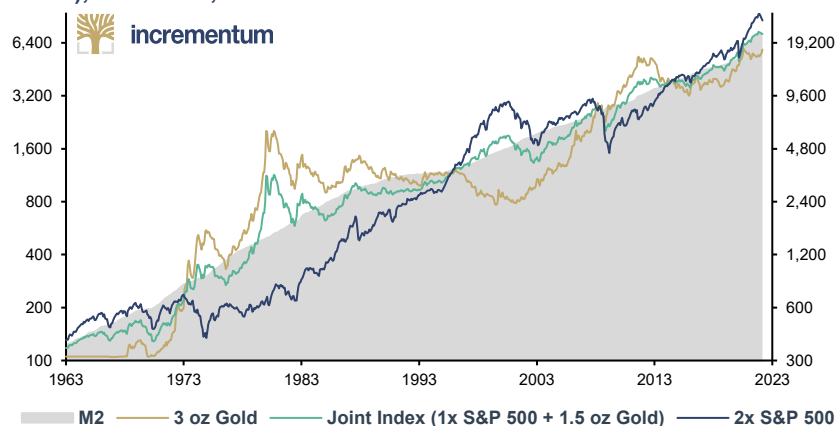
A first important impetus for the SEGPM is provided by the analysis of Prof. Stefan Mittnik, in an article titled “Gold – eine wirksame Risikobremse?” (“Gold – an effective risk brake?”). In this article, Prof. Mittnik examines the interaction of equities and gold over the last five decades and analyzes how adding gold in different proportions would have affected the return and risk profile of an equity portfolio. The 100/0, 80/20, 60/40, 40/60, 20/80 and 0/100 allocations were analyzed.

To put it succinctly: Gold curbs volatility and allows investors a good night's sleep.

Another impetus came from the article “**The F.E.D. Index & Price Increases**”, by Gary Christenson. In this article he suggests using his own F.E.D. Index (F.E.D.= Fiat-Enduring Devaluation) instead of CPI to measure inflation, because his index includes increased prices of financial assets. The composition of this index is: S&P 500 + 1.5 oz. gold. This is a roughly 50/50 split on a historical average basis. We have adopted Christenson's composition, and so the SEGPM is defined as "the price level of the S&P 500 + the price of 1.5 oz. gold".

Ex-post analysis yielded an interesting insight that proves central to the SEGPM. The joint index of S&P 500 plus 1.5 oz gold follows the US M2 money supply much closer than either of the two individual assets on its own.

Gold, S&P 500, and Joint Index (log, lhs), in USD, and M2 (log, rhs), in USD bn, 01/1963-03/2022



Source: Author's calculations, Incrementum AG

While the joint index of S&P 500 plus 1.5 oz. gold follows the US M2 money supply comparatively closely, the relative value of the two assets within this index has fluctuated to a large degree. Gold had its peak at the beginning of the 1980s when it contributed 90.5% of the value in this index, while equities peaked in August 2000 when they contributed around 78%.

Shares of Index Components: 1x S&P 500 and 1.5 oz Gold, in %, 01/1963-03/2022



Source: Author's calculation, Incrementum AG

In the absence of the gold standard, there is no way to protect savings from confiscation through inflation. There is no safe store of value.

Alan Greenspan

Investors buy gold when they are concerned about rising debt, inflation, a decline in the value of the US dollar, a recession, a stock market crash, or even concerns of a financial system reset. Equities, on the other hand, are bought when the economy is strong, growth rates are good, prospects are favorable, profits are high, the unemployment rate is low, and inflation is moderate.

However, since companies are fundamentally value-creating, while gold is not, equities should – in a normal environment and over time – outperform gold and thus gain a successively higher share of the joint index.

The question now is: How does all this fit together, and what causes the value composition between equities and gold in this joint index to fluctuate so strongly?

The *In Gold We Trust report 2019* provides a crucial clue. In particular in the introduction, the meaning of *trust* was examined from many different perspectives. In the opening quote by Roland Baader, gold was characterized as *coagulated trust*. **That is a thought that captures the mind and does not let go!**

The Importance of Trust for our Monetary and Financial System

He who trusts, assumes willingly and confidently that a thing will develop as promised or hoped for.

- Together with societal bonds and norms, trust forms the social capital of a society. Any form of cooperation and division of labor necessarily presupposes trust.
- Trust is the main driving force behind banks' lending activities. The decisive factor is the bank's trust in the borrower's ability and willingness to repay the funds entrusted to him, at a future date – with interest. If new bank lending falters, the financial system no longer receives enough new money and runs into difficulties.
- Trust is also a decisive factor in an investors' decisions to invest their money more offensively (opportunity/risk on) or more defensively (safety/risk off). This is a matter of trust in the strength of the economy and the stability of the financial system.

The importance of trust cannot be overestimated. The question then arises: Can investor trust also be measured and evaluated?

Trust is a great force multiplier.
Tom Ridge

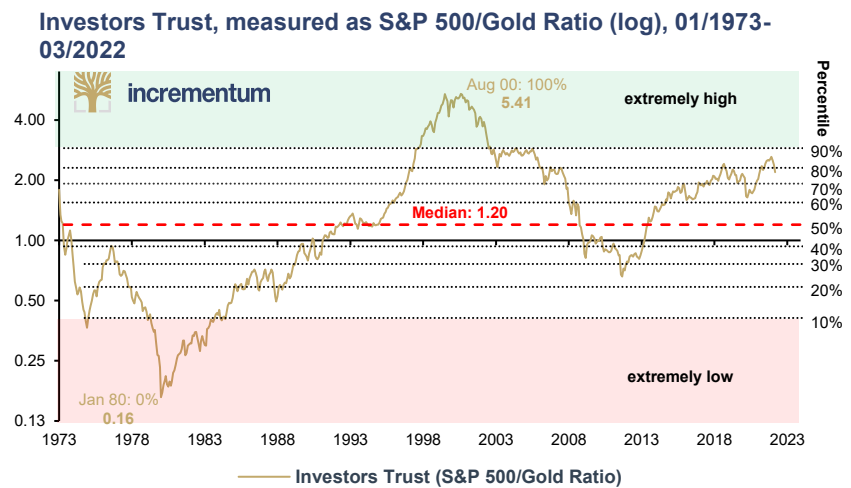
For some analysts, trust in capital markets is not just a vague concept. For Jim Grant, gold is the inverse of trust in the banking system, the economy and the government. Steve Saville considers gold and the S&P 500, as the world's most important equity index, to be the two opposite ends of an *investment seesaw*. In addition, for many years he has described a data set he calls the *Gold True Fundamentals Model* (GTFM). He considers many of the seven factors included to be measures of trust.

The significance of the counterpart to gold in such an investment seesaw is seen in an examination of history. Even in times when there were no stock markets in today's form, gold as the natural money competed with the profit-oriented financing of trade activities, discoveries and conquests, or the purchase of land. In certain places and for a short time, this competition also existed with tulip bulbs, South Sea companies, or shares in a Louisiana colony. However, the exchange ratio of gold with its respective authoritative counterpart was always determined by the currently prevailing investor confidence.

The modern era in gold began at least half a century ago, when US President Richard Nixon closed the gold window in 1971, thus finally ending the era of the

gold standard. Prior to that, the price of gold was largely fixed in the Bretton Woods system. Since then, the equity market has been the clear competitor of gold.

Combining the ideas of Jim Grant and Steve Saville, one inevitably concludes that in today's world, the S&P 500-to-gold ratio should be an excellent tool for measuring investor confidence, with investors' risk appetite in the denominator and their need for hedging in the numerator. Money supply growth is in both the numerator and the denominator and is thus trimmed out. Equities benefit from high levels of trust and gold from low ones.

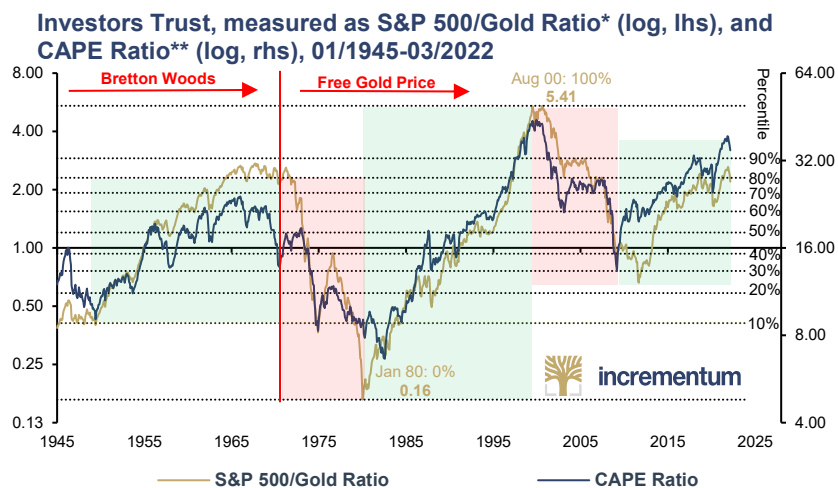


The SEGPM is based on measuring trust using the S&P 500-to-gold ratio. But now the question arises: Could investor trust also be measured and evaluated using alternative indicators?

Trust everybody, but always cut the cards.
Finley Peter Dunne

A number of indicators and ratios were tested that are said to be sensitive to changes in the trust level observed in the financial market, such as the Buffett indicator, Tobin's Q, the US bank-to-gold ratio, US corporate bond interest rate spreads, the USD index, and some commodity ratios.

The CAPE ratio for the S&P 500 has proven to be by far the best single indicator in the analyses. Although the gold price is not considered at all in this ratio, the Shiller P/E ratio shows a very similar trend to the S&P 500-to-gold ratio. Obviously, investor confidence works in a very similar way in this ratio as well.



Testing leads to failure, and failure leads to understanding.

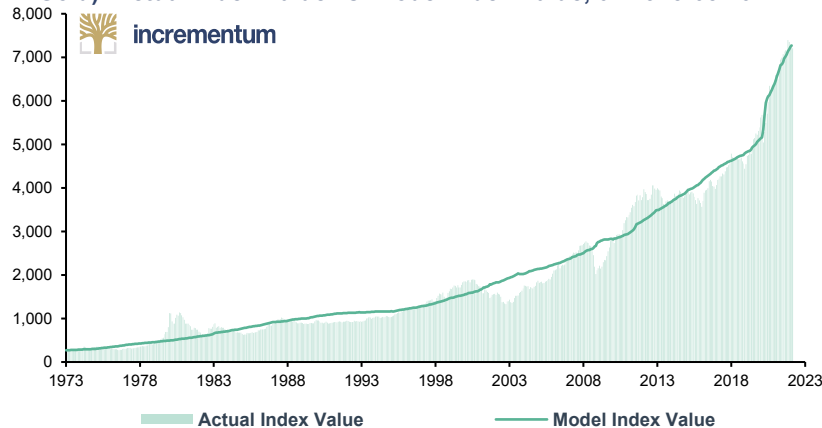
Burt Rutan

In a backtest, the SEGPM delivers convincing results. Backtesting is about testing the model and its validity using actual historical data. The theory of backtesting is based on the assumption that correlations and models that have worked well in the past will also deliver good forecast results in the future.

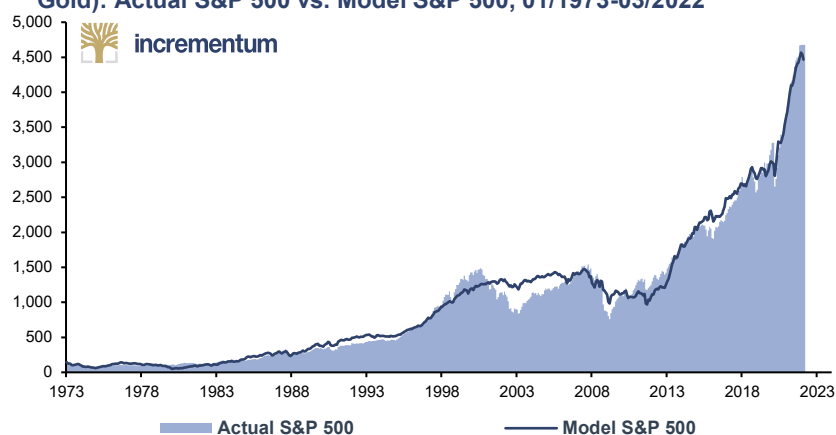
The calculus of the SEGPM is simple. The two fundamentals are:

- The US M2 (in bn USD) determines the value of the joint index (in USD).
- Based on this, investor trust – measured by the S&P 500-to-gold ratio – determines the value distribution in the index.

Synchronous Stock and Gold Price Model (1x S&P 500 + 1.5 oz Gold): Actual Index Value vs. Model Index Value, 01/1973-03/2022



Synchronous Stock and Gold Price Model (1x S&P 500 + 1.5 oz Gold): Actual S&P 500 vs. Model S&P 500, 01/1973-03/2022



Source: Author's calculations, Incrementum AG

Synchronous Stock and Gold Price Model (1x S&P 500 + 1.5 oz Gold): Actual Gold Price vs. Model Gold Price, 01/1973-03/2022



Source: Author's calculations, Incrementum AG

The charts show that the price development of the S&P 500 as well as the development of the gold price can be traced well with the model. Only in the well-known exaggeration phases – for gold: late 1970s/early 1980s and 2011/2012; for the S&P 500: 1998–2001 – does the respective boom asset clearly overshoot.

The common weak phases of the actual values of gold and the S&P 500 in the period from 2001 to 2006 and then again in 2008 are also striking. These periods are probably to be interpreted as temporary miscorrections in the course of crisis management that do not endanger the SEGPM's robustness.

The great benefit of the SEGPM is the simple generation and validation of future forecasts. All that is required are specifications for the development of the money supply and the trust level.

Thoughts on the Further Development of the Money Supply

Our last monetary forecasts based on historical experience were made in the *In Gold We Trust* report 2020⁶⁶. At that time, three different scenarios were outlined for the newly dawned decade and weighted with probabilities. The following overview is provided once again:

Scenario	M2 growth	Probability	Historical reference period	*M2 2030 in billions
Low	3.9% p. a.	5%	1990s	USD 23,350
Base	6.3% p. a.	80%	2000s	USD 30,000
Inflation	9.7% p. a.	15%	1970s	USD 42,450

*The *In Gold We Trust* report 2020 does not explicitly mention the absolute value of M2 in 2030. It was recalculated to USD 15,326bn with December 2019 as basis.

As of December 2021, the US M2 money supply already amounts to USD 21,553bn. Compared with December 2019, this represents an increase of around USD 6,215bn or 40.5%. The annualized average growth rate for these 2 years thus equals 18.5% p.a.

The more the state "plans" the more difficult planning becomes for the individual.

Friedrich August von Hayek

This shows how difficult it is to make a reliable money supply forecast when the central bank switches to acute rescue mode. In normal times, commercial banks are responsible for the lion's share of the newly created money supply with their lending. In times of crisis, however, they hold back on granting new loans, which is why the central bank has to provide temporary *emergency aid* – via asset purchases.

If one measures the problem by the amount of aid provided, the US economy and financial system were in historically unprecedented trouble. As recently as the end of 2008, the Federal Reserve's share of M2 stood at around 11%. After three QE programs and the stimulus package to combat the economic consequences of the Covid-19 pandemic, the Federal Reserve's share exploded to 40% at the beginning of 2022. It is thus already significantly higher than during World War 2, when it peaked at around 30%.

In reality there is no such thing as an inflation of prices, relatively to gold. There is such a thing as a depreciated paper currency.

Lysander Spooner

In the meantime, it is argued that the Federal Reserve's money creation must come to an end in order to prevent inflation from getting out of hand. For this reason, the Federal Reserve now intends to end its stimulus measures and start quantitative tightening. The question then is whether US bank lending, which collapsed in the wake of the Covid-19 crisis, can again provide sufficient new money on its own. History shows that the financial system could otherwise quickly become unstable (again).

In any case, in the first two months of 2022, the M2 money supply grew by another USD 258.7bn compared with December 2021, to USD 21,812bn, corresponding to an annualized growth rate of around 7.2%. Contributing factors were both commercial banks, with an expansion of net new lending, and the Federal Reserve, with continued balance sheet expansion.

⁶⁶ "Quo vadis, aurum?," *In Gold We Trust* report 2020, pp. 346

The first casualty of war is said to be the truth, and it probably perishes even before the first shot is fired. The second casualty of war is sound money.

Russell Napier

However, the Russian attack on Ukraine, Western sanctions, and the willingness of the US to use the US dollar as a weapon now threaten developments that could force the Federal Reserve to prematurely abandon its intended monetary tightening policy. One does not have to share all the fears discussed in the media, but the study of Ray Dalio's ninth book, *The Changing World Order: Why Nations Succeed and Fail*, and the thinking and analysis of Zoltan Pozsar are worthwhile. Based on Pozsar, it is understandable that many analysts consider the freezing of Russian foreign exchange reserves as a monetary earthquake and a turning point for the current world financial order.

With respect to the money supply component of the SEGPM, this development raises at least two key questions:

- At the short end: Will the Federal Reserve remain true to the intended shrinking of its balance sheet even if a shock event of some kind, a recession or stagflation, actually hits hard, or will it react – once again – in the usual way and flood the market with newly created US dollars?
- At the long end, who – other than the Federal Reserve – would finance U.S. twin deficits in the future if major creditor countries such as China, Brazil, India, and Saudi Arabia turn to alternative safe-haven assets and/or organize their foreign trade on an alternative settlement basis?

In this respect, money supply forecasts remain difficult. If you continue to adhere to the well-founded growth rates forecast in the *In Gold We Trust* report, you should bear in mind that the base effect will result in significantly higher absolute money supply targets for 2030 in the meantime.

This is important, because the SEGPM defines the value of the joint index – S&P 500 + 1.5 oz. of gold – solely in terms of the amount of money.

Scenario	M2 growth	Target value in 2030 -old-	Target value in 2030 -new-
Low	3.9% p.a.	USD 23,350bn	USD 30,400bn
Base	6.3% p.a.	USD 30,000bn	USD 37,400bn
Inflation	9.7% p.a.	USD 42,450bn	USD 49,600bn

Thoughts on the Further Development of the Level of Trust

In principle, there is much to suggest that the trust level of investors – at least in the medium and long term – is based on hard macroeconomic facts. The question is what criteria can actually be used to determine the strength of an economy in concrete terms and how the criteria included can be condensed into a robust overall assessment.

The German *Stability and Growth Act* (StabG) specifies four key objectives: stable and appropriate economic growth, high employment, price level stability, and avoiding external imbalances. At the European level, the *Convergence Criteria* and the *Stability and Growth Pact* (SGP) adds two

further objectives, the core of which is to limit public deficits and public debt to acceptable levels.

However, since there are conflicting goals between these six criteria, it is hardly possible to achieve all criteria simultaneously and equally well. If this succeeds at least in a form that comes close to the optimum, the *perfect middle*, the financial markets speak of a *Goldilocks scenario*. For the US, for example, this was the case in the mid to late 1990s.

The following table provides a good overview of the six stability and growth criteria. Included are both the current values and the data as of the end of 1999 and the end of 1979, as well as the value ranges, split into percentiles, ranked from top to bottom by which criterion is most supportive of investors' trust.

	Current Situation		Goldilocks Scenario End 1999		Trust Crisis End 1979		Percentiles Values 1973 - 2021				
	Value	Rank	Value	Rank	Value	Rank	90%	70%	50%	30%	10%
	Mar 22		Dec 99		Dec 79						
Trust (S&P 500/Gold Ratio)	2.2	77%	5.03	98%	0.23	2%	2.9	1.9	1.2	0.8	0.4
Real GDP Growth	6.3%	97%	3.5%	70%	-2.8%	6%	4.8%	3.6%	2.6%	1.6%	-2.0%
Inflation	7.0%	13%	2.7%	70%	13.2%	1%	1.4%	2.2%	3.0%	4.3%	8.7%
Unemployment Rate	3.9%	93%	4.0%	96%	6.0%	48%	4.3%	5.2%	5.9%	7.1%	8.7%
Current Account	-3.7%	17%	-3.7%	17%	-0.4%	81%	0.2%	-1.3%	-2.1%	-2.9%	-4.5%
Budget Balance	-12.1%	3%	1.5%	97%	-1.8%	79%	-0.4%	-2.4%	-3.0%	-3.9%	-7.1%
Public Debt	123%	0%	58%	44%	31%	98%	32%	48%	60%	65%	103%

Source: Author's calculations, Incrementum AG

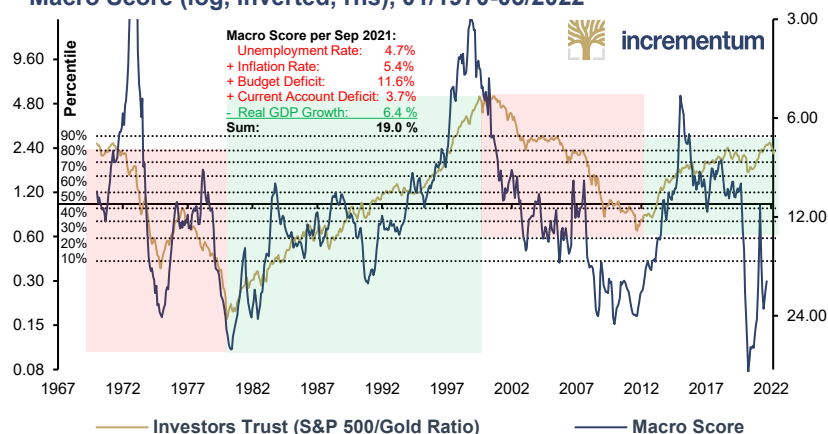
You take my life when you do take the means whereby I live.

William Shakespeare

For the general public, unemployment and inflation are the most critical issues. This is because both a higher unemployment rate and a worsening of inflation lead – directly and noticeably – to a deterioration in the economic situation of citizens. This is probably one reason why the Federal Reserve has a dual mandate to address both issues.

The *Misery Index* introduced into the academic debate by the American economist Arthur Okun in the 1960s adds both variables with equal weighting. If we stick to this logic and add the government deficit to the *Misery Index* or subtract the surplus and the current account balance, both as a percentage of GDP, and subtract real growth as a percentage of GDP, we obtain a simple macro score that compares well with investor confidence over the past 50 years.

Investors Trust, measured as S&P 500/Gold Ratio (log, lhs), and Macro Score (log, inverted, rhs), 01/1970-03/2022



Source: Author's calculations, Incrementum AG

Admittedly, this is a very rough and simple approach. Significant points of criticism are already apparent at first glance. For one thing, debt is not taken into account. The equivalence of different criteria may also be questioned. In addition, negative inflation rates (= deflation), for example, have a positive effect on the score.

On the other hand, even this simple addition shows a surprisingly direct relationship with investor confidence. Adding one's own unproven conditions, limits, or offsets would at least not improve the transparency and credibility of the macro score. Moreover, this back-of-the-envelope calculation requires neither an economics staff nor a supercomputer.

Ultimately, however, it is not necessary to share the reasoning behind the macro score and its derivation. It is merely intended to support one's own assessment of the development of the confidence level. The macro score is not included in the SEGPM.

Attitudes are more important than facts.

George MacDonald

Even without the two charts shown previously, it is plausible and understandable that investor confidence and its macroeconomic fundamentals do not always run in parallel. This is not unusual, because in the short term it is not only facts that count on the capital market, but also whether the data match expectations and how they are interpreted and classified.

High inflation, for example, is less worrisome when it is seen as temporary. An economic slump loses its horror if a V-shaped economic recovery followed by a continuation of the real growth trend is the defining narrative.

However, if expectations are not confirmed, the hard facts always prevail in the end. However, the *tipping point* at which the markets and investor confidence switch from narrative to reality is difficult to predict.

Carmen Reinhart and Kenneth Rogoff described this phenomenon very aptly in the introduction to their book *This Time Is Different: Eight Centuries of Financial Crises*: "Highly indebted governments, banks, or corporations can seem to be

merrily rolling along for an extended period, when bang! – confidence collapses, lenders disappear, and a crisis hits.” In a figurative sense, this certainly also applies to capital markets, valuation rules, and asset prices.

Forced to confront a reptile or an international financial crisis, I'll take the reptile every time.

Alexandra Petri

To enable a straightforward assessment of the level of trust, historical trust values were also divided into percentile ranges of 10% each. The extreme values of 0% and 100% trust are also shown. On the one hand, this may seem exaggerated, but on the other hand, the values are real. In addition, it cannot be ruled out that in the future these upper and lower corner values will not be shifted more deeply into the extreme range again.

The methodology and results of the model can be illustrated using the following matrix:

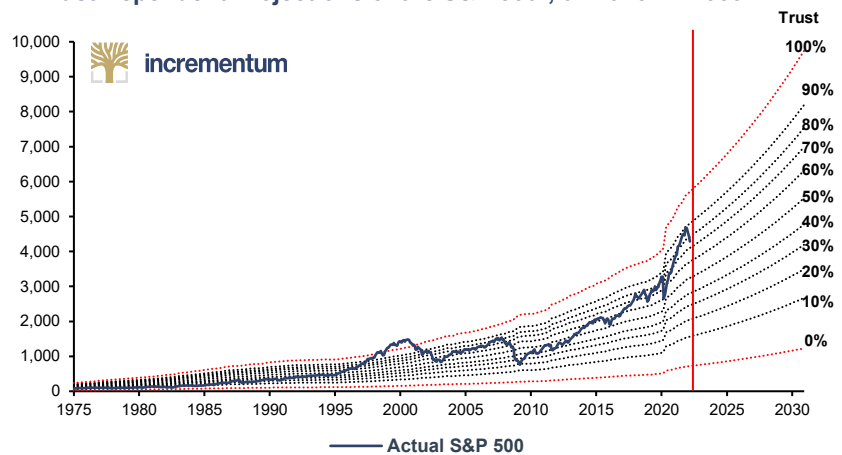
				US Monetary Aggregate M2, in USD bn.								
				22,000	24,000	26,000	28,000	30,000	35,000	40,000	45,000	50,000
Trust				Index Value, in USD								
(S&P 500/Gold Ratio)	S&P 500 Share			7,333	8,000	8,667	9,333	10,000	11,667	13,333	15,000	16,667
Values since 1973	of Index, in %											
5.41	100%	S&P 500	78.3	5,742	6,264	6,786	7,308	7,830	9,135	10,439	11,744	13,049
		Gold		1,061	1,158	1,254	1,350	1,447	1,688	1,929	2,170	2,412
2.90	90%	S&P 500	65.9	4,831	5,270	5,709	6,148	6,587	7,685	8,783	9,881	10,979
		Gold		1,668	1,820	1,972	2,124	2,275	2,654	3,034	3,413	3,792
2.31	80%	S&P 500	60.6	4,444	4,848	5,252	5,656	6,060	7,070	8,081	9,091	10,101
		Gold		1,926	2,101	2,276	2,451	2,626	3,064	3,502	3,940	4,377
1.92	70%	S&P 500	56.2	4,120	4,495	4,869	5,244	5,619	6,555	7,491	8,428	9,364
		Gold		2,142	2,337	2,532	2,726	2,921	3,408	3,895	4,381	4,868
1.55	60%	S&P 500	50.8	3,724	4,062	4,401	4,739	5,078	5,924	6,770	7,617	8,463
		Gold		2,406	2,625	2,844	3,063	3,281	3,828	4,375	4,922	5,469
1.20	50%	S&P 500	44.4	3,257	3,554	3,850	4,146	4,442	5,182	5,923	6,663	7,403
		Gold		2,717	2,964	3,211	3,458	3,705	4,323	4,941	5,558	6,176
0.93	40%	S&P 500	38.4	2,814	3,070	3,326	3,582	3,838	4,477	5,117	5,757	6,396
		Gold		3,013	3,287	3,560	3,834	4,108	4,793	5,478	6,162	6,847
0.76	30%	S&P 500	33.7	2,472	2,696	2,921	3,146	3,371	3,932	4,494	5,056	5,618
		Gold		3,241	3,536	3,830	4,125	4,420	5,156	5,893	6,630	7,366
0.59	20%	S&P 500	28.1	2,059	2,246	2,433	2,620	2,807	3,275	3,743	4,211	4,679
		Gold		3,516	3,836	4,156	4,475	4,795	5,594	6,393	7,193	7,992
0.41	10%	S&P 500	21.4	1,572	1,715	1,858	2,001	2,144	2,502	2,859	3,216	3,574
		Gold		3,841	4,190	4,539	4,888	5,237	6,110	6,983	7,856	8,729
0.16	0%	S&P 500	9.9	724	790	856	922	988	1,152	1,317	1,482	1,646
		Gold		4,406	4,807	5,207	5,608	6,008	7,010	8,011	9,012	10,014

Source: Author's calculations, Incrementum AG

In the table above, each USD 1,000bn increase in M2 leads to a USD 333 increase in the value of the index. This relationship is based on actual historical data since 1963. Perhaps more extensive research and simulations could establish a more precise correlation. However, the chart “Shares of Index Components: 1x S&P 500 and 1.5 oz Gold” and the backtest of the model suggest that there is little potential for additional optimization.

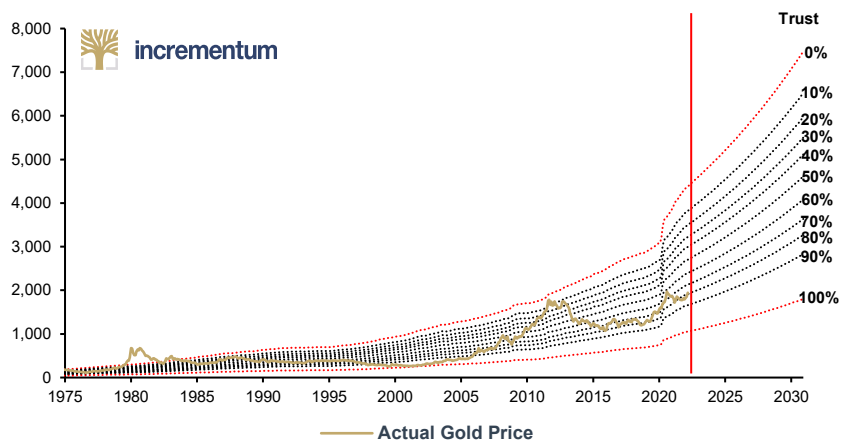
If there is a concrete expectation for the development of the money supply in the coming years or if that expectation is to be validated, the confidence-dependent spectrum of possible price developments can also be depicted as in the following chart.

Trust Dependent Projections of the S&P 500*, 01/1975-12/2030



Source: Author's calculations, Incrementum AG
*under the assumption of M2 money supply growth of 6.3% p.a. between 12/2021 and 12/2030

Trust Dependent Gold Price Projections*, 01/1975-12/2030



Source: Author's calculations, Incrementum AG
*under the assumption of M2 money supply growth of 6.3% p.a. between 12/2021 and 12/2030

However, the applications of the model are even broader. Another major benefit of the SEGPM is the validation of forecasts. This is because, with the inclusion of the money supply, any forecast for the S&P 500 also automatically becomes a forecast for the gold price.

Facts are facts and will not disappear on account of your likes.

Jawaharlal Nehru

This will first be illustrated by some price forecasts for the S&P 500 for the end of 2022. The basis for all subsequent calculations is the *additional* expectation that the M2 money supply will increase by 6.3% to around USD 23,000bn in the course of 2022.

Thus, in the model, the value for the joint index of the S&P 500 plus 1.5 oz. gold is fixed at USD 7,633. If now a price target for the S&P 500 is called, the gold price results logically from the remaining difference.

Institute	Forecast S&P 500*	Joint index in USD	Gold content (1.5 Oz)	Oz price	S&P 500 to gold	Investor confidence
Morgan Stanley	4,400	7,666	3,266	2,177	2.02	~ 73%
Goldman Sachs	5,100	7,666	2,566	1,710	2.98	~ 90%
Bank of America	4,600	7,666	3066	2,044	2.25	~ 78%
Credit Suisse	5,200	7,666	2466	1,644	3.16	~ 91%

* Forecasts according to "Factbox: Wall Street analysts' 2022 outlook for S&P 500"

But also, with the model, any gold price forecast is implicitly a commitment to a certain level for the S&P 500, as long as the money supply is included. Some examples:

Institute	Forecast gold price*	Joint index in USD	Gold content (1.5 Oz)	S&P 500	S&P 500 to gold	Investors' trust
ABN Amro	1,500	7,666	2,250,00	5,416	3.61	~ 92%
ANZ	1,725	7,666	2,587,50	5,079	2.94	~ 90%
Scotia Bank	1,850	7,666	2,775,00	4,891	2.64	~ 84%
World Bank	1,750	7,666	2,625,00	5,041	2.88	~ 90%

* Forecasts according to "Gold price forecast for 2022 and beyond: A buy, hold or sell" (as of February 2, 2022)

I had preached for forty years that the time to prevent the coming of a depression is the boom. During the boom nobody listened to me...

Friedrich August von Hayek

A notable gold price target for the end of 2030 at USD 1,653 was published by the World Bank in the fall of 2021. In order to meet the forecast of USD 1,653 with a trust level of 83% as of October 2021, according to the model, the M2 money supply would have to go down slightly to around USD 20,000bn, which effectively corresponds to zero growth for the next 8 years. Such a development would be extremely remarkable from a historical perspective. After all, only during the core phase of the Great Depression was the 8-year rate of growth of the money supply zero or negative for several years. Since then, the growth rate for any 8-year period has always been more than 26%, which is equivalent to about 3% p.a.

Such a growth rate of 3.0% p.a. – which would result in M2 of about USD 28,100bn in 2030 – translates in the model to a rise in the level of trust to about 95% if the World Bank's gold price forecast of USD 1,653 is considered as fixed.

I figure lots of predictions is best. People will forget the ones I get wrong and marvel over the rest.

Alan Cox

However, if money supply increases in line with the *In Gold We Trust* report 2020 base variant of 6.3% p.a. to USD 37,500 in 2030, this leads at the given gold price of USD 1,653 to an S&P 500 of around 10,000 points and a new high in investor confidence, with an S&P 500-to-gold ratio of 6.0. The previous high was reached at 5.41 in August 2000.⁶⁷

Money-supply-based long-term forecasts of gold or equity prices have been very rare in the past, probably because the link to the money supply, if it was seen at all, was previously considered to be very loose. One exception was the money-supply-based gold price forecast for two different M2 growth scenarios in the *In Gold We Trust* report 2020.⁶⁸

Scenario	M2 growth	Target value 2030 -old	Gold price forecast for 2030
Base	6.3% p. a.	USD 30,000bn	USD 4,800
Inflation	9.7% p. a.	USD 42,450bn	USD 8,900

⁶⁷ See "Quo vadis, aurum?," *In Gold We Trust* report 2020

⁶⁸ See "Quo vadis, aurum?," *In Gold We Trust* report 2020

The validation of the forecast with the SEGPM shows that both price forecasts would not have been achievable with the expected monetary expansion alone. For an unchanged trust level of around 76% (as of the end of 2019), the model shows a gold price for 2030 of around USD 2,740 in the base scenario and of around USD 3,880 in the inflation scenario.

In order to meet the *In Gold We Trust* report 2020 forecasts for 2030, the confidence level would also have had to fall significantly, along with the forecast monetary expansion: in the base scenario to around 20% and in the inflation scenario to 0%, with a new, slightly lower extreme value.

With the absolute money supply targets for 2030 increased in the meantime by the base effect, the gold price forecast of USD 4,800 in the base scenario is now already achievable at a level of trust of around 46%, and the forecast of USD 8,900 in the inflation scenario at a level of trust of around 8%.

In summary, the SEGPM conveys two important insights:

- If the influence of investor trust is eliminated by a hedge (through the use of the joint index) or else – properly measured – taken into account, there is a strong and calculable link between the development of the money supply and the prices of equities and gold.
- In the short run, investor trust is decisive for the development of equity and gold prices. In a direct comparison of the two variables, the influence of money supply growth is generally only strong in the medium and long term. In this respect, the historically unprecedented money supply expansion of 2020 and 2021 is an exception.

Conclusion

A model that tries to explain the development of the equity market and the gold price over the last 50 years on the basis of only two variables can, of course, only be a highly simplified reflection of reality, quite in the sense of George Box, a statistician at the University of Wisconsin, who once provocatively formulated: “*All models are wrong, but some are useful.*”

The *Synchronous Equity and Gold Price Model* can be used to calculate future effects that are significant for investment decisions on the basis of robust correlations. In particular, it gives investors a better sense of how future monetary expansions and changes in investor confidence may specifically affect equity and gold prices.

Please avoid surprise by including the uncertainty and fickleness of confidence in your strategic investment decisions. The model will provide you with valuable services in this regard.

VG CX
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exceptional exploration
excellence expression exact
extraordinary experts excel
extra experienced executives
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How to Understand Gold's Supply and Demand Fundamentals

“Lasting backwardation in gold is tantamount to the realization that gold is no longer for sale at any price.”

Antal Fekete

Key Takeaways

- Copper and oil are produced to be consumed. If production gets ahead, there is a glut. If production falls behind, there is a shortage. One can analyze commodities markets by looking at production and consumption data.
- Gold is different, because it is not consumed. Gold has been accumulated for millennia.
- The price of a commodity in the futures market is normally higher than the price in the spot market. When it flips the other way, this is proof of a growing scarcity. This is true for ordinary commodities and for gold, though for gold the mechanism is a bit different.
- Gold's availability to the market has held steady over the last year. Silver has become scarcer, but that's in part because the price has dropped.
- Governments have gone mad. There's no other word for their fiscal and monetary policies. This is why people have been turning to gold, though it remains quite unloved. And they are likely to continue turning to gold at an increasing rate.



***About the author:** Keith Weiner is the founder and CEO of [Monetary Metals](#), an investment firm that is unlocking the productivity of gold. Keith is an economist who is a leading authority in the areas of gold, money, and credit and has made important contributions to monetary theory. He is also a serial entrepreneur.*

For ordinary commodities, marginal utility is falling. Gold is different. Gold's marginal utility does not decline.

With an ordinary commodity, such as copper, you add up the supply and you add up the demand. Supply is the output of the mines, plus recyclers. Demand is the manufacturers of wire, pipe, etc. If a large new mine is coming online next quarter, then all else being equal, we should expect the price of copper to fall. If there is a strike in a major copper-producing district, or a socialist takeover, then we should expect the price to rise.

This extends to import numbers, especially for countries known to be doing a lot of construction of buildings and infrastructure. For example, if China's copper imports number is rising, that represents an increase in demand. But gold is different.

Gold has been mined for thousands of years. And virtually all of that gold is still held in human hands. Gold is not consumed, merely held. And we keep mining more! Think about the implications of this.

One, there is no such thing as a glut of gold. The concept of *glut* is inapplicable. If the market absorbed all the gold that came from the mines over millennia, then it will absorb whatever comes out of the mines next year.

Two, total annual mining is a small percentage of total existing gold. If we invert it, we have the *stock-to-flow* ratio, which for gold is measured in decades (compared to months for ordinary commodities).

Three, all of that gold out there is potential supply. At the right price, and under the right conditions. And all people on the planet are potential demand, at the right price and under the right conditions. This confounds the conventional approach to supply and demand, as one would use for copper.

The massive amount of gold already above ground makes an increase in mining output relatively insignificant.

Four, changes to the quantity of mine output or jewelry manufacturing are insignificant, relative to all that gold out there. To put this in perspective, annual global gold mining output is around 3,000 tonnes. Total gold stocks out there are estimated to be around 200,000 tonnes. However, there are good reasons to believe that the official estimate understates the reality, as people have been hiding gold from their governments and nosy neighbors for thousands of years, and there is no way to inventory it. So the total stock is increasing around 1.5% a year. Now, how about a change in gold mining? Suppose gold miners have a slow year and produce only 2,400 tonnes. 20% may seem like a big change. But relative to 200,000 tonnes, 600 tonnes amounts to a mere 0.3%. The effects of this change will be de minimis.

Five, jewelry and *objets d'art* are just different forms of gold, whether people hold the metal in the form of coins and bullion bars, or hold it in the form of rings and necklaces. And changes to the form of gold held do not predict price moves.

Economics has a term called *marginal utility*. This is the value of the next unit of a good. For ordinary commodities, the $n^{\text{th}} + 1$ unit is worth less than the n^{th} . Suppose you are walking in the desert around Phoenix in the summer. It is 46°C in the shade (if you can find any). You're getting very thirsty. You stumble across

someone selling bottles of water. How much is the first liter worth to you? You'd empty your wallet. It's your life. What about the second? It will get you back to civilization. The third? A spare. A fourth? You would have to carry the dead weight, so it's not worth much. By the 5th liter, water has no value to you.

For ordinary commodities, marginal utility is falling. When it falls below the cost of production, that is a severe glut and the price crashes. The low price attracts buyers who use the cheap commodity for purposes that normally are not justified. Then the inventory is worked down, and eventually, the glut subsides.

Gold's marginal utility does not decline, at least not at a meaningful rate.

So, six, **gold is different than ordinary commodities.** Gold's marginal utility does not decline – or if it does, the decline is so slow that, after thousands of years of chronic accumulation, the price of gold is still above the cost of production.

Seven, if a commodity has constant marginal utility, then you cannot analyze it by looking at the quantity produced, the quantity held in inventory, or the quantity purchased (which is not for consumption anyway).

Eight, you also cannot measure its value in terms of commodities with declining marginal utility! Indeed, gold's non-declining marginal utility means that the next unit has the same value as the last one. Gold is the best unit of measure of economic value, the way a steel meter stick is the best unit of measure of length. The steel meter stick does not shrink as you bring it to higher altitudes. The gold meter stick does not shrink as gold miners bring it to higher stocks.

Incidentally, Bitcoin's designer and most Bitcoin proponents fear that this is not true for Bitcoin. Thus Bitcoin has a cap on its ultimate quantity, of 21mn.

Nine, gold is not valuable due to scarcity. Indeed, measured appropriately, it is quite abundant. Gold has a greater *stock to flow* than almost any other commodity – perhaps with the exception of water.

If gold moves from one place to another, or from anonymous sellers to a famous buyer, that does not help predict the price.

Ten, the high stock-to-flow ratio and great abundance of gold mean that there is a massive amount of it relative to any one market participant. Even the biggest central bank in the world has only 8,000 out of 200,000 tonnes, or 4%. Here are the things that are *not* predictive of the price of gold, other than, perhaps, for a quick trade:

- Gold moves from one country to another, or one owner to another.
- Gold moves from one vault to another, or one vault category to another.
- Gold is moved from one kind of entity to another.
- Gold is transformed from one form to another.
- Mine output increases or decreases.
- Jewelry input increases or decreases.
- New stocks of gold are discovered, or a claimed stock proves to be fraudulent.
- A famous buyer or famous seller
- The price of consumer goods rises, especially if the increase is due to nonmonetary drivers, like green energy restrictions.

Suppose you could sell wheat in the spot market for USD 8.00 and buy the next month's contract for USD 7.00. This indicates scarcity.

The above discussion is important to put gold in context as money. If you think about it, money ought to have certain properties, such as non-declining marginal utility and high stock to flow.

This context is also important as background to the next section, which is about how to analyze the supply and demand fundamentals of gold.

Suppose the market offers a profit for the following trade. You can sell your gold bar for US dollars, and simultaneously buy a futures contract that will deliver an equivalent bar next month. You end up with the same gold that you had, plus some free US dollars. And suppose that every day, the profit offered for this trade is increasing. What would that tell you?

Before we answer this for gold, suppose this happened with an ordinary agricultural commodity. Suppose you could sell wheat in the spot market for USD 8.00 and buy the next month's contract for USD 7.00. And every day, the price of wheat in the spot market moved up, while the futures contract price did not change.

In order to play, you must have wheat. If you do not, then you cannot sell wheat in the spot market, which requires immediate delivery.

Therefore, if the bid in the spot wheat market is higher than the offer in the futures market, that indicates scarcity. By the way, the technical term for this condition is *backwardation*. Normally, the price in the futures market is higher than the price in the spot market, to cover the cost of storage and credit for the warehouseman – the market maker who trades the spread between spot and futures – to finance the position. **This condition is called contango.**

In backwardation, everyone's screen is offering them a profit. And the profit persists; it is not just some nanosecond flash, for big firms with fiber-optic connections and fast computers. It's there, and it lingers. But no one is taking it. Because to take the free money off the table, the requirement is, you must have wheat.

This applies to gold, though there is no such thing as a shortage of gold. As we just saw, virtually all the gold mined in human history is in human hands. However, even with gold, there can be a shortage of the commodity in the market.

Gold is money, so a shortage in the market is more serious than a shortage of wheat before the harvest. Gold is money, so a shortage in the market is more serious than a shortage of wheat before the harvest. To understand what makes gold so economically important, let's look at the concept of bid and offer in a new way. It is commonly known that the bid is the price you are paid, if you need to sell immediately. And the offer is the price you pay, if you need to buy immediately. You can bargain with the market by making your own bid or offer, but you risk not having a trade at the end of the day.

It's also well understood, at least among the gold community, that the fiat currency regime is headed towards a crisis. Many gold thinkers say

Many gold thinkers say that, in a fiat currency crisis, the offer to sell gold will be withdrawn off the board. This is a mirror image of the reality, that gold will withdraw its bid on the US dollar.

that the offer to sell gold will be withdrawn off the board. In other words, you will see offers to sell wheat, oil, shares of Apple, etc. But the gold offer will be blank.

Some would go farther and say that gold is unique. In a crisis, other things go “no-bid”. Suppose the US Geological Survey says there will be an earthquake in LA – 15 on the Richter scale, nothing taller than a dollhouse will be left standing. All bids on real estate – probably from Santiago de Chile to British Columbia, Canada, and as far east as the Mississippi River would be pulled. There would be no lack of offers from owners eager to sell! But not a bid to be found.

But here we are discussing a currency crisis in which it is not the bid on gold that is pulled but the offer! How do we explain this apparent anomaly? How did the Medievals explain the apparent retrograde motion of the planets? They could not, from within their geocentric paradigm. The explanation came from Copernicus, who said, there is no retrograde motion. In his heliocentric model, apparent retrograde is just an artifact of observing other planets from Earth.

The explanation of the apparent anomaly of the withdrawal of the gold offer does not come from the present, paper-centric paradigm. It must come from a proper, gold-centric paradigm. **In this paradigm, it is not the US dollar that is money. It's gold.** Gold bids on all things, including the Federal Reserve's – and European Central Bank's – irredeemable paper.

And, one day, gold will withdraw its bid on the US dollar. This is not a mere rhetorical trick. This is not deducing the desired conclusion from a definition. I am not just saying “gold is money” and “hey, look at this”. There is a reason why gold owners will withdraw their bid on the US dollar.

There is a reason why gold owners will withdraw their bid on the US dollar. It's because the quality of the US dollar is declining.

It's because the quality of the US dollar is declining. The US dollar is credit, but increasingly unsound. The US government – and trillions of US dollars of other major borrowers – cannot pay the principal and interest when due. They rely on selling new bonds to pay maturing bonds. This game has a finite terminus, even when, as Adam Smith said, “there's a great deal of ruin in a nation” and it takes a long time. **But when it finally does, the distinction between gold and paper currency becomes clear. And the following is also very important.**

Gold is not the liability of any counterparty.

In the endgame, people will not want to be lenders to bankrupt debtors. Thus they will try desperately to get their hands on gold. **The desire to trade US dollars for gold will not be in question.**

However, those who hold gold will not have a reciprocal feeling. They will not want to trade gold for US dollars. Thus the withdrawal of the gold bid on the US dollar.

The first sign of this is gold backwardation. Let's look at the mechanics of this. Suppose the following prices appear on your screen (*Future* meaning a contract maturing in three months):

- Spot (bid): USD 1800
- Spot (offer): USD 1801
- Future (bid): USD 1781
- Future (offer): USD 1782

You could simultaneously sell your gold for USD 1800 and buy a contract for the same amount of gold for USD 1782. That is a USD 18 profit, or 1%. This is 1% for three months, or 4% per annum. So the market is offering you 4% on a short-term trade. At the end, you have the same gold as before. Plus 18 free US dollars. And there is no risk. You can't have a margin call, because you sold the gold for cash. With the full cash to take delivery on the contract, there is no margin.

But you hesitate. If this is truly risk-free, why has no one else taken it?

It's not like there's a shortage of gold! Then the reason becomes clear.

The risk is that you have exchanged your gold for a contract. What if the contract does not deliver in the end?

Gold backwardation is an indication of the erosion of trust. It is the harbinger of monetary collapse.

Gold backwardation is an indication of the erosion of trust. It is the harbinger of monetary collapse.

It should never happen. There is no shortage of gold. But it has happened intermittently since Dec 2008. Recall that in late 2008 there was widespread fear of a banking system collapse. That fear was visible as gold backwardation. It did not last long, as the monetary authorities pumped out so much credit that the danger of collapse was no longer imminent.

Gold backwardation has occurred many times since then.

The normal condition of the gold market is contango. Normally, you can buy a gold bar at, say, USD 1791 and sell a future for USD 1800. That is, you can make a profit to *carry* gold. Someone buys a gold future, and you are providing the service of warehousing the gold for him until the contract matures. And you earn a small fee to do so – 0.5% in this case, which is 2% per annum.

Hyperinflation has nothing to do with quantity, it has everything to do with quality of money.

Antal Fekete

If there is contango and the contango is growing, then we can infer something: There are more participants carrying gold today than yesterday. We can be sure of that because the profit – i.e. the incentive – is greater. If someone is motivated to carry gold for nine bucks an ounce, then two someone may be motivated to do it for ten bucks. And so on.

This means that in rising contango the marginal buyer of gold is putting it into the warehouse. Not sustainable. **If the price is rising, a rising contango means that speculators are driving the price.**

In backwardation, it is profitable to *de-carry*. That is, to unwind the carry trade put on earlier. So the warehouseman got paid to carry, and backwardation pays him again to de-carry. That is, to sell the bar and buy back the contract. In rising backwardation, the incentive to de-carry increases. The warehouse is now the marginal supply of gold. Also not sustainable. And bullish.

The cure for the temporary backwardations, so far, has been rising prices. At higher prices, some people are motivated to sell. So more gold is offered on the market, and the backwardation subsides until the next episode.

To understand the fundamentals of the gold (and silver) market, one must study the gold *basis*.

- Basis = future (bid) – spot (offer)
- Cobasis = spot (bid) – future (offer)

When the basis is positive, then the market is in *contango*. A high and rising contango means abundance. To trade on a positive basis, the warehouseman puts on an arbitrage trade. He borrows US dollars, buys gold metal in the spot market, and simultaneously sells a gold futures contract. The (annualized) profit on this trade is the basis. This trade will scale up, the greater the spread between basis and LIBOR.

The gold basis is fairly stable. In a period where the gold price moved around between USD 1,686 and USD 1,905, the gold basis moved only between 0.2% and 0.75%.

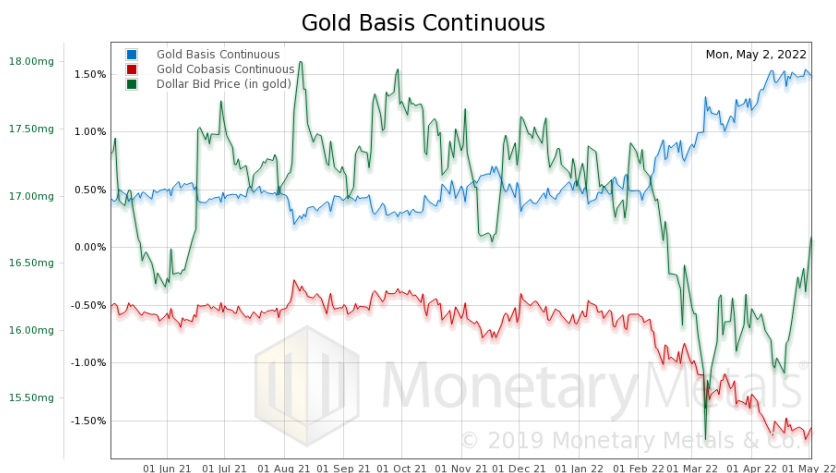
When the cobasis is positive, then the market is in *backwardation*. A high and rising backwardation means scarcity. To trade a positive cobasis, the warehouseman sells a gold bar and buys a futures contract. Note that this trade does not rely on credit; there is no borrowing. And no margin calls. In this sense, it is deemed risk-free. Also, a positive cobasis gives the warehouseman an additional profit to close a gold carry trade that he previously put on, when the basis was positive.

NB: It is not mathematically or physically possible for both basis and cobasis to be positive.

There are a few other interesting things worth mentioning. One, the gold need not be held in a futures market warehouse. It could be in a bank basement. It could also be coming from a refiner, or even a gold mine. The warehouseman may have an arrangement for the miner's output.

A rising basis provides an incentive to create new futures contracts. That is, the warehousemen buys more gold bars from the market, and sells futures contracts against them. And conversely, a rising cobasis provides an incentive to buy back and close futures contracts.

Armed with this understanding, you can interpret a chart of the gold basis. Here is the chart as of May 2, 2022. It shows one year of data.



The green line is the price of the US dollar, measured in gold, currently 16.7 mg of gold. This is basically the inverse of the price of gold, as measured in the elastic and volatile US dollar, currently USD 1,862.

The first thing you may notice is that the basis is fairly stable. In a period where the US dollar price banded around between 15.2 mg and 18.0 mg gold, i.e. the gold price was between USD 1,727 and USD 2,047, the gold basis was pretty steady around 0.5%, before moving up to around 1.5%

This shows that the price rise was driven by speculators in the futures market, whose demand is pulled into the spot market by the arbitrage of carrying gold.

Next, notice the correlation between the green and red lines, that is, between the price of the US dollar and the gold cobasis. This correlation holds at the general level, the overall shape of the chart. And it is especially revealing in the second week of February through the second week of March. This is when the price of the dollar falls from 17.15mg to 15.19mg, i.e. the price of gold rose from USD 1,813 to USD 2,047. During this price move, the cobasis fell from -0.6% to -1.1%.

The more the buyers in the futures market push up the price of gold contracts, the more the warehousemen pull up the price of gold metal – and the more this spread widens.

In other words, someone bids up the price of gold futures. This widens the basis, thus attracting a warehouseman to buy gold metal and sell a future. But the warehouseman is attracted not by the idea of making the price of gold in both markets identical but by an uptick in the profit of arbitraging. So he pulls the price of spot gold up, but not as much as the futures buyers pushed up the price of futures. The more the buyers in the futures market push up the price of gold contracts, the more the warehousemen pull up the price of gold metal – and the more this spread widens.

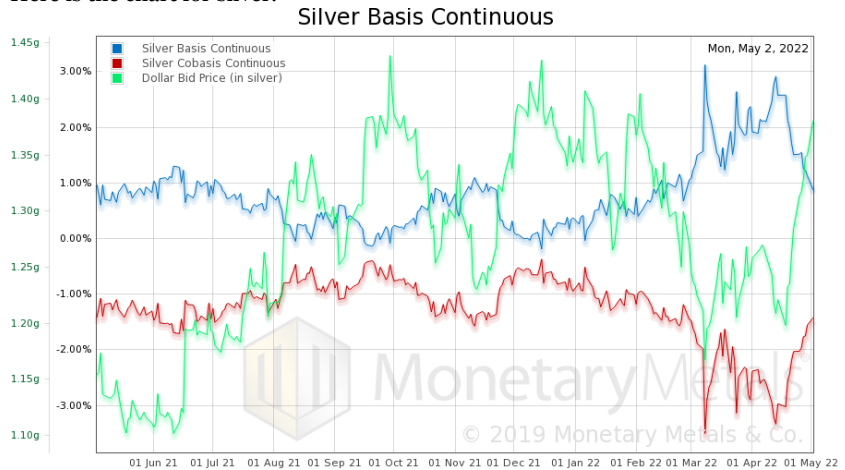
In other words, gold tends to be scarcer at lower prices and more abundant at higher prices.

Finally, one notices that even as the price of the US dollar has increased since then, i.e. the price of gold has moved down, the cobasis has kept on falling. Gold would seem to be getting more abundant in the market, even as its price is falling.

In other words, this was the selling of physical metal and futures are following.

However, during this time the Federal Reserve hiked the interest rate. Libor went up from around 0.3% to around 1.3%! This is a big move, and it directly impacts the cost of carrying gold, which involves borrowing at Libor to buy gold metal and simultaneously selling futures contracts. The basis moved up about half as much as the interest rate. We will look at the impact on the price projection, below.

Here is the chart for silver.

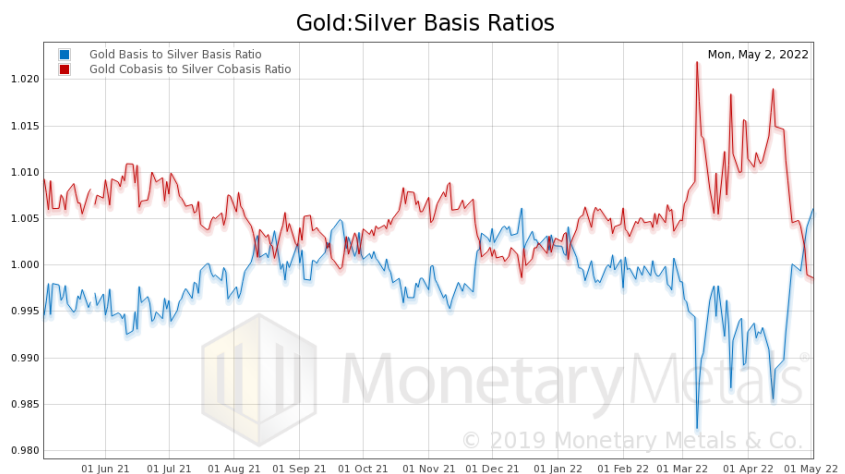


The green line is the price of the US dollar, in silver, currently 1.4 grams of silver.

The silver basis is less stable than the gold basis, which reflects that silver is less marketable and the silver market is less liquid.

For the last year, the ratio of the gold cobasis...to silver cobasis has been above the ratio of the gold basis to silver basis.

Along with the price moves, there is a more pronounced move of the silver basis. It's the same basic pattern, that is falling price of silver is accompanied by falling cobasis, i.e. scarcity. With one difference. Since mid-April, the basis has been falling. This is despite rising interest rates. Silver's scarcity – relative to gold – is increasing. Here is a graph of the gold basis to silver basis, and gold cobasis to silver cobasis.



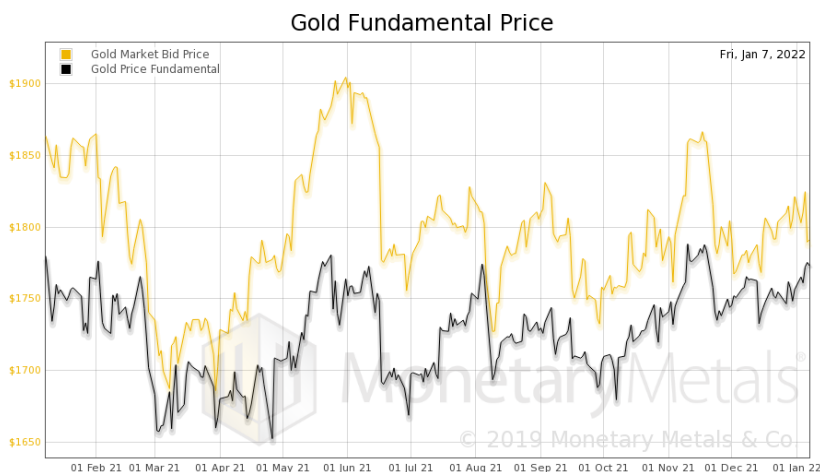
For the last year, the ratio of the gold cobasis to silver cobasis (i.e. the red line) has been above the ratio of the gold basis to silver basis. **This means gold has been the scarcer metal, to the market.**

As of April 28, this reversed. The ratios are farther in silver's favor than they've been in a year, actually for several years.

The buyer (or seller) of futures is not a long-term holder. He is trading with leverage, and that means he will seek to take profits or cut losses. He is a speculator. By contrast, the buyer of physical metal is usually doing so without leverage, and likely with longer-term time horizons.

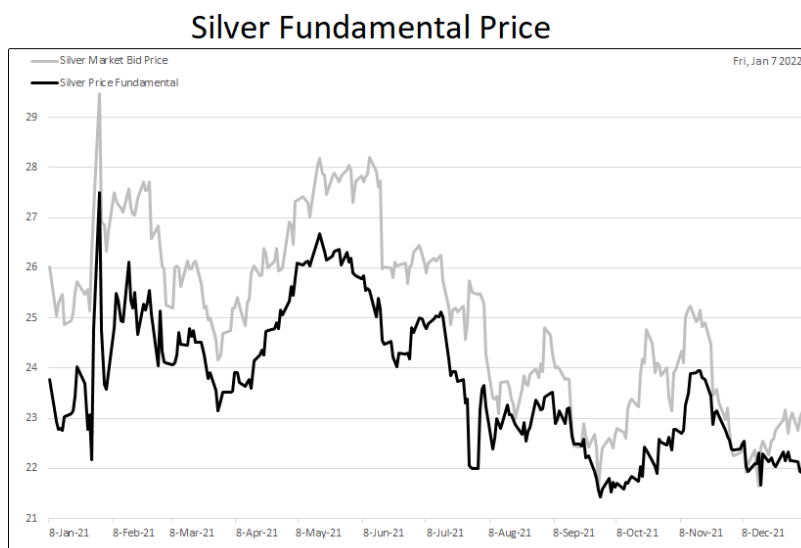
Price is set at the margin, and the traders at the margin have access to a great deal of credit

What if one could use the basis to build a model to look at what the price of the metal would be, absent the speculators? Sometimes the speculators are pushing up the market price. Sometimes they are pushing it down. Price is set at the margin, and the traders at the margin have access to a great deal of credit. Monetary Metals has built this model. Here is a chart of the gold price fundamentals.



Remember from above, the gold basis is rising – but not as fast as Libor. The Monetary Metals gold fundamental has come just a bit off its high a month ago, but not much. It is currently USD 1,961.

And here is the chart for silver.



The fundamental price of silver had been declining since last year, but it has recovered most of that loss in the last month.

Here, we see a different picture from gold! The fundamental price of silver had been declining since last year, but it has recovered most of that loss in the last month. We calculate a fundamental price – if silver metal were clearing without speculators influencing the price one way or the other – of USD 25.22. This is almost three US dollars above the market.

So where does this take us?

The following is based not only on the basis and analysis of the current fundamentals of the gold and silver prices. It is based on a broader macroeconomic view.

Clearly, something changed when the world plunged into Covid-19 lockdown. We had USD 1,600 gold and USD 18 silver, at that point. Then, within a few months, we had USD 2,050 gold and USD 29 silver. The prices have subsequently subsided, but not to their pre-Covid levels.

You know what else changed after Covid, and then mostly recovered? The yield on the 10-year Treasury bond. It plunged to 0.54% on March 9, 2020. By the end of 2021, it had not recovered its pre-Covid level of 1.8%. That did not happen until the Federal Reserve seemingly got serious about *tightening* – we shall see about that. The yield temporarily peaked in February at 2.05% then subsided by early March to below its pre-Covid level. Since then, it has been on a tear, even reaching the 3% mark – we shall see how long this can hold.

There is not a direct correlation between the interest rate and the gold price. We had rising rates in the 1970s, and rising gold prices. And we had falling rates post-2001, and rising gold prices.

However, in the wake of Covid-19, we have had a major increase in the risk of being a creditor to governments. Their debt levels have skyrocketed, but not their capacity to pay those debts. At the same time, we have had a drop in rates – granted, this is now correcting, and we shall see how far it goes from here. There is a lesser reward for taking on greater risk.

No wonder people turn to gold and silver!

The economic and interest rate situation is not likely to improve. Therefore, people will keep turning to gold.

The economic and interest rate situation is not likely to improve. Therefore, people will keep turning to gold. And this highlights two key differences between gold and silver. One is that silver demand comes partially from industrial and consumer product demand. This is not necessarily rising as we go forward.

...gold is priced out of the reach of many wage earners, especially in emerging markets. So there is a disparity between the demand by wealthy vs. poor people.

Two, gold is priced out of the reach of many wage earners, especially in emerging markets. So there is a disparity between the demand by wealthy vs. poor people. For the former, it is about a safe haven to store wealth. This can be the inflation-protection trade, but increasingly it will be the default-avoidance trade. **When you own gold, there is no counterparty and you have no worries about credit default.**

When the wealthy buy gold, they are putting the proceeds of the sale of other assets into it. Contrast with the poor, who are putting part of their wages into silver. The wealthy have lots of US dollars to buy gold, so long as their assets are worth lots of US dollars. It is not necessary that their assets are rising in price, merely that they have saleable assets and a concern about the solvency of the counterparties.

But the poor have only US dollars to put into silver, if they have wages. And not just wages but US dollars remaining after paying their living expenses.

A falling interest rate tends to put downward pressure on wages, and right now there are several large forces pushing up the cost of living: increasing regulations generally, increasing green energy restrictions specifically, trade wars and tariffs, and finally what could be called *lockdown whiplash*. Shipping and logistics have been distorted and stressed, first by the collapse of trade and then by the surge in demand as fiscal stimulus pulled demand forward.

Conclusion

As of this writing, the fundamentals of gold seem to be appealing, and when you don't want to invest even in the allegedly safe assets such as government bonds.

Silver certainly has the potential to rise in gold terms, especially with a gold-silver ratio over 80 as it is now. The logistics industry will get their issues sorted, yet one should be less optimistic about energy restrictions and economic nationalism, both of which seem to be global megatrends. **There have been better setups for silver in the past than we see today. And the balance of risks suggests a better setup for silver is likely in the future.**



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Silver's Inflation Conundrum

“You think you know that monetary policy is controlled by a central bank adjusting interest rates and/or the size of its bank balance sheets. You are wrong. The consequences of being wrong on this will be the greatest cause of wealth erosion in the modern age.”

Russell Napier

Key Takeaways

- Silver prices disappointed investors, who observed consumer price indices exploding higher. Is silver no longer a monetary metal that hedges against inflation? Rest assured, fellow investor, it is. But there were two impediments to price appreciation.
- Real rates stopped falling in August 2020. Silver's inverse correlation to real rates first halted price appreciation, and then stagnation set in, as with real rates. Secondly, consumer price increases are not necessarily inflation.
- The problem was not the monetary metal but the lack of monetary inflation. The consumer price increases were primarily caused by supply shocks, i.e. shuttering and restricting business and making it uncertain, and demand surges, i.e. the ordering of goods in place of services that were less available due to Covid-induced government restrictions.
- The good news (for silver investors, at least) is that the balance of probabilities strongly favors an inflationary decade ahead.

Stagnant Real Rates Put a Lid on Silver's Nominal Price

Silver prices are strongly correlated to real rates. When real rates stopped falling in early August 2020, silver prices peaked shortly thereafter. The table below shows, across different frequencies and time periods, that the monetary metal is strongly repelled by the real, inflation-adjusted price of money.

Silver (USD) is Negatively Correlated to Real Rates (US 10-year Treasury)

Time Period	Daily	Weekly	Monthly	Quarterly
Aug. '07 – Mar. '22 (15 yrs.)	-0.53	-0.53	-0.54	-0.55
Feb. '18 – Mar. '22 (5 yrs.)	-0.87	-0.87	-0.88	-0.89
Mar. '20 – Mar. '22 (2 yrs.)	-0.70	-0.70	-0.73	-0.79

Source: Bloomberg, Incrementum AG

The August 2007 starting point was chosen because that is when the Global Financial Crisis began and changed the monetary system irrevocably – so far – from exponential growth to stagnation.⁶⁹ February 2018 was when the fourth bout (since 2007) of monetary deflation began. March 2020 was when the acute reaction to the pandemic and government actions set in.

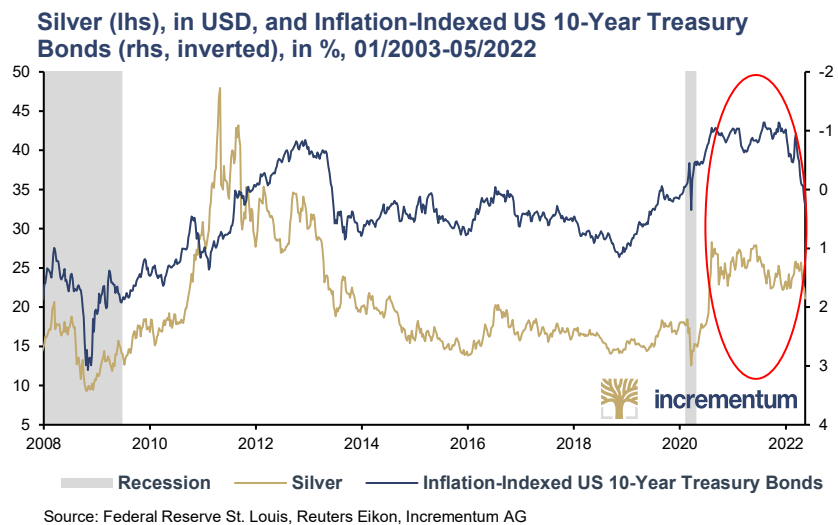
*Gold is the money of capital,
silver the money of commerce.*
Dan Oliver

Peaking in early November 2018, real rates stepped away from Globally Synchronized Growth⁷⁰ and began a steady 21-month downtrend. Real rates fell 2.25 percentage points, from 1.17% to -1.08%. That's when silver prices rose. But from August 2020 to March 2022 they stagnated (min: -1.19%, avg: -0.89%, max: -0.42%). That's when silver prices basically went nowhere.

During the first phase, silver's *inverse* correlation *raised* the metal from a monthly average of USD 14.36 in November 2018 to an average of USD 27 by August 2020. And during the second phase, the phase when the CPI was registering multidecade high rates of acceleration? Silver stagnated (min: USD 21.54, avg: USD 24.99, max: USD 29.13). **Silver ignored the CPI inferno because it is not a CPI metal, it is a monetary metal and we were not witnessing monetary inflation.**

⁶⁹ See "How Bankers Turned Money into 'Σ 0 ∞ € ¥'," *In Gold We Trust* report 2021

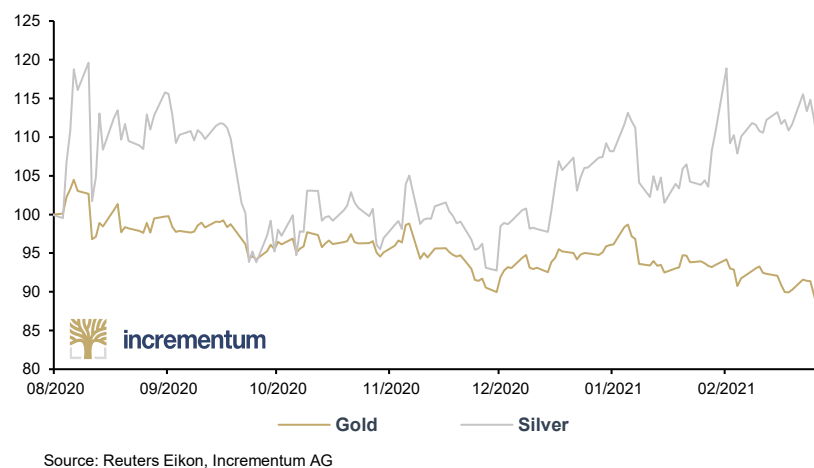
⁷⁰ The mainstream financial community's name for the third attempted recovery from the Global Financial Crisis. The first two were called Green Shoots (2009-11) and Global Growth (2013-14). Each was brought to an 'unexpected' end by another "unexpected" bout of money/credit/collateral scarcity or shortage.



Silver Outperforms Gold, at First

Both gold and silver stopped appreciating in US dollars when real rates stagnated in August 2020,⁷¹ but the two metals have had very different experiences since that summer. From August 2020 through February 2021 silver outperformed gold. Why? Because markets expected monetary reflation and then economic recovery to be floated to victory on a wave of continuous wartime-like fiscal stimulus and politician-led control of the private banking system.

Silver and Gold, in USD, 100 = 31.07.2020, 08/2020-02/2021



Politicians are like bad horsemen who are so preoccupied with staying in the saddle that they can't bother about where they're going.

Joseph A. Schumpeter

Stimulus checks! Furlough programs! Government-guaranteed bank loans! To name just a few of the programs: the UK's Bounce Back Loan Schemes, the US' Main Street Lending Programs, the French Prêt Garanti par L'état, the Canadian Highly Affected Sectors Credit Availability Program. All of this was to be done by politicians demonstrating that they could preserve the socioeconomic status of millions – of registered voters! No wonder silver's higher beta to (monetary)

⁷¹ Gold, denominated in US dollars, is typically even more strongly correlated (inversely) to real rates (US 10-year Treasury) than silver.

... politicians are not trying to solve our problems. They are trying to solve their own problems...getting elected and re-elected are No. 1 and No. 2. Whatever is No. 3 is far behind.

Thomas Sowell

Prepare for the unknown by studying how others in the past have coped with the unforeseeable and the unpredictable.

George S. Patton

inflation purred with satisfaction. There was a real chance that the feckless, hapless central banking policies of the past decade and a half would be abandoned.

But as more time passed it became clearer to markets that the politicians were not ready to take the world into a new socioeconomic order. Instead, elected representatives treated the economic circumstances of 2020 as a one-off, an exogenous factor to be overcome. That worldview allowed the politicians to go back to things the way they were, which they considered perfectly fine. Or, at least, more electorally safe than leading society into a new and uncertain future.

Universal Basic Income was not introduced. Modern Monetary Theory was not tried. The sovereign-bank-corporate nexus, as ECB executive board member Isabel Schnabel has called it, was not pursued. Instead, just more quantitative easing, which has failed to revive moribund economies or stoke monetary creation everywhere it has been tried for the past 20 years. **There would be no monetary reflation floated to victory on a wave of provocative money expansion after all. Silver's days of outperforming gold were numbered.**

When Fedwire Snapped, Silver's Run Ended

In late February 2021 the private banking system – the one that creates money/credit/collateral that the global economy and financial system run on – was given a terrible fright that it would not recover from: **Fedwire went offline for several hours.**⁷²

What is Fedwire? It is a real-time gross settlement system used by banks, businesses and government for – as the Federal Reserve itself puts it – “mission-critical same-day transactions”. Mission critical. **As per the Federal Reserve's Treasury Market Practices Group:**

“On Wednesday, February 24, 2021, the Federal Reserve experienced a disruption across financial services – including Fedwire® Funds, Fedwire® Securities, NSS, ACH, and Credit Risk – that lasted for approximately three hours, with service resuming at approximately 2:30 pm EST.”

What happened? We really don't know! Or at least we haven't been told; the authorities won't divulge. What do the authorities know and/or want us to know? That it was not a cyberattack, as the **TPMG Meeting Minutes of March 23, 2021** state: *“Staff noted that the root cause behind the disruption was identified quickly by staff and was not linked to a cybersecurity incident.”*

Even the IMF noted there was remarkably little information available (emphasis added):

⁷² See “How Bankers Turned Money into ‘Σ 0 ∞ € ¥,’” In Gold We Trust report 2021

*“According to a statement from the Federal Reserve, it took steps to help ensure the resilience of the Fedwire and NSS applications, including recovery to the point of failure. **No further details were provided.** Fedwire resumed normal operations after the 3 to 4 hours outage.”⁷³*

No custodian of the truth should have to fear their deliverance of the facts.

Jacob Riggs

The lack of forthrightness by the authorities and/or investigation by the financial press is a real shame, because a significant number of markets began to turn against successful reflation from that point forward. **Below is a partial list of capital markets, currencies, commodities and balance sheet items that were affected:**

- **Treasury yield curve:** Steepening since the pandemic, the curve began a yearlong (so far) retreat on February 25. The spreads started to flatten : 5yr vs. 30yr, 10yr vs. 30yr, 20yr vs. 30yr. The 2-yr vs. 10-yr spread began to flatten a few weeks later, in mid-March.
- **Japanese government bonds:** The 10-year yield peaked, then fell through the end of 2021.
- **British gilts:** The 10-year yield peaked, traded sideways, then fell through August 2021.
- **Swap spreads:** Both the 5- and 10-year maturity spreads stopped expanding (i.e. reflation, recovery) and began a multi-month contraction into a negative spread by June 2021. (Fixed to floating interest rate swap, spread to US Treasury rates of similar maturities.)
- **Indian rupee:** Strengthened against the US dollar from the depths of the Covid-19 crisis until February 24; weakened ever since.
- **Australian dollar:** Strengthened against the US dollar from the depths of the Covid-19 crisis until February 25; weakened ever since.
- **New Zealand dollar:** Strengthened against the US dollar from the depths of the Covid-19 crisis until February 24; weakened ever since.
- **British pound:** Strengthened against the US dollar from the depths of the Covid-19 crisis until February 24; then traded sideways, then weakened ever since.
- **Reverse repurchase agreements:** The Federal Reserve's overnight Treasury security lending program experienced a sudden surge from nothing to USD 11bn, presaging a supernova explosion to USD 1.9trn by the end of 2021.
- **Repo fails:** Primary dealers reported a significant increase in failures to deliver and to receive US Treasury securities lasting several weeks.
- **Securities lending:** The Federal Reserve reported a marked increase in Treasury and federal agency debt securities lent overnight from February 24 to mid-April; securities lending would not come off a boil until July 2021.
- **Copper:** On an escape-velocity trajectory to outer space since the depths of the Covid-19 crisis, the metal's flight path took a sudden hard right on February 24 and remained effectively unchanged through December 2021.

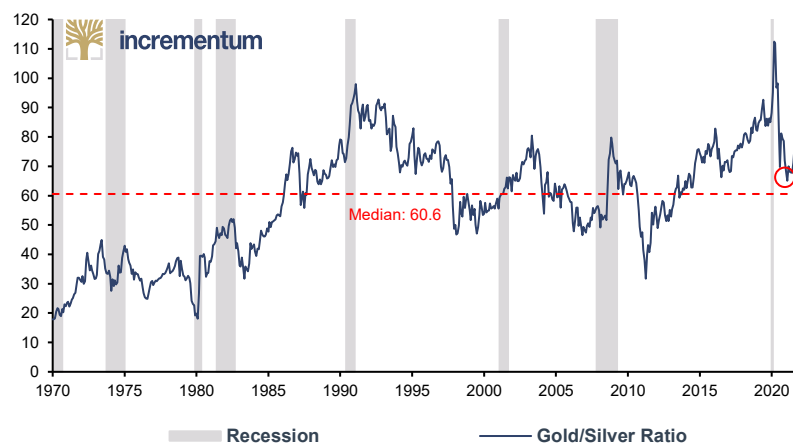
⁷³ Khiaonarong, Tanai, Leinonen, Harry and Rizaldy, Ryan: "Operational Resilience in Digital Payments: Experiences and Issues," *IMF Working Paper*, No. 2021/288, December 10, 2021, p. 34

Always the bridesmaid never the bride but silver in the last year has been more like the poor stooge sweeping up the confetti and rice.

Christopher Ecclestone

The skittish banking system reacted naturally: It flinched. Remember, it has been in a 15-year abusive relationship with a malfunctioning monetary order. It began to back away from monetary reflation and began to doubt economic recovery. So the system defaulted back to the status quo – anticipating the escalating probability of periods of monetary deflation. **That environment is an unwelcome one for silver. Indeed, just two days after the Fedwire blackout, on February 26, the gold-silver ratio bottomed out.**

Gold/Silver Ratio, 01/1970-05/2022



As has been explained in previous editions of the *In Gold We Trust* report,⁷⁴ a rising ratio signals deflationary monetary circumstances – the kind one observes during global depressions and great monetary scarcity. A falling ratio, i.e. silver gaining in relative value, signals the opposite, an expansion in monetary supply.

A rising ratio and the underperformance of silver makes complete sense from that perspective. The monetary conditions had flipped from reflation to retrenchment. The economy continued its recovery – such as it was – but monetary matters had now turned against silver. The monetary warnings have only escalated since then: The US dollar began its tightening appreciation in June 2021, the eurodollar futures curve inverted on December 1, 2021, and the US Treasury yield curve inverted, (2-year versus 10-year yield) on April 1, 2022.

Monetary Metal in a Monetary Deflationary Context

You will not find it difficult to prove that battles, campaigns, and even wars have been won or lost primarily because of logistics.

Dwight D. Eisenhower

But how can we explain the rise in consumer price indices and not lay it at the feet of an expanding monetary base? Why didn't silver rally, with all this inflation? Because it wasn't *monetary* inflation, it was an increase in consumer prices. That increase was brought about by supply/demand imbalances and shocks, *not* by an expansion in money supply. How can we be sure?

⁷⁴ All previous *In Gold We Trust* reports can be found in our [archive](#).

- Because we have observed for two decades the Bank of Japan and Ministry of Finance pursuing an awe-inspiring expansion of base money and Godzilla-like deficit spending.
- Because we have observed for 15 years the Federal Reserve and Treasury Department super-sizing policies of quantitative easing and stimulus.
- Because we have observed seven years of the ECB and capitals of Europe raining bank reserves and raising public debt-to-GDP ratios to Brobdingnagian proportions.

In each and every case, consumer prices effectively did the *opposite* of what authorities wanted: They remained muted and/or fell. **Not until supply chains were repeatedly electroshocked and economies randomly turned on and off like light switches did we witness consumer price rallies.**

Was the increase in consumer prices due to the ‘money printer go brr’ thing that *has not worked* for a generation? Or is it more likely that it was the sledgehammer taken to a logistics plan designed for expanding globalization? A plan turned all the way up to 11 for maximum efficiency and minimum resiliency.

Optimism for the Future

Asset inflation for investors is fun, consumer inflation – not so much.

Fred Hickey

The crisis consists precisely in the fact that the old is dying and the new cannot be born; in this interregnum a great variety of morbid symptoms appear.

Antonio Gramsci

Silver prices will rise in concert with persistent, pervasive monetary inflation. That is not what we have been witnessing, but surely it is not far away. Silver’s future is bright because the future is inflationary, as this is the most humane and politically feasible option for dealing with inequality and private/public debt burdens.

The next crisis is already upon us – Russia/Ukraine/NATO – and surely the far-reaching consequences will convince leaders that the old order – quantitative easing, globalization, WW2-era institutions – is to be abandoned and a new one – government-guaranteed bank loans, local supply, Universal Basic Income – to be fashioned. And even if it is not the present crisis in Eastern Europe, there are any number of other candidates queueing up in this our Fourth Turning⁷⁵ that will force politicians’ hands to fully embrace inflation.

To know when we’ve tacked the good ship towards a new inflationary horizon, keep an eye on politicians’ announcements in favor of:

- picking winners, e.g. on March 15, 2022 Australia’s Energy and Industry Minister announced a AUD 240mn investment in the rare earths metals industry,
- and losers, e.g. on March 19, 2022 Italy’s Mario Draghi announced windfall taxes on Italian energy companies;
- disabling markets, e.g. on March 17, 2022 Italy’s Ignazio Visco stated “Administered prices for a small period of time would not be a bad idea”;
- localizing industry, e.g. on March 16, 2022 the EU’s Valdis Dombrovskis announced tariffs against Indonesian and Indian steel;

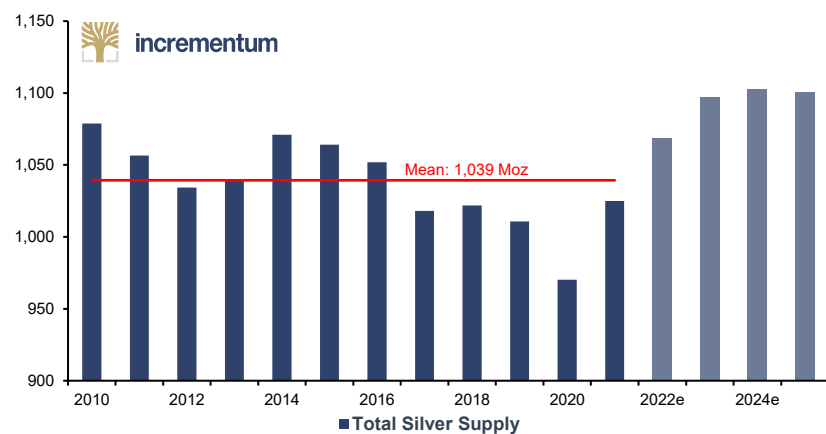
⁷⁵ See “From Decades Where Nothing Happens to Weeks Where Decades Happen,” *In Gold We Trust* report 2021

- guaranteeing bank loans, e.g. on March 16, 2022 France's Jean Castex expanded and prolonged the state guarantees of bank loans originally created to deal with the Covid-19 crisis.

Silver Supply Buoyed by Mexico and Peru

Let us now give you a brief overview of the most recent developments in supply and demand of silver. Overall supply, including both fundamental and speculative, grew 5.6% in 2021 to 1,025 million ounces (Moz). Analysts anticipate that tally will rise 4.3% in 2022 to 1,069 Moz. But the big picture takeaway is that total silver supply has remained effectively unchanged since 2010, averaging 1,037 Moz per year from 2010 through 2021. This stagnation extends out through to 2025, which the industry consensus has penciled in for 1,100 Moz – not materially different than 2010's 1,079 Moz.

Total Silver Supply, in Moz, 2010-2025e



Source: Silver Institute, Incrementum AG

Mine supply clawed most of its 2020 losses back last year, rising to 827 Moz from 780; the 2019 total was 836 Moz. The consensus analysis forecast is that mine production will rise to a six-year high in 2022 of 879 Moz and then breach the 900 Moz barrier for the first time in recorded history the following year.

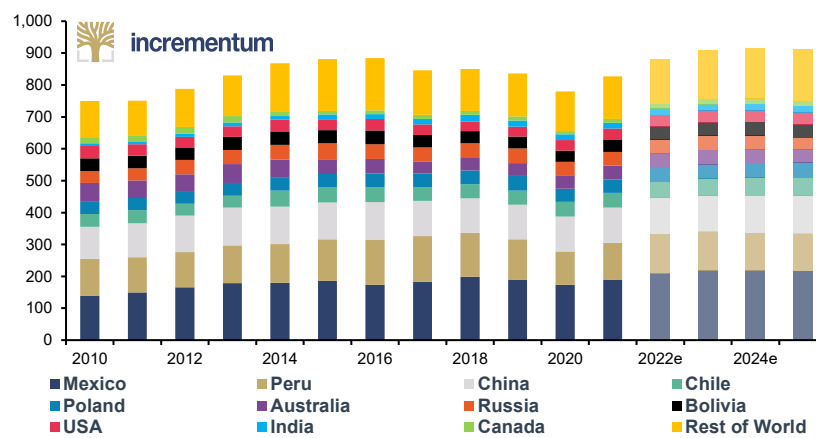
Mine Supply, in Moz, 2010-2025e



Source: Silver Institute, Incrementum AG

Analysts expect Mexico and Peru, the world's top two producers, to account for just under one-third of global supply and increase production during 2021 by 10.6% and 7.5%, respectively. China is the only other country with a double-digit market share in global production; it is estimated to produce 2.2% more in 2022 than last year.

Mine Supply by Country, in Moz, 2010-2025e



Source: Silver Institute, Incrementum AG

Secondary supply consists of industrial and photographic scrap along with the recycling of jewelry, coins and silverware; it accounts for just under one-fifth of total supply. Analysts forecast this category of supply to shrink year-over-year by 4.9% in 2022.

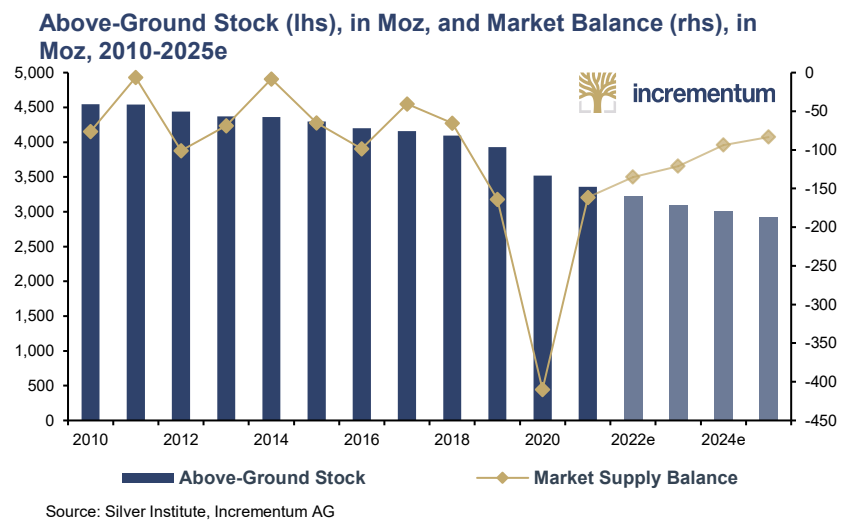
Speculative silver supply consists of exchange-traded products, commodity exchange inventories, precious metal dealer inventories, and/or mining company hedging and is forecast to be an immaterial 2 Moz in 2022. **This is clearly encouraging because it tells us these financial market participants do not expect to be selling silver.**

Silver Demand Forecasts Are Way Off

An expert is one who knows more and more about less and less until he knows absolutely everything about nothing.

Nicholas Butler

It seems more likely that industrial and ornamental demand will be somewhere between weak and meek in 2022 rather than match the zoom-to-boom consensus outlook. Despite peculiarly optimistic estimates about the global economy and consumer finances, analysts expect demand to outstrip supply in 2022 (and for every year thereafter, through to 2025). The coming year is set to use 1,204 Moz of silver, resulting in a 135 Moz annual deficit in supply relative to demand. Those ounces will have to come from above-ground stock, which is estimated to be around 3,200 Moz.



The largest opportunities are found in ideas that go against the grain.

Omar Hamoui

Approximately 55% of demand is for industrial purposes in categories such as “electrical, electronics, batteries”; “Brazing and Soldering Alloys”; and “Catalyst for Ethylene Oxide”. Industrial users include solar panel and vehicle manufacturers. Industrial demand grew 5.9% in 2021, and analysts expect another truly impressive year, estimating 5.0% growth for 2022. The automotive and 5G segments will accelerate growth rates in 2022 to 17.3% and 21.3%, respectively, according to the consensus outlook. **For us, it is hard to understand why analysts are so optimistic when Europe is rationing energy, China is pursuing zero-Covid policies, emerging markets are confronting a food shortage, and the United States is predicted to fall into a recession.**

Photographic demand is in a secular downtrend and will shrink by just under 7%. The analyst outlook is for ornamental demand to increase strongly in 2022. Silverware and jewelry are expected to increase 7.3% after already rising 12.0% in 2021. Ornamental demand is 24% of overall demand. These estimates are astonishing, because this category grows when consumers are experiencing rising levels of income and are optimistic about their economic future. It is not clear to us how analysts have come to the conclusion that such a cheery future lies *directly* ahead.

Consensus is what many people say in chorus but do not believe as individuals.

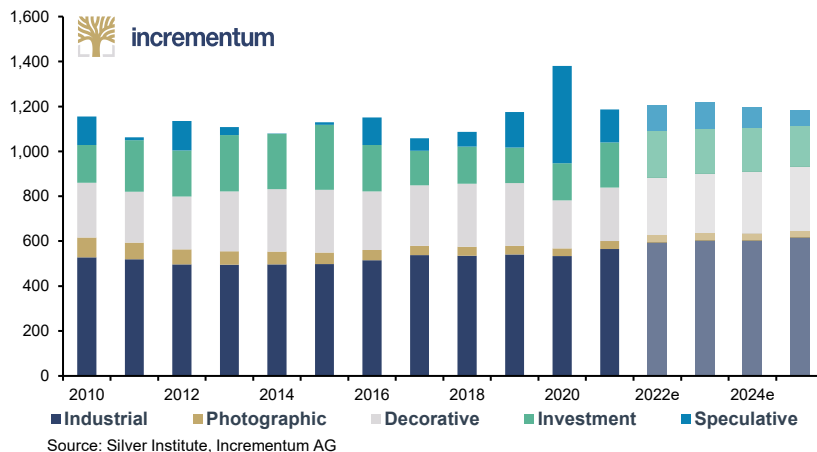
Abba Eban

Financial demand consists of government and private purchases of silver coins, medals and bars; it takes 18% of the overall demand pie.

The consensus forecast is that this category will *only* rise 3.0% in 2022. With consumer prices at such high levels, war in Europe, the global order in retreat, and markets like US Treasuries and eurodollar futures predicting more economic trouble directly ahead, it is – again – hard to understand why mainstream economists are so negative on financial demand. At least they are consistent: A booming economy leads to rising industrial and ornamental demand and falling financial demand. **The only booms on the horizon your authors see are destructive explosions.**

Speculative demand is the last category of silver demand and includes exchange-traded products, commodity exchange and precious metal dealer inventories, as well as mining company hedging. It is 9% of the global silver demand total. Here again rosy predictions for socioeconomic order and geopolitical fraternity have encouraged the consensus to predict a 21.5% decrease in demand.

Demand by Category, in Moz, 2010-2025e



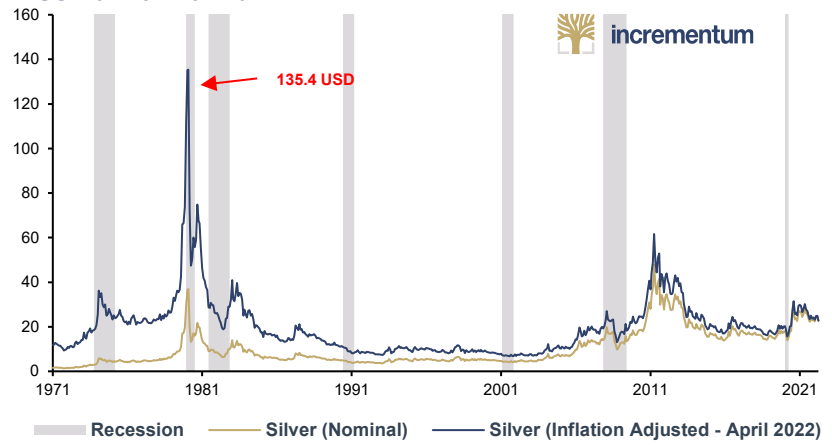
Conclusion

The Future's So Bright, I Gotta Wear Shades.

Timbuk 3

If past cycles are anything to go by, silver will be pulled along by gold throughout the 2020s as we experience geopolitical and socioeconomic upheaval. That means consumption by individuals (e.g. coins, bars), institutions (e.g. financial market inventories), and governments (reserves). Then silver will take over and be pushed forward by the hot winds of inflation for a decade or two as governments burn off private and public debt levels via financial repression. **We are bullish on silver through to the 2040s, but after that you're on your own.**

Silver (Nominal), and Silver (Inflation Adjusted - April 2022), in USD 01/1971-04/2022





Building on Our Vision of Becoming a Premier Senior Silver Producer

We find, build and operate quality silver mines in a sustainable way to create real value for our stakeholders.

Endeavour Silver is a mid-tier precious metals mining company that currently owns two underground silver-gold mines in Mexico and has an attractive growth pipeline, anchored by the Terronera project, its next mine. Endeavour's shares are publicly traded and provide significant leverage to the silver price with approximately 60% of its revenue anticipated to be derived from silver in 2022.

Bitcoin: Bull Market in Adoption, Bear Market in Price

“If you just did an overlay of the Nasdaq and the cryptocurrency markets, they are unbelievably correlated for right now, so I think that’s creating a lot of churn and pain in the markets. While that’s happening, billions of dollars are going into Web3.”

Anthony Scaramucci

Key Takeaways

- Although Bitcoin is in a veritable bear market again right now, there are remarkable happenings and progress in terms of adoption.
- Several nation states have declared Bitcoin as their official currency within the past 12 months.
- The stock-to-flow model (S2F model) can explain the price development of Bitcoin remarkably well historically. In the current cycle, the price of Bitcoin is below the range assumed by the model.
- Due to the wide range of the S2F model, it can serve as a guide regarding the halving cycle, but not as the basis of an automated trading strategy.
- A U-turn back to a loose monetary policy could make for a delayed high in the price of Bitcoin within the next 24 months.

Since 2016 – when the price of BTC was trading at around USD 500 - we have been writing an annual chapter on the topic of Bitcoin and cryptocurrencies in the *In Gold We Trust* report. This year, too, we want to stick to this tradition. Not least because the topic has gained in importance for us, as we now manage two funds that combine precious metals and cryptocurrencies.

Bitcoin vs. Gold

I would take the gold and sprinkle a little bitcoin on top.

Ray Dalio

In past years we have dealt with this much-discussed topic in detail several times. We would like to refer interested readers to the chapters “Gold and Bitcoin: Stronger Together?”⁷⁶ and “In Bitcoin We Trust?”.⁷⁷

On a philosophical and to some extent on a practical level, gold and Bitcoin are similar because they

- cannot be inflated by central banks,
- do not represent the debt of another party (no counterparty risk),
- are easily transferable and
- represent values outside the fiat money system.

In our view, both asset classes have advantages and disadvantages. Due to their different characteristics, they are not in direct competition with each other but rather complement each other. Gold and Bitcoin are friends, not foes.⁷⁸ In the following table we summarize the most important differences between gold, fiat currencies and Bitcoin, knowing full well that one or another nuance can be discussed extensively and passionately here.

Property	Gold	Fiat currencies	Bitcoin
Fungibility	moderate/high	high	high
Transferability	moderate	high	high
Longevity	high	moderate	?
Anonymity	high	high (cash) low (fiduciary money)	moderate
Non-monetary benefit	high	–	–
Scarcity	moderate/high	low	high
Decentralization	moderate	low	high
Volatility	moderate	low	high
Energy intensity – Creation	high	low	high
Energy intensity – Usage	low	high	high

Source: Incrementum AG

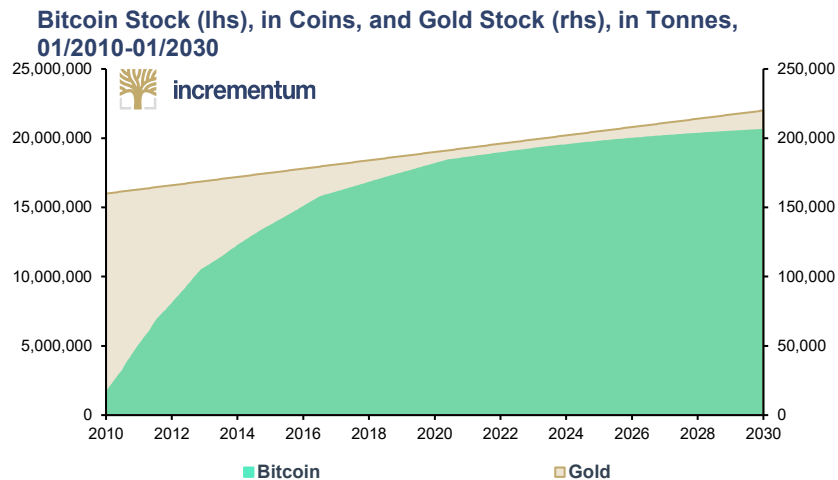
Probably the most important argument for Bitcoin as a long-term store of value is the *non-inflatability* of its supply. In this fundamental characteristic, Bitcoin and gold are particularly similar. In both cases, the future development of the money supply is highly predictable. In contrast, fiat currencies

⁷⁶ “Gold and Bitcoin: Stronger Together?,” *In Gold We Trust* report 2019

⁷⁷ “In Bitcoin We Trust?,” *In Gold We Trust* report 2017

⁷⁸ “Crypto: Friend or Foe?,” *In Gold We Trust* report 2018

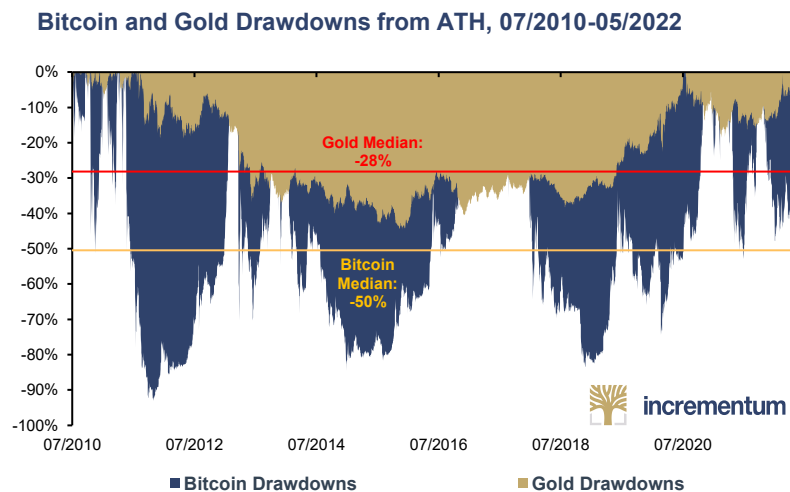
are constantly inflated under normal circumstances; in times of crisis, inflation often increases by leaps and bounds.



I think the internet is going to be one of the major forces for reducing the role of government. The one thing that's missing but that will soon be developed, is a reliable e-cash.

Milton Friedman

Especially in terms of volatility, gold and Bitcoin have fundamentally different characteristics. Gold is known to have significantly lower volatility than Bitcoin. Measured in annual standard deviation, gold's volatility is around 15-20% p.a., while Bitcoin's is between 60 and 100%. Bitcoin holders are currently feeling the high volatility of Bitcoin again on the markets. Historically, the drawdowns from the all-time highs have been over 80% several times.



Bitcoin is like investing with Steve Jobs and Apple... I think we are in the first inning of bitcoin and it's got a long way to go.

Paul Tudor Jones

After hitting a new all-time high in November 2021, Bitcoin is now clearly back in a bear market. On the logarithmic scale below, you can see the phenomenal long-term rise. Nevertheless, one should not be fooled by the optics into taking the short-term setbacks seriously.

Bitcoin (log), in USD, 01/2015-05/2022



Source: Reuters Eikon, Incrementum AG

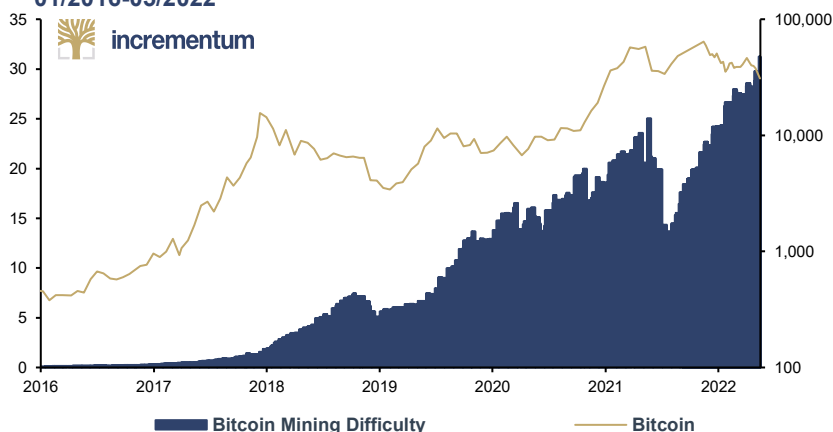
Although Bitcoin is currently in a veritable bear market again, there are remarkable events and progress to report in terms of adoption.

Below is a small selection of significant events:

- China introduces a mining ban; the lost hash rate is made up in a few months by miners in other countries.
- Lightning Network will be integrated into Bitcoin’s blockchain.
- Bitcoin hits a new all-time high of USD 69,000 in November 2021, but halves in the following 6 months.

The resilience of the network was once again impressively demonstrated last year. Following the Chinese government’s legal ban on Bitcoin mining, Chinese miners went offline within a few weeks, and some moved to new jurisdictions.

Bitcoin Mining Difficulty (lhs), in trn, and Bitcoin (log, rhs), in USD, 01/2016-05/2022



Source: blockchain.com, Reuters Eikon, Incrementum AG

In the meantime, Bitcoin adoption continues to advance. Around the globe, numerous notable government initiatives have been implemented that are gradually further integrating Bitcoin into highly diverse economies. To name just a few:

- El Salvador declares Bitcoin as official currency in September 2021.
- The Central African Republic introduces Bitcoin as official currency in May 2022.
- Madeira, an autonomous region of Portugal, announced that no taxes will be levied on profits from the purchase and sale of Bitcoin, and that Bitcoin can be freely used as a means of payment.

Bitcoin is a technological tour de force.

Bill Gates

Although these countries are comparatively small, it is worth noting that just 18 months ago it was inconceivable to anyone that a nation state would adopt Bitcoin as legal tender. Given the current developments on a global level, we would not be surprised if more states follow suit and use Bitcoin as a reserve currency in the future.

But there has also been notable progress at the institutional level.

Fidelity Investments, the largest provider of retirement plans (401(k)) in the US, announced in April 2022 that they will allow investors to invest up to 20% of their 401(k) portfolios in Bitcoin. This is the latest in a string of news reports about institutional investor adoption of cryptocurrencies.

Bitcoin-owning companies include Microstrategy, Tesla, Square, Block, and a number of publicly traded crypto and bitcoin-specific companies. A recent report by VanEck mentions that so far this year, nearly 160 separate 13F filings from various hedge funds have referenced their Bitcoin holdings.

S-Curve Adoption

Economics is driven by scarcity and technology creates abundance.

Jeff Booth

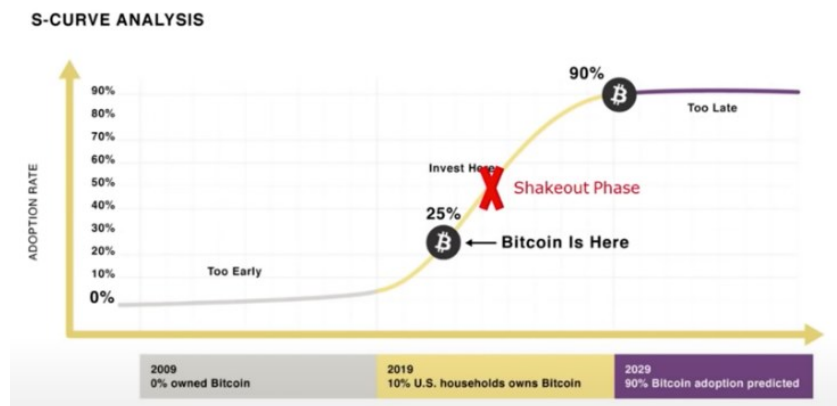
Breakthrough technologies almost always follow an S-curve adoption pattern. This pattern reflects the cumulative rate at which a population adopts a new technology. This pattern has been observed with the introduction of railroads, electricity, radio, telephones, television, fax machines, microwaves, computers, the Internet, cell phones, and so on. The S-curve demonstrates that the time it takes for a new breakthrough technology to achieve 10% penetration is broadly equivalent to that required to increase penetration from 10% to 90%.

Bitcoin will do to banks what email did to the postal industry.

Rick Falkvinge

Bitcoin was invented in 2009. In 2019, 10% of US households owned Bitcoin. Today, according to the US government, the figure is already 25%. If we look at these numbers using the S-curve model, Bitcoin distribution would reach 90% around 2029. So far, this matches well with the expected numbers in the S-curve model. This means that we are currently in year 3 of 10, where Bitcoin should rise from 10% to 90% adoption according to this model.

Taking a longer-term view of Bitcoin, it appears that we are still in the early stages of the adoption curve and that there is much more potential. It is worth noting that these numbers are for the US, and the US is way ahead of the rest of the world in Bitcoin adoption. **Global adoption numbers are extremely difficult to measure, but are estimated to be between 1% and 2% in 2022.**



Source: Off the Chain Capital

If adoption continues to follow the S-curve model and takes into account the limited supply of Bitcoin, price is the only other variable that could move to meet increasing demand.

Bitcoin, the Interest Rate Turnaround, and the S2F Model

Adoption and resilience are advancing, but prices are not. As we have already discussed in detail in this report, we have had to record continuously rising inflation rates worldwide over the past 12-18 months. The turnaround in US monetary policy that has been heralded is now having far-reaching implications for financial markets. We therefore want to look at the extent to which this turnaround may also affect Bitcoin.

Bitcoin's integration into the financial markets

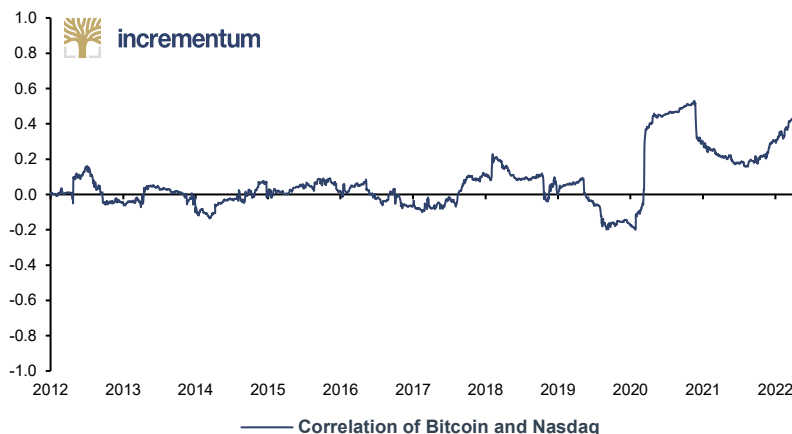
Until now, Bitcoin has led "a life of its own" to a certain extent and has been only peripherally affected by general macro events. As it adapts and begins to be integrated into institutional portfolios, Bitcoin will be increasingly exposed to the vagaries of the financial markets. At its peak, Bitcoin's market capitalization significantly exceeded USD 1tr by a wide margin; currently it is around USD 600bn. The debate on whether Bitcoin should be valued as an inflation-hedging asset has now fully flared up. We have already expressed some thoughts on this in the chapter "Stagflation 2.0" in this *In Gold We Trust* report.

Recently, there has been increasing talk of Bitcoin behaving like a risk asset. This thesis is supported by its increased correlation to stocks, especially to the US technology stock index, Nasdaq. According to Kaiko Research, the 30-day rolling correlation between Bitcoin and the Nasdaq rose to 0.8 on May 9, an all-time high.

The market currently views both bitcoin and the Nasdaq as "long-duration, interest-rate-sensitive risky assets."

Brent Donnelly

Rolling 180d Correlation of Bitcoin and Nasdaq, 01/2012-05/2022



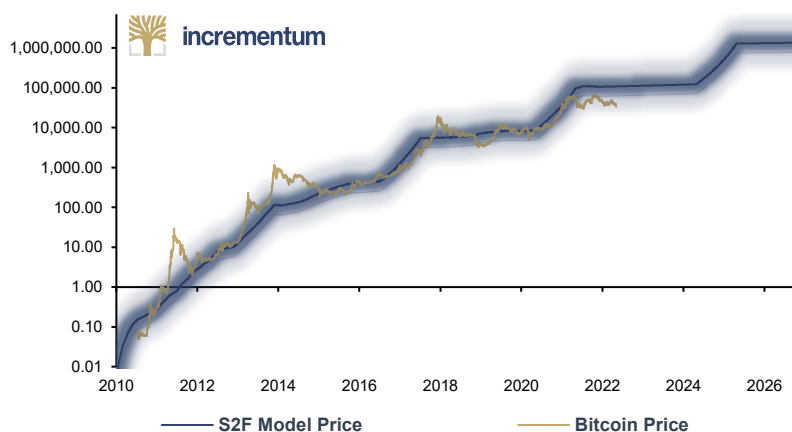
Source: blockchain.com, Reuters Eikon, Incrementum AG

Even though the correlation to technology stocks is currently quite high, it should be noted that correlations tend not to be stable. In the past, Plan B’s stock-to-flow model (S2F model) has been able to explain the price trend over longer periods much better than individual stock indices do. We previously presented this model in the *In Gold We Trust* report 2020⁷⁹ and discussed it in detail in a *In Gold We Trust* classic⁸⁰, among others. We would like to take another close look at the S2F model at this point.

Essentially, all models are wrong, but some are useful.
George Box

The key premise of the S2F model is that the halving of mining rewards every four years (halving) provided for in the Bitcoin protocol has a significant impact on price development. Technically, halving increases Bitcoin’s stock-to-flow ratio, because fewer new bitcoins enter circulation after each halving due to lower mining returns. The SF model leverages the unique feature of the Bitcoin protocol, which transparently and traceably reveals the past and future supply curve, to forecast Bitcoin’s price evolution based on its historical and future stock-to-flow values. The model regresses the log price development of Bitcoin with the prevailing stock-to-flow ratio.

S2F Model Price, and Bitcoin Price, in USD, 01/2010-12/2026



Source: Plan B @100trillionUSD, Glassnode, Reuters Eikon, Incrementum AG

⁷⁹ “The Plan B Model: The Holy Grail of Bitcoin Valuation?,” *In Gold We Trust* report 2020

⁸⁰ “The stock-to-flow ratio as the most significant reason for gold’s monetary importance,” *In Gold We Trust* classic

I'm a bit of a dinosaur, but I have warmed up to the fact that Bitcoin could be an asset class that has a lot of attraction as a store of value.

Stanley Druckenmiller

Remarkably, the Bitcoin price has followed the path of the predicted S2F model quite precisely since its first release in March 2019. It must be noted, however, that in relative terms the model forgives a rather high fluctuation range of the price of Bitcoin due to the regression with logarithmic prices. Therefore, its use is probably only suitable to a limited extent, but not, for example, to build an automated trading strategy on it.

In the current cycle, there was a significant price increase last fall, which was also predicted by the SF model, but it remained below expectations. For completeness, it should be noted that there are now several variants of the model. According to the original variant, the price of Bitcoin should average USD 55,000 during this halving cycle (May 2020–May 2024). A later variant, which was frequently cited last year, calculated a significantly higher average price of USD 100,000.

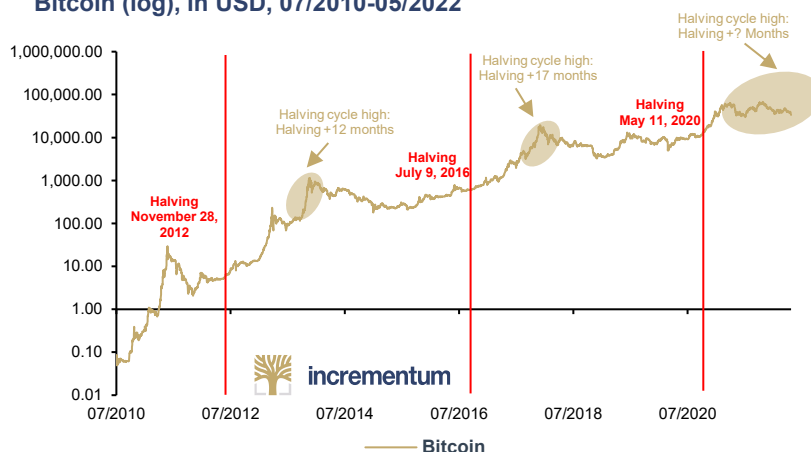
The following questions now arise:

- Will the average price of Bitcoin in this cycle be lower than predicted by the two model variants?
- Will there be a delayed increase in the price of Bitcoin during this cycle, or will the average price of one of the model variants still be reached or even surpassed?
- Has the forecasting quality of the S2F model decreased or has it even become obsolete?

Due in part to too-bullish expectations, many analysts, investors and market observers have asked themselves in recent months whether the current Bitcoin halving cycle is already over. We have also thought about this and published our [first Bitcoin chartbook](#) at the end of 2021. **In the following, we would like to take a closer look at some key elements in connection with this topic.**

The next chart suggests that the price of Bitcoin formed peaks 12 and 17 months after halving in the last two cycles. The last halving was now 24 months ago, and we wonder whether the cycle already peaked in November 2021 or whether another all-time high could still be in store in this cycle.

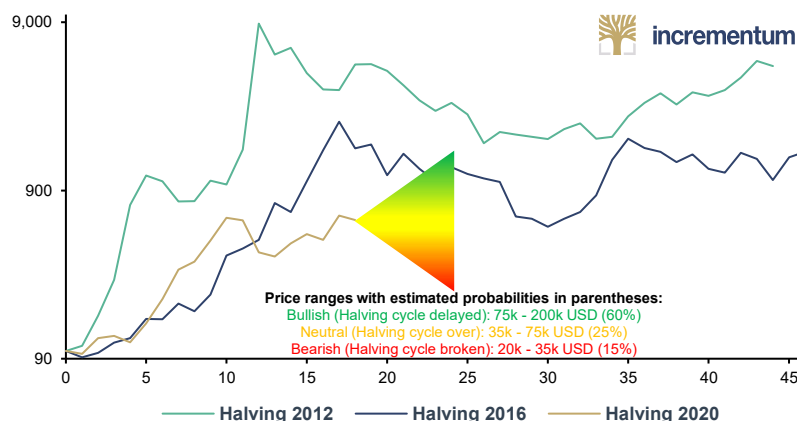
Bitcoin (log), in USD, 07/2010-05/2022



Source: blockchain.com, Reuters Eikon, Incrementum AG

In December, we formulated three scenarios for the current halving cycle in our Bitcoin chartbook. In our opinion, the most likely scenario (60%) was a delayed peak in this bisection cycle. However, we assigned a probability of 40% to the possibility that this bisection cycle is over, or that the model is obsolete.

Bitcoin Performance by Halving (Halving Month = 100, log)



Source: Reuters Eikon, coinmarketcap.com, Incrementum AG

Given Bitcoin’s increasing adoption, higher market capitalization, and the entry of institutional investors into the crypto market, it seems plausible that Bitcoin is becoming increasingly sensitive to macroeconomic trends. For example, it can be noted that the current rise in bond yields is having a strong negative impact on the entire risk asset sector – including cryptocurrencies. Therefore, it cannot be ruled out that these will face further headwinds in the coming months should bond yields continue to rise and the risk-off movement persist.

In our view, current developments on the bond markets could cause a further delay in this bisection cycle. Nevertheless, we want to take account of the advanced stage of the cycle and adjust our December 2021 forecast. From today’s perspective, it has probably become somewhat less likely that we will still see a new all-time high in this halving cycle. Nevertheless, based on

Bitcoin is also a monetary asset outside anyone's control. This contests the state's monopoly on money and banking. Less state control empowers individuals to unleash latent creativity that would otherwise be stifled by government or cultural censorship. In other words, Bitcoin increases marginal productivity in society. Bitcoin is the life raft during the great fiat flood.

Brandon Quittem

macroeconomic conditions, we do consider it possible that there will be a delayed high in this cycle. **We put the probability of Bitcoin reaching a new all-time high in the remaining 24 months of this cycle at around 40%.** This scenario could manifest itself if the currently priced-in monetary tightening does not materialize.

Conclusion

It seems plausible that due to the increasing adoption of Bitcoin by institutional investors, its sensitivity to macroeconomic events has increased. Due to this, a delay of the high point in the current halving cycle seems possible. **Because of the high bandwidth of the S2F model, it can be used as a guide regarding the halving cycle, but not as a basis for an automated trading strategy.**

US monetary policy is currently in a phase of transition from loose to tighter. In view of high inflation and recent hawkish communications, markets are expecting a significant change in interest rate policy. In our view, it is quite likely that rising volatilities in the markets will force central banks to revert to a loose monetary policy again.

Therefore, we think that interesting entry opportunities in Bitcoin and other cryptocurrencies could arise in the wake of the current monetary policy-induced turmoil.



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Mining Shares – Fundamental and Technical Status Quo

“Great investors possess seven cardinal virtues: curiosity, skepticism, discipline, independence, humility, patience, and above all courage.”

John Templeton

Key Takeaways

- The performance of mining shares in the previous year was disappointing. The operating development, on the other hand, was excellent. Within the commodities sector, no other subsector currently shows higher margins than the precious metal producers.
- The value proposition of mining stocks has further improved, but so far the rediscovered profitability has been largely ignored. Sooner or later, generalists and value investors will rediscover the value proposition of the mining sector. What matters is that the sector produces significant free cash flows.
- If the gold price remains strong in 2022, miners should continue to achieve (record) high margins despite ongoing cost inflation.
- In the short term, we believe the technical situation is battered. After large losses had to be accepted in the past weeks – contrary to the actually positive seasonality – a summer setback could offer excellent entry opportunities in line with the seasonal course of the miners.

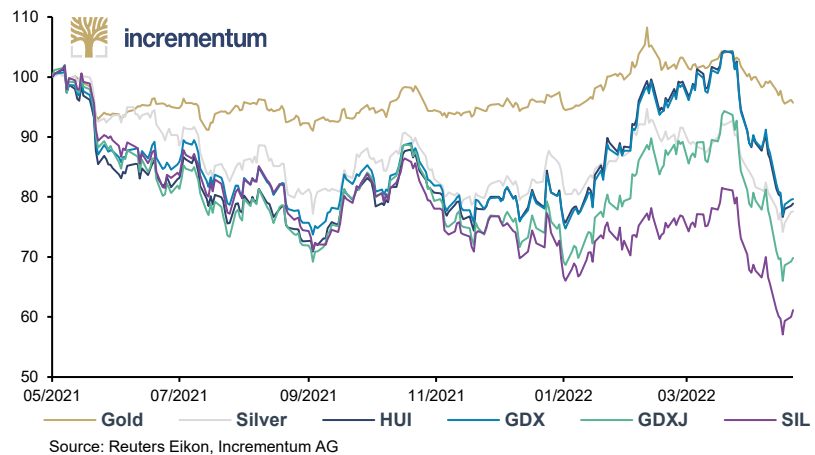
Introduction

You make most of your money in a bear market, you just don't realize it at the time.

Shelby Cullom Davis

“Golden Opportunities in Mining” was the title of last chapter on mining stocks.⁸¹ However, since the publication of our last year's *In Gold We Trust* report, mining share prices have performed much weaker than expected. The gold bugs index (HUI) fell 21%, while junior miners (GDXJ) have lost 30% and silver miners (SIL) 39%.

Gold, Silver, HUI, GDX, GDXJ and SIL, 100 = 05/27/2021, 05/2021-05/2022



Last year we came to the following conclusion:

“The potential rates of return over the next several years could surprise even the most ardent gold bugs. However, in advocating mining stocks, we are still reminded of “The Dancing Sasquatch Guy”⁸². Right now, it seems that we are at minute 1, but as can be seen in the video, once a certain degree of awareness is reached, it can turn into a mass movement quickly.”⁸³

Do it big, do it right, and do it with style.

Fred Astaire

However, the atmosphere in the sector still reminds us of the early phase of Dancing Sasquatch Guy. But it seems as if the number of interested spectators is slowly increasing. However, it is not yet enough to be called collective dancing.

The stock market is a device for transferring money from the impatient to the patient.

Warren Buffett

As far as fundamentals are concerned, one year later we can justifiably claim that the sector has delivered. The value proposition of mining stocks has continued to improve, although so far the profitability that has been rediscovered has been largely ignored. But at some point, generalists and value investors will (re)discover the value proposition of the mining sector. **What matters is that the sector produces significant free cash flows.**

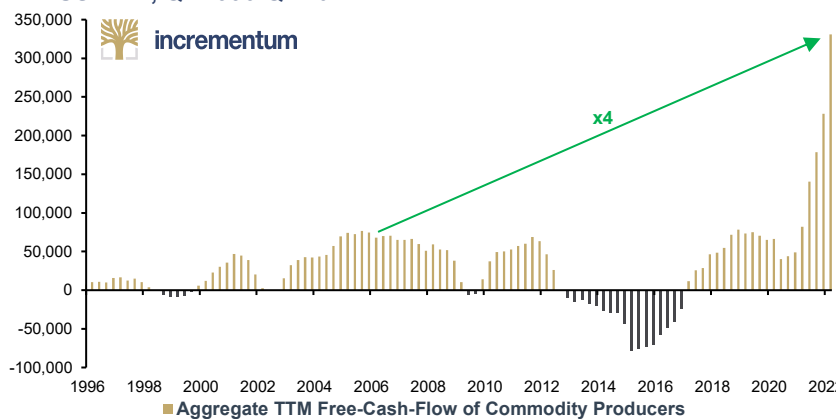
⁸¹ “Golden Opportunities in Mining,” *In Gold We Trust* report 2021

⁸² A great interpretation of this video can be found here: Eight Leaves: “The Dancing Guy at Sasquatch!” or also: “Ideas Into Execution: Giving Away An Idea To Make It Happen”

⁸³ “Golden Opportunities in Mining,” *In Gold We Trust* report 2021, p. 297

The commodities sector as a whole generated negative free cash flows in the years 2013–2016. Even after that, free cash flow was marginal and limited to low-cost companies; but **by spring 2021 at the latest, companies in the commodities sector became true cash flow monsters.**

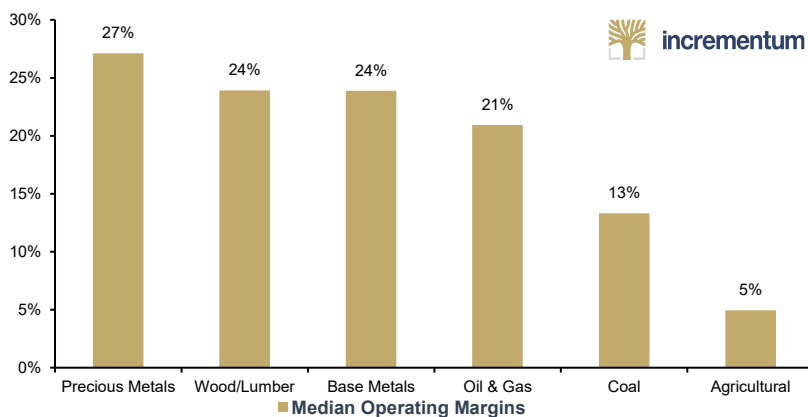
Aggregate TTM Free-Cash-Flow of Commodity Producers*, in USD mn, Q1/1996-Q1/2022



Source: Crescat Capital LLC, Tavi Costa, Bloomberg, Incrementum AG
*Companies with market cap above USD 1 bn. in the Canadian and US stock exchanges

And within the commodities sector, no other subsector is currently showing higher margins than precious metals producers.

Median Operating Margins by Commodity*, Q1/2022



Source: Crescat Capital LLC, Tavi Costa, Bloomberg, Incrementum AG
*Companies with market cap above USD 1 bn. in the Canadian and US stock exchanges

In addition, it is worth taking a look at the relative valuation of mining stocks compared to gold. In bull market environments, gold stocks tend to trade at a premium to gold. The HUI/gold ratio indicates that gold stocks have been trading one standard deviation below the mean for 9 years now. Also based on this indicator, gold stocks appear to be undervalued.

HUI/Gold Ratio, 01/1997-05/2022



Perseverance is rewarded sooner or later – but usually later.

Wilhelm Busch

Before we take a closer look at the performance of mining stocks over the past few years, let’s briefly turn to the longer-term perspective. The following chart shows the performance of mining stocks (XAU) relative to equity markets (S&P 500) and illustrates how low gold mining stocks are valued relative to the broader equity market. Even if there has been a stabilization of the ratio since 2015, the current ratio is one-fifth of the 2011 peak.

XAU Index/S&P 500 Ratio, 01/1999-05/2022

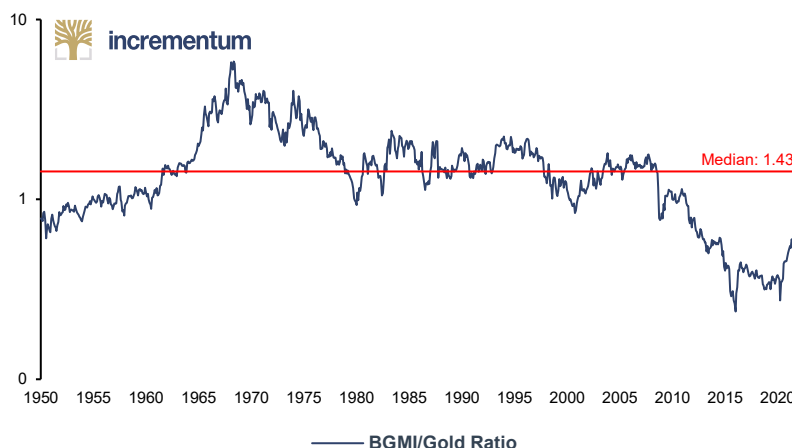


Markets tend to return to the mean over time.

Bob Farrell

This underperformance of mining stocks becomes particularly clear if we make an even longer-term comparison. The oldest available gold mining index, the Barron’s Gold Mining Index (BGMI), is currently trading at 0.50x, miles below the long-term median of 1.43x.

BGMI/Gold Ratio (log), 01/1950-05/2022

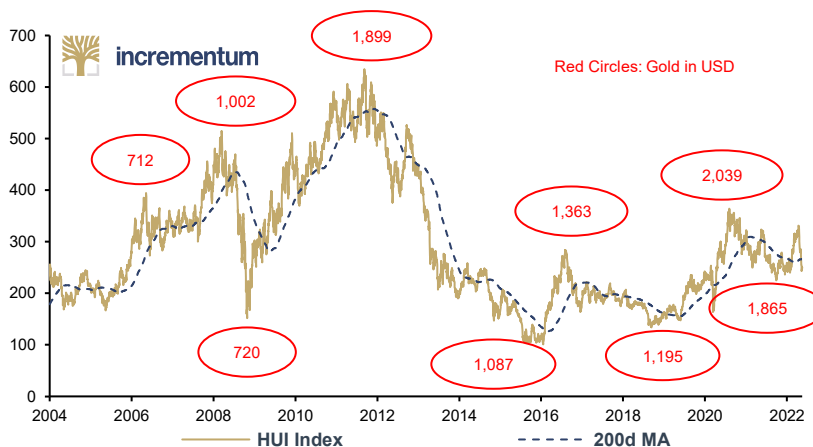


Source: Reuters Eikon, Nick Laird, goldchartsrus.com, Incrementum AG

All we need is just a little patience.
Guns N’ Roses

Well, what happened in the last 12 months? The ups and downs tested even volatility-hardened gold investors. The HUI fell to 225 points in mid-September 2021, then rallied back to more than 330 points by April 2022. Since then, it has been trending much weaker again. It is worth noting that while the gold price almost reached a new all-time high in early March, the HUI was still trading nearly 50% below its all-time high of 635 in September 2011 on the same day. The equity dilution of recent years, which in part dwarfs the central banks’ brisk monetary inflation, is certainly partly responsible for this.

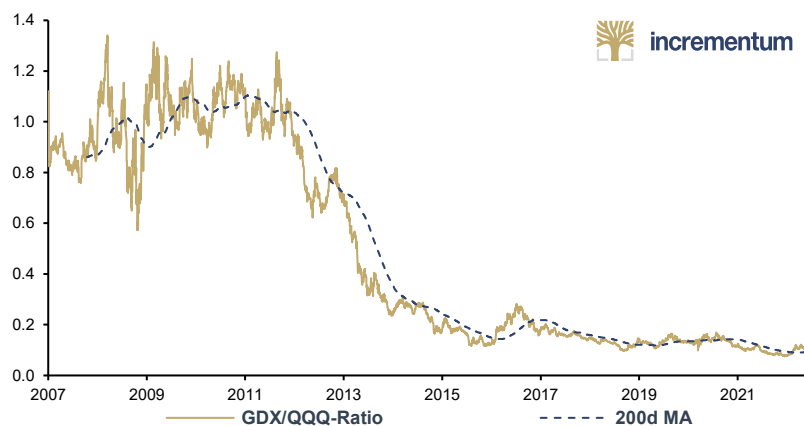
HUI Index, 01/2004-05/2022



Source: Reuters Eikon, Incrementum AG

In the meantime, interest in the mining sector increased noticeably. Since fall 2021, however, disinterest and apathy have predominated, as described during a popular [Kitco interview at the Precious Metals Summit in Beaver Creek](#). If we look at the relative strength of mining stocks (GDX) compared to the former leading sector of the stock market, technology stocks (QQQ), we can see that mining stocks have gradually gained relative strength. To be fair, however, it should also be noted that this is due to the weakness of the technology stocks, not the strength of the miners.

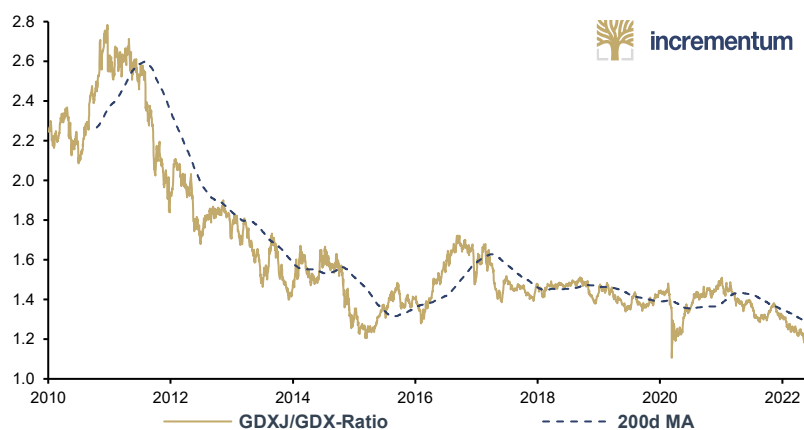
GDX/QQQ Ratio, 01/2007-05/2022



Source: Crescat Capital LLC, Tavi Costa, Reuters Eikon, Incrementum AG

Furthermore, if we analyze the relative strength within the mining sector, it seems that risk appetite is stagnating. Junior miners (GDXJ) have shown relative weakness compared to seniors (GDX) in recent months.

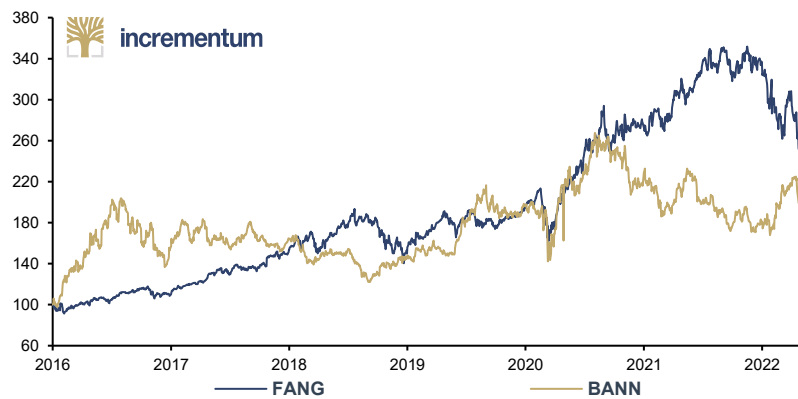
GDXJ/GDX Ratio, 01/2010-05/2022



Source: Crescat Capital LLC, Tavi Costa, Reuters Eikon, Incrementum AG

One silver lining could be that large institutional investors, so-called generalists, are slowly entering the playing field among the major gold miners. For example, industry leader Newmont rose to an all-time high of USD 85 per share in April on high volume. The development of the large-cap miners Barrick, Agnico Eagle, Newmont and Newcrest is no embarrassment in relation to the (former) technology high flyers Facebook (Meta), Amazon, Netflix and Google (Alphabet).

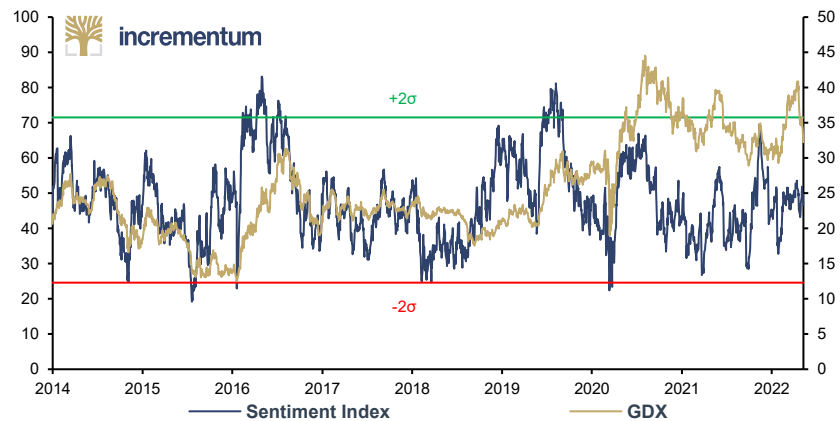
FANG (Facebook, Amazon, Netflix and Alphabet) and BANN (Barrick, Agnico Eagle, Newmont, Newcrest), 100 = 01/2016, 01/2016-05/2022



Source: Reuters Eikon, Incrementum AG

A look at the Sprott Gold Equity Sentiment Index⁸⁴ confirms our confident basic stance. Sentiment reached a low point in March 2021, with the indicator almost reaching its second standard deviation. Since then, both the Sprott index and the GDX have recovered, but they are still far from the euphoric levels of August 2020. Currently, the index is in neutral territory, though it recently weakened again significantly. Thus, the technical starting position for further price increases seems to be good.

Sprott Gold Equity Sentiment Index (lhs), and GDX (rhs), 01/2014-05/2022

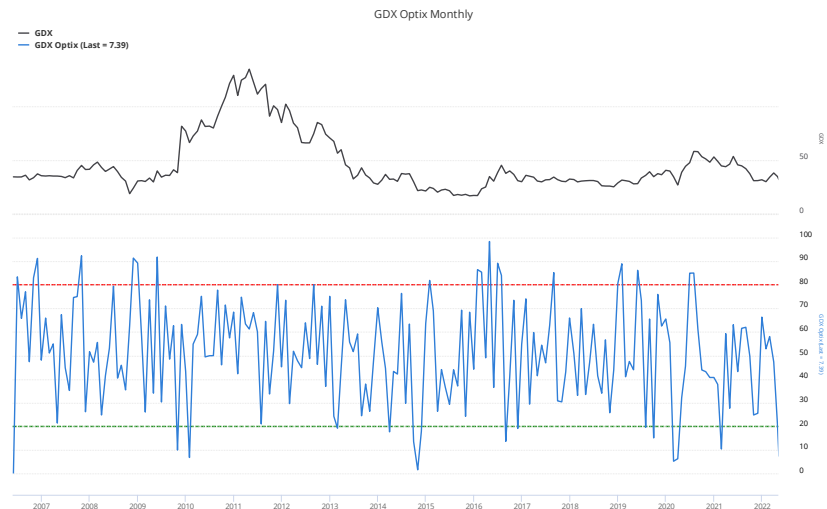


Source: Sprott Asset Management, Incrementum AG

A slightly different indicator, the Optimism Index (Optix) from Sentimentrader, on the other hand, is already at panic level. With a reading of 7.39, the mood is about as low as in a London pub after the lost European Championship final last year.

⁸⁴ The data was kindly provided by our Premium Partner Sprott Asset Management.

Optix index and mining stocks (GDX), 2007-2022

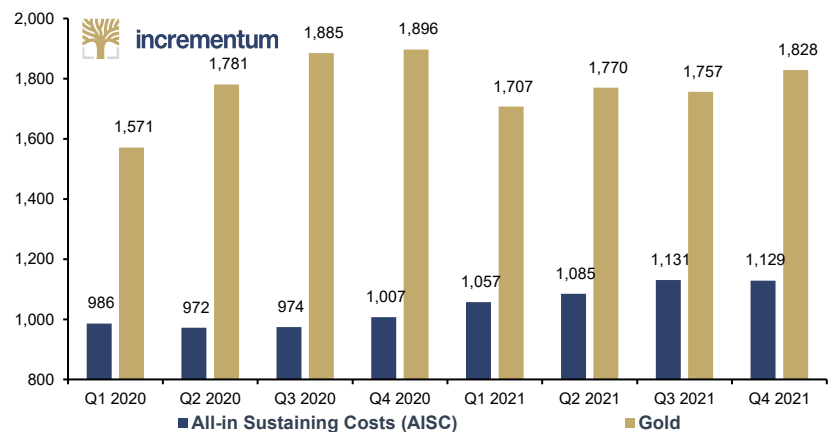


The great merit of gold is precisely that it's scarce, that its quantity is limited in nature, that it's costly to discover, to mine, and to process, and that it cannot be created by political fiat or caprice.

Henry Hazlitt

The **global all-in sustaining costs (AISC)** of gold producers increased in the previous year in line with general inflation. **According to the WGC**, they were USD 1,007 in Q4/2020, but one year later they were already at 1,129, an increase of 12.2%. This striking year-over-year cost increase is due to several factors, including the cost inflation, additional costs associated with the Covid-19 pandemic, and a decline in average gold grades. Average margins have been pressured by these rising costs, but remain high by historical standards. **Should the gold price remain robust in 2022, gold mining companies should continue to achieve record high margins despite further pressure from ongoing cost inflation.**

All-in Sustaining Costs (AISC), in USD per Troy Ounce, and Gold, in USD, Q1/2020-Q4/2021



Funding Trends in the World of Junior Miners

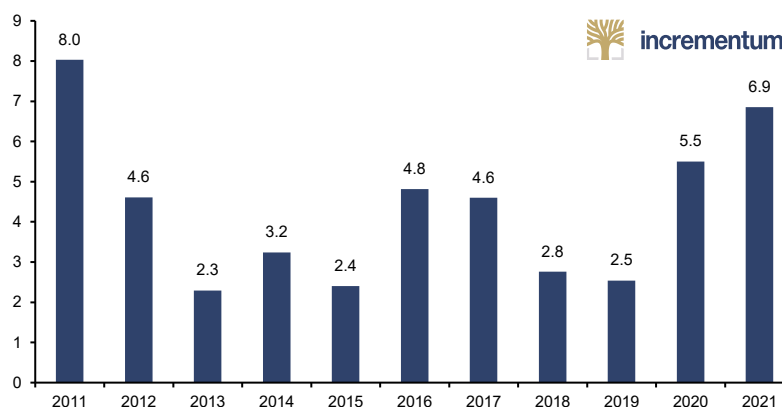
Let's now take a look at the funding activity in the junior mining sector over the past 12 months. Last year, our friend Kai Hoffman provided us with an introduction to and interpretation of his proprietary Oreninc Index. The index measures the financial health of the junior mining sector on a weekly basis, tracking and logging up to 41 data points per financing.⁸⁵

Don't act like you're not impressed.

Ron Burgundy

Looking at junior miner financing activity, 2021 nearly matched the levels seen in the record year 2011, with the sector raising over CAD 6.8bn in financing. Considering the market sentiment in the junior mining sector as well as the general underperformance compared to many other sectors, this is a remarkable achievement.

Total CAD Raised, in bn, 2011-2021



Source: Oreninc.com, Incrementum AG

The 100 most important junior mining financings of 2021

The top 100 financings raised a total of CAD 3.25bn. Mining companies, project developers and junior companies focused on gold accounted for 55% of the transactions. **Of the 10 largest financings in 2021, eight were gold-related.**

A speculator is a man who observes the future, and acts before it occurs.

Bernard Baruch

Copper attracted the second greatest interest from investors. Investors have recognized the trend towards electrification and have jumped on it. Copper mining companies have received more than CAD 531mn from investors, representing about 16% of total financing. **Financing in the battery metals sector, such as lithium, graphite and vanadium, ranked third.** This group raised CAD 324mn from investors. **Silver and uranium round off the top 5.**

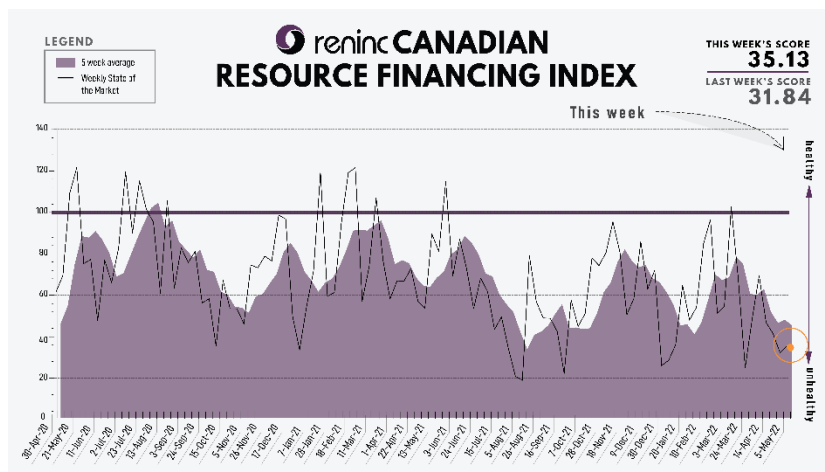
The trends continue in 2022

The first three months of the current year showed a clear continuation of last year's financing trends. The share of gold-related projects remained —

⁸⁵ You can sign up for the weekly newsletter at www.oreninc.com.

stable at 54%. The top three financings of 2022 (as of March 24) were all from the gold sector. AMEX Exploration raised CAD 49.5mn for its exploration activities in Quebec. It is followed by Argonaut Gold with CAD 40.3mn and Liberty Gold with CAD 30mn in fresh capital. As can be seen from the index, however, the market environment has clouded over significantly in recent weeks, so we assume that investors' risk awareness and thus also their appetite for financing will weaken further in the coming months and that investors will become much more selective.

Oreninc Index



Source: Oreninc

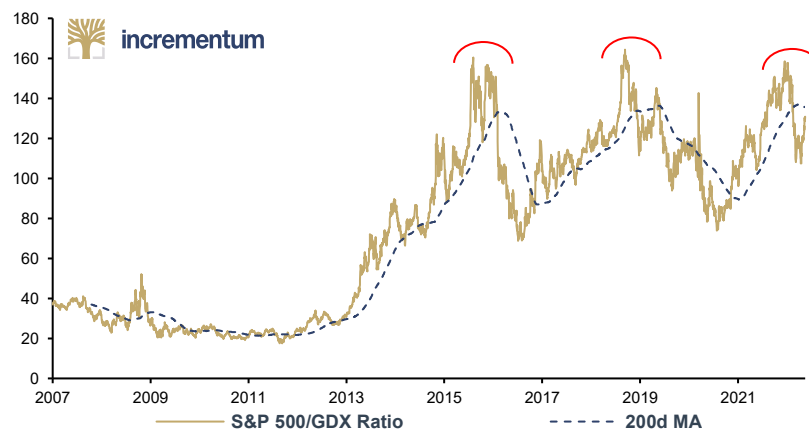
Going in one more round when you don't think you can – that's what makes all the difference in your life.

Rocky Balboa, Rocky IV

Outlook for 2022

We mentioned in the *In Gold We Trust* report 2021⁸⁶ that the mining sector is in better shape than one would expect based on the share price development. The war in Ukraine has increased general investor skepticism; and while the majors like Newmont have marked all-time highs, the juniors are still largely ignored. But relative to the overall market, we would imagine that miners could now enter a period of (relative) strength. This is also suggested by the chart below.

S&P 500/GDX Ratio, 01/2007-05/2022



Source: Crescat Capital, Tavi Costa, Reuters Eikon, Incrementum AG

⁸⁶ See "Golden Opportunities in Mining," *In Gold We Trust* report 2021

Conventional wisdom results in conventional returns.

Mario Gabelli

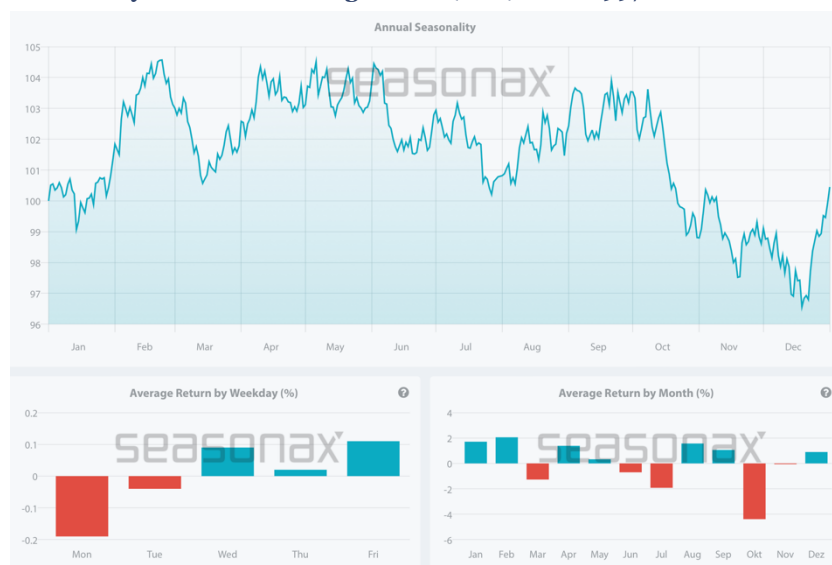
The intelligent investor is a realist who sells to optimists and buys from pessimists.

Benjamin Graham

The market does not yet seem to have sufficiently realized that many miners have significantly strengthened their balance sheets, their margins, and their financial strength in recent years. We believe the new commitment to assessing true costs, greater financial discipline, and shareholder value is an essential – although very late – realization by the sector. Whether or not this new focus is mere lip service will be seen in the coming quarters. **We therefore think that gold stocks have a clearly asymmetric payoff profile at the moment.**

In the short term, the technical situation seems depressed. The challenging seasonal environment is also confirmed by the chart below. The second half of the year tends to be weaker for mining stocks, with the seasonal weakness being particularly pronounced in July and October. After large losses had to be accepted in the past weeks – and contrary to the positive seasonality – a summer setback could offer excellent entry opportunities in line with the seasonal course of the miners.

Seasonality of Amex Gold Bugs Index (HUI) since 1997



Source: Seasonax

Chance favours only the prepared mind.

Louis Pasteur

We continue to strongly believe that the bear market of the last few years has resulted in a majority of mining companies now being on a more solid footing. Operational efforts have led to producers deleveraging, becoming leaner, and therefore benefiting more from rising gold prices. **A comparison of some metrics as of December 31, 2021 shows how attractively the miners (NYSE Arca Gold Miners Index – GDM) are valued compared to the broad overall market (S&P 500).**

Different valuation ratios for S&P 500 and GDM

	S&P 500 Index	GDM Index
Price/Earnings	24.59	18.02
Price/Cash Flow	17.46	9.15
Price/EBITDA	14.59	7.87
Price/ Sales	3.08	3.14
Price/Book	4.76	1.79
Ent. Value/EBIT	20.96	15.04
Ent. Value/EBITDA	16.15	8.43
Ent. Value/Sales	3.41	3.36
Gross Margin	35.28%	37.47%
Operating Margin	16.13%	22.52%
Profit Margin	13.07%	13.34%
Return on capital	10.15%	8.88%
Free cash flow yield	3.92%	3.49%
Dividend Yield	1.27%	2.24%
Total Debt/Ent. Value	0.22	0.11
Total debt/total equity	111.83	20.12
Total debt/total assets	23.63	13.20
Net debt/EBITDA	0.98	0.17

Source: Trey Reik, Bristol Gold Group, Bloomberg, Incrementum AG, figures as of Dec. 31, 2021

We expect that producers’ bubbling cash flows will lead them to replenish their shrinking reserves through acquisitions and mergers.

The biggest beneficiaries of this development will be junior producers, fully funded developers, and explorers with world-class discoveries in Tier 1 regions.

Therefore, we are currently focusing our research and investment allocation on this segment in particular.

Inside of a ring or out, ain't nothing wrong with going down. It's staying down that's wrong.
Muhammad Ali

Contrarian investors will find an attractive niche with an excellent risk-reward ratio in the precious metals sector over the next few years. The focus should continue to be on conservatively operating companies that do not only have growth at any price on their agenda, but where the interests of the shareholders are in the foreground.

After this brief analysis of the status quo of mining companies, we will turn our attention in the following two chapters to the current challenges facing the mining industry and the exciting segment of royalty-and-streaming companies.

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\$180/oz
to shareholders
in 2021

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The Challenges of the Gold Mining Industry

“Either you understand your risk, or you don’t play the game.”

Arthur Ashe

Key Takeaways

- Although there are some exceptions, the gold miners as a group tend to underperform gold in the long term.
- The main reasons for the underperformance have been CAPEX overruns, growing production costs, problems with permitting of new mines, governments wanting a bigger share of the pie, political instability, and declining reserves and a lack of new major discoveries.
- It is possible to expect “all-in sustaining cost” (AISC) to keep on growing in the foreseeable future, due to rising energy and construction materials prices, wage demands, and inflation in general.
- A segment of the mining industry that should do well in the inflationary environment are the royalty & streaming companies.

As history demonstrates, every gold rush has ended up in vain for the vast majority of participants. Thousands and thousands of people left their homes and wandered to the far ends of the Earth to find gold and secure a better life for themselves and their families. But only a small fraction of them really found what they were looking for; Gold, wealth, and a better life.

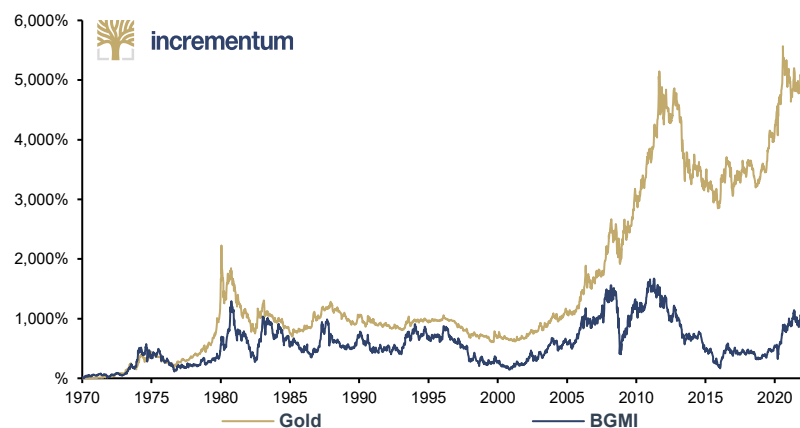
*The history book on the shelf,
Is always repeating itself.*

ABBA

Times have changed, and modern-day gold rushes do not take the form of thousands of prospectors crossing a continent. Today, the hordes of prospectors have been replaced by hundreds of mining companies of all sizes. And hundreds of thousands of investors are betting on the success of these companies. But as the chart below shows, the gold mining sector as a whole is not a good long-term bet. Although there are some success stories – just as there are also many companies that deliver to their investors only losses, or at least long-term stagnation and frustration. Thus, when investing in gold mining stocks, two things are important: 1) pick the mining company wisely, and 2) have good timing. It is optimal, of course, to combine both.

The following chart shows the long-term development of gold prices and the Barron's Gold Mining Index (BGMI). As can be seen, the difference in yield has widened over the years to a very high level. While between January 1970 and December 2021 the gold price increased by 4,937%, the BGMI grew by “only” 1,027%. The difference in performance was relatively small for decades – both curves were moving in the same direction without any major deviations. However, over the last 15 years the situation has changed rapidly. The gold miners have lagged behind the gold price.⁸⁷

Gold and BGMI, 0% = 01/1970, 01/1970-05/2022



In the early phases of the Global Financial Crisis of 2008, the gold price fell. However, it started to recover very quickly, erased its losses in early 2009, and continued in 2011 to new record highs just below USD 2,000. However, at the same time, the gold miners were barely able to return to the pre-crisis highs. But when the gold price again started to decline, they declined even more strongly. And during the current gold market, as gold prices have broken the USD 2,000 barrier

⁸⁷ We did discuss this problem in: “Mining Stocks: The Party Has Begun,” *In Gold We Trust* report 2020

and set new record highs, the BGMI has been unable to even approach its previous highs.

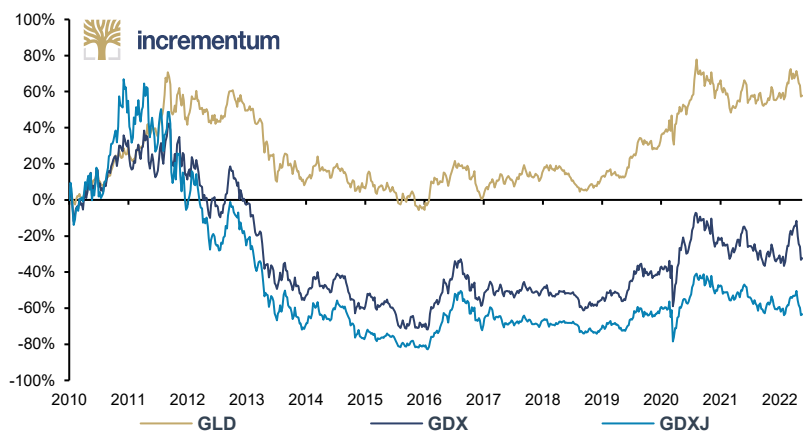
Over the whole 52-year time period, the correlation between gold and the BGMI was 0.56, which is a relatively strong positive correlation. But the numbers start to be really interesting when the time period is divided into two subperiods. Between January 1970 and August 2008, the correlation was 0.9, which is very strongly positive. However, between September 2008 (with the collapse of Lehman Brothers and official start of the Global Financial Crisis) and December 2021, the correlation was only 0.35.

Being right, but early in the call, is the same as being wrong.

Howard Marks

This trend is also confirmed by the performance of the popular investment products SPDR Gold Trust ETF (GLD), VanEck Vectors Gold Miner ETF (GDX), and VanEck Junior Gold Miners ETF (GDXJ). The observed time period starts on November 11, 2009, when GDXJ (the youngest of the three ETFs) was established. While the gold price grew by 54% over the 12-year period, GDX, focused on the bigger gold producers, declined by 33%; and GDXJ, focused on smaller producers, explorers, and developers, declined by 50%. But despite the overall declines, there were subperiods when good timing of the market could result in very pleasant gains.

GLD, GDX and GDXJ, 0% = 01/2010, 01/2010-05/2022



Source: Reuters Eikon, Incrementum AG

Why the poor performance of the gold miners? Actually, there are several reasons. Some of the companies are impacted by only one or two of the factors, while some, the less lucky ones, are burdened by all of them. The main factors that need to be mentioned are CAPEX overruns, growing production costs, environmental constraints and problems with permitting, governments wanting a bigger share of the pie, and political instability, as well as declining reserves and a chronic lack of new “major discoveries”.

Environmental Constraints and Problems with Permitting

The chains that cuff humanity are made of office paper.

Franz Kafka

Permitting a mine is becoming ever more challenging. Even in mining-friendly countries, the procedure is becoming increasingly complex and time-consuming. Thus, obtaining permits takes ever more effort and resources. And sometimes even those efforts and resources are not a warranty of success. A good example is Taseko Mines' New Prosperity project, situated in British Columbia, with **reserves of 11mn toz gold and 4.2bn lb copper**. Back in 2010, the project received provincial permits – but not federal ones. Taseko modified its development plans and resubmitted the application, but unsuccessfully. Now, more than 10 years later, the project is still frozen, without any meaningful progress having been made.

Well-known is the story of the giant Pebble deposit in Alaska. **Its resources contain copper, gold, silver, molybdenum, and rhenium worth more than USD 600bn at current metal prices**. However, there is strong opposition against the project, due to the potential damage that could be caused to the salmon population in Bristol Bay. As a result, the permitting process turned into a never-ending story.

Also worth mentioning is the story of Lydian International. The company was building the Amulsar gold mine in Armenia. Yet shortly before the mine was completed, some of the locals who opposed the mining project initiated a road blockade that disrupted construction activities. An Armenian court declared the blockade illegal, but the Armenian government was unable to enforce the law and end the blockade. As a result, Lydian went bankrupt, as it was unable to start repaying the debts it took up to fund mine construction.

Resource Nationalism: Governments Want a (Much) Bigger Share of the Pie

The more the state "plans" the more difficult planning becomes for the individual.

Friedrich August von Hayek

Another problem miners have to face are growing government demands. In developed countries it is harder and harder to get a mine permitted; but at least, after permission is granted and the mine built, ownership rights are well protected. On the other hand, in emerging and developing countries it is often easy to build a mine; however, it is harder to keep it, as governments want bigger and bigger shares of the pie. Besides increasing production taxes, they sometimes decide to seize a mine.

The latest example is Centerra Gold and its Kumtor mine. The mine is located in Kyrgyzstan, a central-Asian former Soviet republic. The giant mine has been in production since 1997, and over the last 5 years it produced 561,000 toz gold per year on average. Moreover, **all-in sustaining costs (AISC) are only around USD 700/toz gold**, and reserves should be sufficient for another 10 years of mining at current rates. Centerra has long had problems with local authorities, who accused the mine of violating environmental regulations. Moreover, the Kyrgyz government demanded higher taxes. The situation escalated in spring 2021 when a tailor-made law enabling the government to impose external management over the Kumtor mine was adopted by the Kyrgyz parliament, and the mine was

subsequently nationalized. An arbitration between Centerra and Kyrgyzstan is underway, but the damage to Centerra's share price was already done.

But this is no exception. Barrick Gold has been in disputes with the government of Papua New Guinea over the Porgera mine for years, and Freeport-McMoRan was forced to give away the majority stake in the Indonesian Grasberg copper-gold mine.

Political Instability

Boy, that escalated quickly.

Ron Burgundy

It is not the strongest who survive, nor the most intelligent, but the most responsive to change.

Charles Darwin

I cannot forecast to you the action of Russia. It is a riddle, wrapped in a mystery, inside an enigma; but perhaps there is a key. That key is Russian national interest.

Winston Churchill

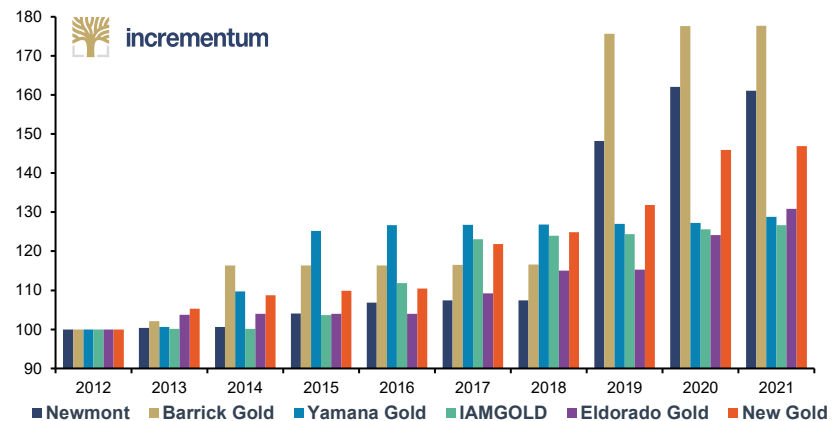
Politics does not impact the miners only through higher taxes and mine seizures. For example, Africa has recently been hit by a wave of coups. In 2021, coups occurred in Mali, Sudan, Guinea, and Chad, and also Burkina Faso in January 2022. The coups bring a lot of insecurity, as they are usually accompanied by some violence that may escalate rather quickly. Moreover, it is usually hard to guess what policies to expect of the new government, which is often led by military leaders whose ability to throw their weight around far exceeds their ability to understand simple economic mechanisms. This is why investors tend to punish mining companies operating in politically unstable countries, even if their operations are not affected, or at least not directly.

Of the Western gold miners with notable exposure to Russia, Kinross is the biggest. The Kupol mine was projected to produce 350,000 toz of gold equivalent in 2022, which would equal to 13% of Kinross' overall production. However, Kinross also owns the feasibility-stage Udinsk project. [According to this prefeasibility study](#), Udinsk was meant to produce nearly 300,000 toz gold per year at an AISC of USD 580/toz on average, over a 7-year mine life. Shortly after the beginning of the war, Kinross has suspended its Russian operations. The initial market reaction to the war in Ukraine sent Kinross' shares down 10% , but the losses were recovered in less than two weeks. According to the latest news, Kinross made an agreement with Highland Gold, to sell Kupol and Udinsk for USD 600mn.

Share Dilution

Another potential problem is share dilution. For mining companies, equity financing is often the only option for financing common operations and further development of mining projects. The negative impacts of share dilution are most visible in the case of the explorers and junior miners. They often have only very limited access to other financing options; and due to the risky nature of their business, they often have to undergo equity financings at very unfavorable terms. That means they must issue new shares at very low prices, and they often have to add some warrants in order to attract more investors. As a result, their share counts may grow by hundreds of percent in only a few years.

Basic Weighted Average Shares Outstanding, 100 = 2012, 2012-2021



Source: Company Annual Reports, Incrementum AG

The chart above demonstrates that share dilution also impacts the bigger players in the gold mining industry. They are less dependent on equity financings, as they have much better access to debt financing. However, they often use shares as compensation for their managers and directors. And, sometimes, they encounter operational issues, and as their debt capacity is exhausted, equity financing is the only option for getting out of trouble. For example, CAPEX overruns during Rainy River mine construction were a major factor behind New Gold's 47% growth in share count between 2012 and 2021. And Eldorado Gold was negatively affected by operational issues at the Kisladag mine, which contributed to 31% growth in share count over the same time period.

Moreover, the mining companies commonly pay for acquisitions of new projects or whole companies with their shares. As can be seen in the chart above, Barrick Gold's share count grew by 78% over a 10-year period. However, the majority of the growth is attributable to the merger with Randgold that was completed in 2019. Similarly, the majority of Newmont's share count growth is attributable to the merger with Goldcorp. In these cases, share dilution doesn't have to be a bad thing. Of course, that assumes that the asset that is being acquired is reasonably valued and the acquirer is not overpaying.

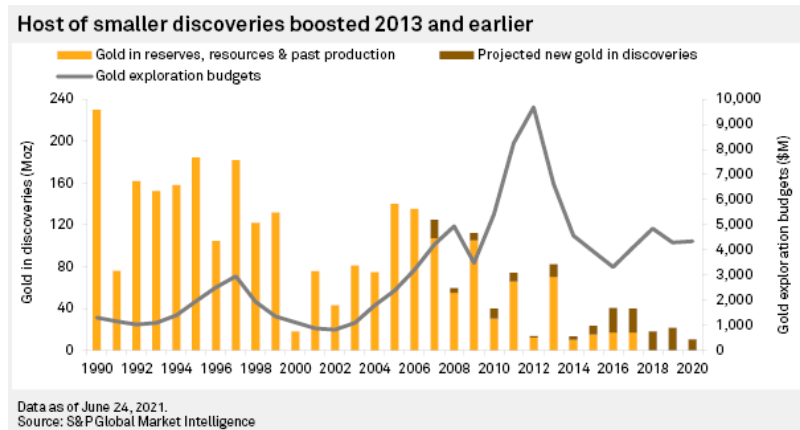
Declining Reserves and Number of New Discoveries

Discoveries cannot be planned, they pop up, like Puck, in unexpected corners.

Max Perutz

A big problem of the gold mining sector is the declining number of new gold discoveries, regardless of the volume of exploration budgets.⁸⁸ As shown in the chart below, although exploration budgets are more than twice as high as in the 1990s or early 2000s, the volume of discovered gold is much smaller. This means that in general it has become significantly more expensive to discover an ounce of gold. As a result, it has become more and more difficult – and also more expensive – for the gold miners, especially the big ones, to replenish the extracted ounces.

⁸⁸ See "Gold Mining Stocks –After the Creative Destruction, a Bull Market?," In Gold We Trust report 2019



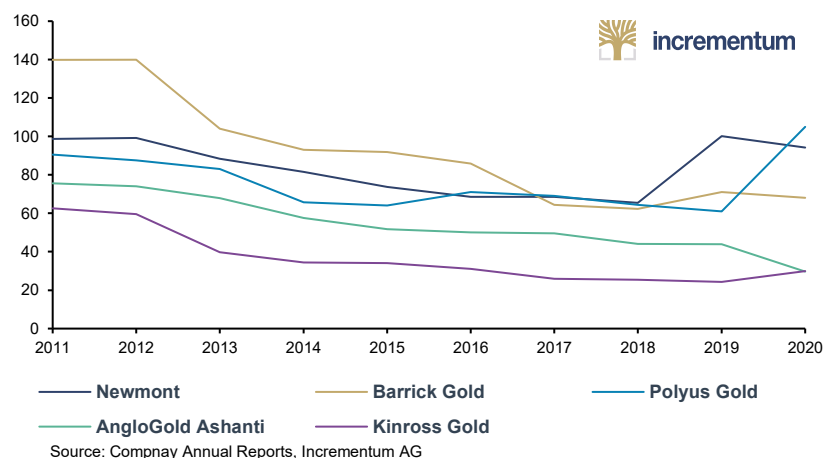
A study by S&P Global Market Intelligence shows that in recent years the companies focused more on exploration of known deposits, i.e. brownfield exploration, instead of grassroots exploration. Therefore, out of 329 gold deposits discovered between 1990 and 2020, only 29 were found over the last decade. Moreover, they contain only 8% of all gold discovered since 1990. This is the main reason why S&P expects gold production to be relatively flat in 2022 and 2023 and to start declining in 2024.

...the gold price has to rise (to stimulate more exploration and make more projects economic) or we have to either be smarter/more efficient at exploration.

Richard Schodde

As can be seen in the next chart, even the biggest gold miners, despite their expertise and deep pockets, have problems replenishing reserves. Out of the top five gold miners, only Polyus Gold did not experience a decline over the past decade. The reason is the giant Sukhoi Log deposit, where reserves of 40mn toz gold were outlined in 2020. Newmont's reserves experienced only a slight decline, thanks to the merger with Goldcorp back in 2018. The main reasons for declines are depletion of deposits; sale of assets, usually the non-core ones; and, in 2012–2013, following the steep gold price decline, updating reserves figures using lower gold prices, as a smaller portion of resources is now economically mineable and can thus be classified as reserves.

Volume of Gold Reserves, in mn Troy Ounces, 2011-2020



CAPEX Overruns

Inflation takes from the ignorant and gives to the well informed.

Venita VanCaspel

A study prepared by McKinsey and PDAC investigated 41 gold mines established between 2008 and 2018 that had a CAPEX of USD 0.5bn or higher. According to their results, only 20% of investigated projects experienced no cost overruns. On the other hand, 44% of projects experienced 15-100% cost overruns, and 19% of projects suffered even greater than 100% cost overruns.

A notorious example of a giant cost overrun is Barrick Gold's Pascua Lama project. Its initial CAPEX was, back in 2000, estimated at USD 1.2 bn. By 2004, the estimate grew to USD 1.4–1.5bn. In 2009, when mine construction started, CAPEX was estimated at USD 2.8–3.0bn. In 2011, Barrick announced that mine construction would cost USD 4.7–5.0bn. However, in 2012 the number increased further to USD 7.5–8.0bn. In 2013, rumors that the CAPEX would exceed the USD 10bn mark started to spread. This is when Barrick decided to halt Pascua Lama mine construction indefinitely. **Barrick blamed the cost overruns** on construction delays and higher labor, energy, material, and project-management costs.

The latest example, although much less dramatic, is Argonaut Gold and its Magino project. When mine construction started in early 2021, CAPEX was projected at USD 510mn. However, in December 2021 **Argonaut announced** that the price tag had increased to USD 800mn, that is, by 57%. And investors should prepare to see similar announcements more frequently in the near future, as prices of steel, copper, and other materials needed for mine construction are rising, just like energy prices. Furthermore, current inflation levels will soon lead to increasing wage demands. Thus, the probability of CAPEX overruns is growing rapidly, especially in the case of mining projects that are in the construction phase, but for which feasibility studies were completed a year or two ago, or even earlier.

Growing Production Costs

A similar problem is growing production costs. This indicator is hard to follow on a longer time span, because the generally accepted methodology of reporting production costs, AISC, was adopted only in 2012. Before 2012, gold miners used different reporting methods and it was hard to compare their actual production costs. However, it is not hard to see how much those costs have gone up. Today, the biggest gold miners, except for Polyus Gold, have AISC in the USD 1,000/toz range. But only 20 years ago, in 2002, the gold price was around USD 300/toz. Therefore the AISC (although no one used the measure back then) had to be below USD 300/toz. At the current AISC, the whole industry would have been dead.

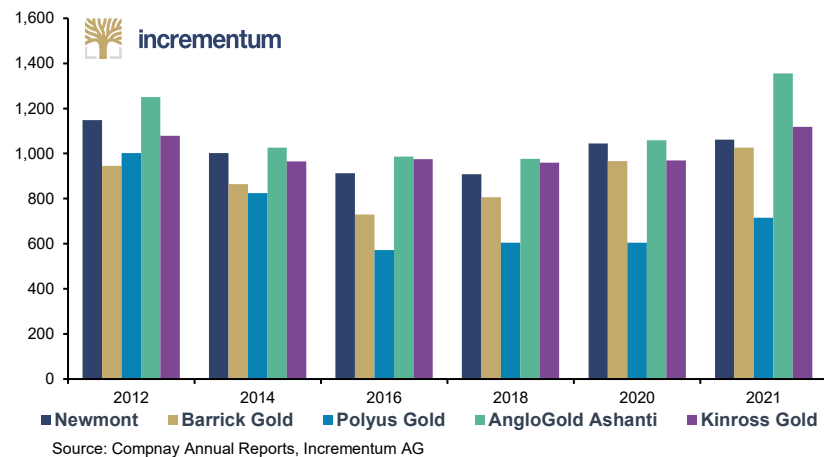
Inflation is like toothpaste. Once it's out, it's hard to put back in again.

Karl Otto Pöhl

The next chart shows the development of AISC of major gold producers between 2012 and 2021. Between 2012 and 2016, the miners were able to push AISC down. They were able to do so because of weak construction materials markets, declining energy prices, and a low-inflation environment. Declining gold prices helped as well, as a lower gold price means that the miners pay lower royalties. Moreover, declining gold prices forced some of the higher-cost miners to

suspend some operations or to re-evaluate their mining plans and focus on high-grade sections of the deposits. Of course, this cannot be done forever. After some time, the strategy fails, as the high-grade material gets extracted, there is only the low-grade material left, and costs shoot back up. After 2016, AISC started to stagnate or even began to rise.

All-in Sustaining Costs (AISC), in USD per Troy Ounce, 2012-2021



This trend was exacerbated by the Covid-19 pandemic, as some miners had to interrupt production, which pushed production volumes lower and production unit costs higher. Moreover, even miners that were not impacted by the pandemic directly had to adopt some pre-emptive measures that added to their costs. Moreover, over the past year or two, energy prices increased significantly, construction materials prices did too, and inflation came roaring back; thus, we may expect that escalating wage demands are only a matter of time. Add to this higher gold prices and therefore higher royalties to be paid by the miners, declining gold grades and the need to extract gold from greater depths or from deposits located in remote places with extreme weather conditions, and we could see an AISC of over USD 1,000/toz become the new normal.

The Current Inflation Environment and Related Challenges

What are you going to do about inflation?

Print more money!

We can't do that, sire!

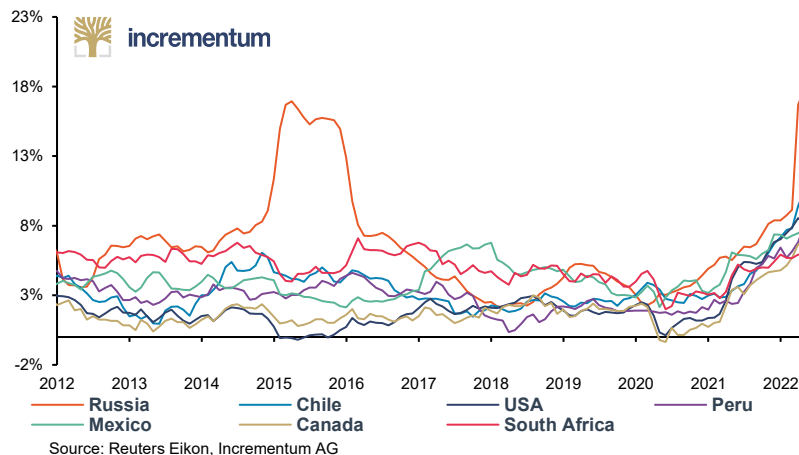
There is no more gold to back it up!

Whew! For a moment there I thought we were out of paper.

Wizard of Id

The last two factors, CAPEX overruns and growth of production costs, are poised to be especially haunting to the mining industry in the foreseeable future. The reason is that the genie of inflation has escaped the bottle. The chart below shows the evolution of annual inflation rates in some of the major gold-producing countries over the last 10 years. The current trend in all of the seven countries is clear. Prices are growing strongly. For countries like Russia, Mexico, or South Africa, this situation isn't new. But that cannot be said about the US or Canada, where in April 2022 the inflation rate increased to 8.3% and 6.8% respectively. For the US, this is the highest inflation rate since the early 1980s. For Canada, inflation is at its highest point since 1991.

Inflation, yoy%, 01/2012-04/2022



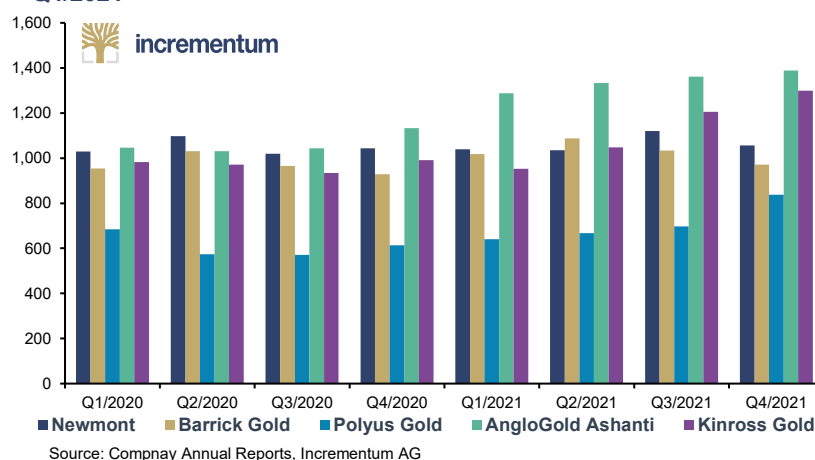
Inflation is like a drug in more ways than one. It is fatal in the end, but it gets its votaries (devout adherents) over many difficult moments.

Lord D'Aberon

According to a study by Goldmoney, the biggest operating cost of the top gold miners is labor (39%), followed by fuel and power (20%), consumables (20%), maintenance (11%), and other costs (10%). Fuel and energy costs have already increased. Oil prices crossed the USD 100/bbl level, a level last seen back in 2014. Given current inflation levels, more meaningful growth in labor costs is also only a question of time. Thus, investors should be prepared for gold production costs to keep on growing for some time.

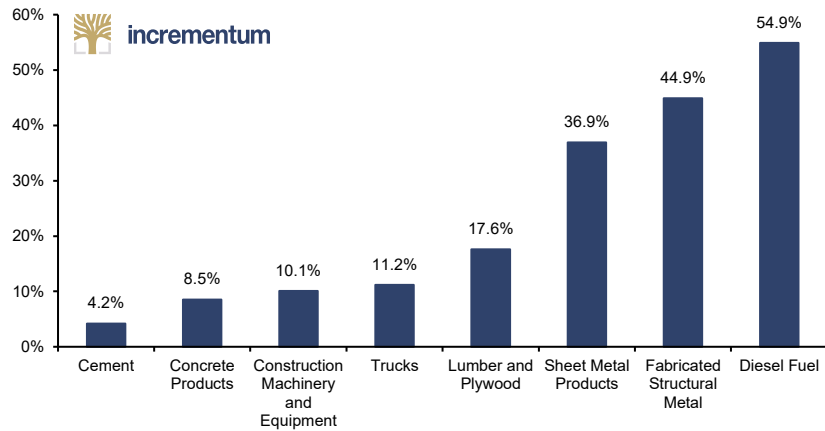
The industry is already feeling the impacts. The table below shows the development of AISC of major gold producers during 2020 and 2021. As can be seen, companies like AngloGold Ashanti, Kinross Gold, and Polyus Gold experienced significant AISC growth in 2021. Newmont and Barrick Gold have managed to keep their costs under control for now; however, given the growing inflation pressures and oil prices reaching their highest level in more than a decade, this shouldn't last for much longer.

All-in Sustaining Costs (AISC), in USD per Troy Ounce, Q1/2020-Q4/2021



The growing labor and energy costs will also push mine construction expenditures higher. Moreover, prices of other goods important for construction are rising, according to the data of the Construction Association.

Prices Change for Important Construction Goods, in %, 2021



Source: Construction Association, Incrementum AG

The increased costs may be partially reflected in feasibility studies that were completed in Q4 2021 or in 2022, but all of the older studies used lower prices. As a result, investors should be prepared for a wave of negative surprises in the form of CAPEX overruns. And subsequently, after the projects get into production, actual production costs will most likely be notably above original projections. Some companies may decide to delay mine construction and prepare an updated feasibility study first, in order to avoid negative surprises. However, the resulting delays and, almost certainly, the worsened economics of the projects will not bode well for the companies’ share prices.

The gold industry is now a real business.

Alex Black

Of course, the higher-inflation environment should be positive for gold prices, which should compensate for the higher capital and production costs. But there is no guarantee that the gold price will increase enough to fully offset the higher costs. However, there are also the royalty & streaming companies, which will benefit from higher gold prices while not having to worry too much about inflation, as their “production costs” are more or less fixed.

Prospecting for gold is like looking for true love: for every nugget there’s a ton of rock and dirt.

Lord Richard Head

Although there are relatively short time periods when shares of gold miners record really great returns, over the last 15 years they underperformed gold heavily. This wasn’t always the case. For decades, the gold miners were closely correlated with the gold price and the returns were similar. The abrupt change came during the Global Financial Crisis of 2008, when the gold miners as a group started to underperform. Of course, not all of them did. There are exceptions that are able to outperform gold even over longer-term investment horizons, but they are just a strong minority.

The value of actions lies in their timing.

Laozi

The main reasons for the underperformance are CAPEX overruns, growing production costs, problems with obtaining permissions for new mines, governments wanting a bigger share of the pie, political instability in some countries where gold mines are located, as well as declining reserves and numbers

of new discoveries. As not all of the miners are impacted by all of these factors and not equally, it is important to choose the right company when making a long-term investment in the gold mining industry.

It is often a long road to quick profits.

Humphrey B. Neill

As an investor, as long as you understand something better than others, you have an edge.

George Soros

The best strategy is to buy shares of a company operating in a safe and mining-friendly jurisdiction, with low production costs, reasonable CAPEX, and good exploration potential. And, of course, to buy the shares at the right price. That means timing the market properly and avoiding buying at the top of the cycle. As Baron Rothschild once cynically remarked, the best time to buy is when there is blood in the streets, even if it means holding the shares for several years without any major gains and waiting for the next bull market.

In the foreseeable future, inflation should be an important factor impacting the performance of the gold miners. High-cost producers especially may get into trouble if their production costs increase further. Some unpleasant surprises may also be encountered by the development-stage companies, due to the high probability of CAPEX overruns. However, there are also the royalty & streaming companies, a segment of the mining industry that should do very well in an inflationary environment, and that is why we will do a deep dive into the R&S sector in the following chapter.



EMX holds a 0.7335% Net Smelter Royalty on the operating Caserones Copper-Molybdenum mine, where EMX enjoys current and expects continued long-term cash flow.



EMX Royalty holds a significant royalty over Zijin Mining's giant Timok Copper-Gold Project in the Bor District of Serbia.*

* EMX's 0.5% NSR royalty is subject to reduction only as provided in the royalty agreement.

- Transformative Cash Flow Projected In 2022 from Production Royalties On Gold, Silver, Copper, Zinc, Molybdenum and Lead
- Major Investors In EMX Shares Include EMX Management, Directors and Employees, Franco-Nevada, Newmont Mining, SSR Mining, Stephens Investment Management, Sprott Inc, Adrian Day Asset Management, US Global Investors and the EuroPac Gold Fund
- Incoming Cash Flow From Production Royalties, Advance Royalty Payments, Milestone Payments, Managements Fees, and Annual Property Payments



EMX Royalty holds a 1% gross smelter royalty over a portion of Nevada Gold Mines' Leeville (left), Four Corners and Carlin East deposits, providing the Company with ongoing cash flow.

EMX Royalty is *The Royalty Generator*

The Company enjoys cash flow from royalty assets which it generates organically and through value-driven acquisition. EMX's royalty generation business model supports global precious, battery and base metals exploration leading to the organic creation of mineral royalties.

The Company has royalty and exploration properties in the United States, Canada, Sweden, Finland, Norway, Serbia, Australia, Turkey, Chile, Peru, Mexico and Haiti.

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emxroyalty.com

Royalty & Streaming Companies: An Excellent Way of Investing in Gold

“We are what we repeatedly do. Excellence, then, is not an act, but a habit.”

Aristotle

Key Takeaways

- The precious metals royalty & streaming companies represent an attractive way of investing in gold, as their business model offers some advantages of classical mining companies while eliminating the majority of disadvantages.
- This segment of the mining industry has grown in market capitalization from USD 2bn to more than USD 60bn in 15 years.
- An index of the precious metals royalty & streaming companies has been able to outperform the precious metals miners, gold, and silver on a regular basis.
- There are approximately 20 precious metals-focused royalty & streaming companies of different sizes and investment strategies, which offer investors relatively rich choice.
- A consolidation of the precious metals royalty & streaming industry is underway.

To anticipate the market is to gamble. To be patient and react only when the market gives the signal is to speculate.

Jesse Livermore

During the gold rush its a good time to be in the pick and shovel business.

Mark Twain

We truly live in challenging times, that support the importance of gold as a safe haven asset and inflation hedge. Nowadays, a wide range of options for investing in gold, as well as other precious metals, is available to retail investors. It's possible to buy physical metals in the form of coins, medals, or bars, or to invest in one of the financial derivatives with precious metal as the underlying asset, or to invest in a mutual fund or ETF backed by physical or "paper" gold.

The advantages and disadvantages of physical metal and financial derivative investing are combined in the stocks of mining companies. These stocks are backed by real physical assets but at the same time provide leverage to the metal's price. In other words, they are less risky than financial derivatives but riskier than physical metals. **Some investors have already recognized that there is, however, one specific segment of the mining industry which offers attractive returns at significantly reduced risk: the royalty and streaming (R&S) segment.**

The Royalty & Streaming Business Model

Royalty & streaming companies (R&S) do not build mines; they do not produce gold, or silver, or anything else. They do not have to deal with cost overruns, growing labor costs, or endless permitting processes. As their name indicates, R&S companies simply invest in royalties and streams. It is, of course, somewhat more complicated than it sounds.

It is important to understand what exactly a royalty or a stream is. A *royalty* is a right that entitles its owner to receive a share of the proceeds from the sale of a mine's production. A *stream* entitles its owner to buy a portion of a mine's production at a predetermined price, usually far below the prevailing market price. There are, however, further differences between these two asset types.

First of all, it is important to understand the difference in the purpose for which these instruments are created. Royalties are usually created in the earlier development phases of a mining project and form part of the transaction when title rights are transferred from one party to another. For example, an independent explorer sells his claims to a junior mining company for USD 1mn and a 2% NSR royalty. Streams are distinct from royalties in that they are usually created in the later development stages of a mine and form part of the mine's financing package.

Take for example: A company needs to fund construction CAPEX of USD 500mn. It takes on USD 300mn of debt, issues new shares worth USD 100mn, and sells a 15% gold stream for USD 100mn. This way, the miner technically gives away a part of the future cash flow generated by the project, but that is a preferred option to equity financing, whereby they give away part of the company. To simplify, royalties are created when a junior explorer needs money to continue exploring his land package. Streams are created when a mine developer needs to raise capital to build a mine.

If you don't find a way to make money while you sleep, you will work until you die.

Warren Buffett

The owner of a royalty does not have to make any ongoing payments related to the royalty. He pays to acquire the royalty and then he collects payment on a regular basis. On the other hand, the owner of a stream must make not only an initial investment to acquire the stream but also ongoing payments in order to acquire his share of the mine's production. It is important to note that the ongoing payments are usually far below the actual market price of the underlying commodity. This price can be fixed, e.g. USD 300/toz gold, or be a percentage of the prevailing market price, e.g. 25% of the average gold price recorded over the previous 30 days. As additional security for the stream owner, if the ongoing payments have been agreed at a fixed price, the contract usually includes a security clause specifying that the stream owner pays either the predetermined price or the prevailing market price, whichever is lower.

Another distinction between royalties and streams is size. While royalties usually apply to a very small portion of production, generally only up to 3% of all extracted minerals, streams routinely apply to 10-30% of a mine's production. When a stream applies to a byproduct of the mine, the number often goes up to 100%. However, there are cases where royalties are much higher than 3%. This may cause some problems as it inflates production costs and may discourage miners from investing in further exploration and mine development.

The trouble is, you think you have time.

Buddha

Another consideration is the time factor. While royalties are usually applicable for the entire lifetime of the mine, streams often apply only until a prespecified volume of production is delivered. After this threshold is reached, the stream ceases to exist or is modified. For example, after 100,000 toz of gold is delivered, a stream is reduced from 30% to 15% of gold production and the ongoing payment increases from 20% to 35% of the prevailing gold price.

There are several basic types of royalties. The most common is the net smelter return (NSR) royalty. It entitles its holder to receive a certain share of gross revenues generated by the mine, minus transportation, smelter, and refining costs. Less common is the gross return (GR) royalty that is calculated as a percentage of gross revenue from the sale of mine production, with no additional costs deducted. A net profit interest (NPI) royalty entitles its holder to receive a share of profits generated by the mining asset. Its owner usually starts receiving payments only after the mine operator recovers his development costs. This type of royalty may be quite complex, and the cash flows may be hard to predict due to the accounting practices of the mine operator. There are also production royalties that are based on a fixed price per unit of production, e.g. USD 10/tonne of processed ore. Although these types of royalties are typically for iron ore mines, they do exist for gold mines, too.

Advantages and Disadvantages of the Business Model

The R&S model is unique, as it exploits some of the positive features of a classical mining company, like exposure to potential exploration success and rising metal prices, while it eliminates some risks, especially the risk of cost overruns during

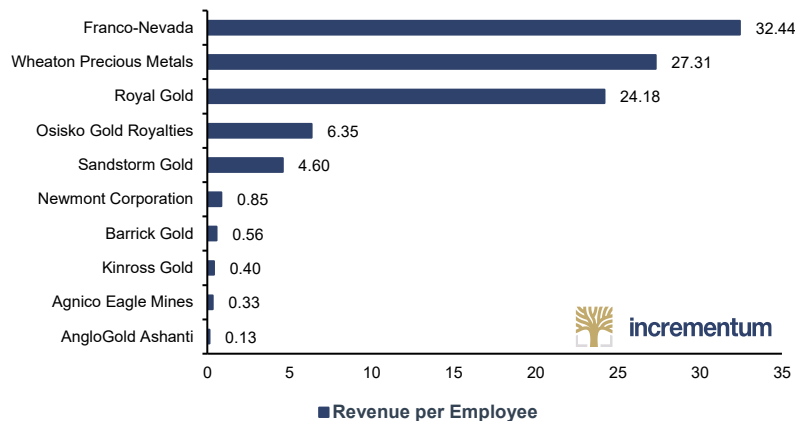
the mine construction phase and growing production costs. It is possible to summarize the advantages of the business model in several points:

- **R&S companies face only a limited risk of growing production costs:** As there are no ongoing payments related to royalties and predetermined ongoing payments related to the streams, the R&S company does not have to be concerned about growing production costs at the mine. Its cash flows will remain unaffected. However, this applies only as long as the mine remains in production. If the production costs increase to such an extent that the mine operator decides to halt mining operations, the R&S company will be negatively impacted as well. No production means no income from the stream or royalty.
- **The risk of cost overruns is limited:** If the mine construction becomes more expensive than anticipated, the mine operator must find additional sources of financing. This could create an opportunity for the R&S company to acquire an additional stream or royalty on the project. Even if the CAPEX grows to such an extent that the mine developer goes bankrupt, if the project is viable, another mine developer will emerge to complete the project. Although such delays may be uncomfortable, real trouble only starts for the R&S company when there is no one willing to complete mine construction.
- **R&S companies are “happy campers”:⁸⁹** If the mine operator decides to expand the mine, the R&S company is not obliged to contribute any funds; however, it will reap the benefits from the expanded mining operation in the form of higher cash flows. Similarly, the R&S company doesn’t have to contribute to exploration expenses incurred by the mining company; but if the exploration program is successful and the mine’s reserves increase, the R&S company will share in the benefits. The same can be said if a completely new orebody is discovered on the property.
- **Diversification is a tool for reducing risk:** It is important to remember that the vast majority of exploration projects turn out to be unsuccessful. Even if an economically attractive deposit is discovered, it does not mean that building the mine is a certainty. There are numerous technical and administrative hurdles that need to be overcome first. R&S companies, especially the big ones, hold streams and royalties on tens or hundreds of properties. This helps to diversify their risk significantly.
- **The R&S companies can be very cost-efficient:** While a traditional mining company has hundreds or even thousands of employees, a R&S company typically employs far fewer people. For example, the world’s biggest R&S company, Franco-Nevada, had only 40 employees as of the end of 2021, while its revenue was nearly USD 1.3bn. This amounts to USD 32.4mn per employee. For comparison, the world’s biggest gold miner, Newmont Corporation, had 14,400 employees and revenues of USD 12.2bn, or roughly USD 850,000 per employee. As can be seen in the chart below, R&S

⁸⁹ They can just sit and wait for the others to do the work, and then reap the benefits.

companies generate significantly higher revenues per employee than traditional gold miners.

Revenue per Employee, in USD mn, FY2021



Source: Own processing, Macrotrends, Seeking Alpha, Incrementum AG

- **And last but not least, R&S companies maintain leverage to growing metal prices.**

Three things ruin people: drugs, liquor, and leverage.

Charlie Munger

However, the business model also has some disadvantages. The leverage to the metals prices is lower than in the case of the classical mining companies. And the diversification, while decreasing the risk, at the same time limits the upside potential, as the R&S companies cannot bet everything on one card, even if the card is a highly profitable multigenerational world-class project in the making.

Another disadvantage is lack of control. While the mining company can decide what to mine and when to start mine development, when to expand the mine and when to shut it down, the R&S company can only sit and wait, as it has only limited tools, if any, to affect decision making.

Man does not control his own fate. The women in his life do that for him.

Groucho Marx

The lack of control may be problematic, especially when the stream or royalty is high, which may demotivate the mine operator. It limits the profitability of the mine, and the operator may start to neglect investments in further development, especially if he has other, more profitable projects. For example, Maverix Metals owned a 7.5% NSR on Karora Resources’ Beta Hunt mine gold production. This was an unusually high royalty that was created back in times when Beta Hunt was a nickel mine with some gold byproducts. Therefore, the high royalty on gold didn’t bother the old mine operator too much. However, Beta Hunt later evolved into a gold mine; and due to the high royalty, Karora was hesitant to invest in production growth. As a result, **Karora and Maverix renegotiated the royalty** and agreed to reduce it to 4.75%. Over the following year, **Karora prepared a multiyear growth plan** to increase the annual production volumes significantly.

But in general, under normal circumstances, the advantages of the R&S business model outweigh the disadvantages. Therefore, the R&S companies tend to outperform the classical miners, and their popularity keeps on growing, as evidenced by the growing number of companies in this mining industry segment.

History and the Present

Acting on a good idea is better than just having a good idea.

Robert Half

The pioneer of the precious metals R&S industry is Franco-Nevada.

However, not today's Franco-Nevada but its predecessor, established back in 1983. The old company created the royalty business in 1985 when it acquired its Goldstrike mine royalty. As time has shown, this transaction gave birth to a completely new industry. Of course, the guys from Franco-Nevada did not invent royalties themselves. The royalty business model had been widely used in the oil & gas industry. But Franco-Nevada was the first company that applied it to the gold mining industry. By the way, Franco-Nevada's Goldstrike royalty was a massive success. The mine is still in production; Franco-Nevada still owns the royalty and collects around USD 20mn per year.

Further royalties followed, and Franco-Nevada was the leader of the precious metals R&S industry when it was acquired by Newmont in 2002. But in 2007, Newmont decided to sell a big royalty portfolio that included many of the assets formerly owned by the original Franco-Nevada. Franco-Nevada's old management, including Pierre Lassonde, its founder, decided to hit the jackpot once again. They established a new Franco-Nevada and acquired the royalty portfolio offered by Newmont. The new company followed up on the success of the old one, and now, almost 15 years later, Franco-Nevada is the biggest player in the R&S industry, with a market capitalization of more than USD 24bn, roughly equaling the GDP of Iceland. When asked about the success of Franco-Nevada and its business model,

Pierre Lassonde responded:

"We get a free perpetual option on the discoveries made on the land by the operators, and we get a free perpetual option on the price of gold. It's the optionality value of the land, the value of the operator spending money on our land, and the optionality to higher gold prices. And that is worth so much money. When you buy a stream, on the other hand, you get price optionality. You're buying, say, 100,000 ounces of gold for the next 25 years. So you get optionality on the price of the commodity, but you don't get much optionality on the land."

Silver, gold – I don't discriminate! I like sparkly things.

Charlaine Harris

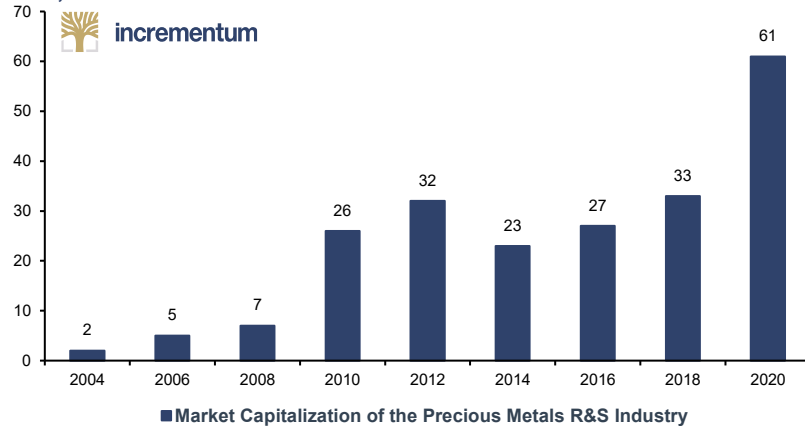
Wheaton Precious Metals, the second biggest company in the precious metals R&S industry with a market capitalization of around USD 20bn, was established in 2004, as Silver Wheaton.

As the name indicates, its primary focus was silver, which has changed over time. The first asset was a 100% silver stream from Wheaton River Minerals' Mexican Luismin mining operations. This mine was producing approximately 8mn toz silver per year, which meant a strong start for Silver Wheaton. Further streams followed soon after. In 2004, Silver Wheaton acquired a 100% silver stream from Lundin Mining's Zinkgruvan mine, which was supposed to deliver around 2mn toz silver per year. The company kept on growing, but it didn't focus purely on silver, and the share of gold in its revenues kept on growing. In 2016, after the acquisition of the gold stream from Vale's Salobo mine, the revenues became almost equally split between gold and silver. Subsequently, in 2017, Silver Wheaton changed its name to Wheaton Precious Metals. Today, the company maintains bigger exposure to silver than its

peers; however, its main source of revenue is gold. In 2021, Wheaton’s attributable production equaled 342,546 toz gold, 26mn toz silver, and 20,908 toz palladium.

The third biggest company, Royal Gold, was established in 1986, when oil & gas company Royal Resources acquired Denver Mining Finance Corporation. The merged company wanted to become a gold mining company; however, it quickly refocused on the royalty business model. Its cornerstone asset became the Cortez mining complex royalty. Although restructured, it is still held by Royal Gold today.

Market Capitalization of the Precious Metals R&S Industry, in USD bn, 2004-2020



Source: Own processing, Bloomberg, Company Reports, Scotiabank, Incrementum AG

Over time, numerous new precious metals-focused R&S companies emerged. And the overall market capitalization of the industry grew as well, from USD 2bn in 2004 to USD 66bn as of April 2022.

Today, there are approximately 20 R&S companies primarily focused on precious metals. However, only 6 of them have a market capitalization of over USD 1bn: Franco-Nevada, Wheaton Precious Metals, Royal Gold, Osisko Gold Royalties, Triple Flag Precious Metals, and Sandstorm Gold. The rest are well below the USD 1bn mark. And the smallest ones, Star Royalties and Empress Royalty, each have a market capitalization of well under USD 50mn.

Market Capitalization as of April 30, 2022, in USD mn

Franco-Nevada	28,923
Wheaton Precious Metals	20,245
Royal Gold	8,565
Osisko Gold Royalties	2,273
Triple Flag Precious Metals	2,240
Sandstorm Gold	1,424
Maverix Metals	664
Gold Royalty	483
Nomad Royalty	467
Metalla Royalty and Streaming	257
EMX Royalty Corporation	214
Trident Royalties	178
Great Bear Royalties	109
Vox Royalty	108
Elemental Royalties	89
Altus Strategies	86
Sailfish Royalty Corp	80
Orogen Royalties	62
Star Royalties	38
Empress Royalty	21

Source: Own processing, money.tmx.com, Incrementum AG

M&A Wave Ahead?

Too many companies are looking for a Brad Pitt when in the right circumstances, they might be able to settle for a Bart Simpson.

Liam Twigger

As the number of precious metals R&S companies increased notably in recent years, the question of the inevitability of an industry-wide consolidation emerged. Investors didn't have to wait for long. On June 21, 2021, Gold Royalty, one of the smaller players, established only in 2020, announced the acquisition of ELY Gold Royalties. And in September it also acquired Abitibi Royalties and Golden Valley Mines. Due to the acquisitions, Gold Royalty's market capitalization increased from approximately USD 200mn to nearly USD 700mn, and its number of assets grew to more than 190. But Gold Royalty remained hungry. In December, it decided to make another acquisition. This time, it elected Elemental Royalties. However, while the first two transactions were friendly, this attempt was hostile and so far unsuccessful. On the other hand, recently announced Sandstorm Gold's friendly acquisition of Nomad Royalty will most probably come through. It should help Sandstorm significantly boost its near-term growth prospects. Given the number of smaller players, it is possible to expect that the consolidation will continue and further deals will emerge sooner or later.

Mergers are like marriages. They are the bringing together of two individuals. If you wouldn't marry someone for the 'operational efficiencies' they offer in the running of a household, then why would you combine two companies with unique cultures and identities for that reason?

Simon Sinek

In order to achieve superior results, an investor must be able – with some regularity – to find asymmetries: instances when the upside potential exceeds the downside risk. That's what successful investing is all about.

Howard Marks

Diversification is a protection against ignorance. It makes very little sense for those who know what they're doing.

Warren Buffett

The growing number of R&S companies means that various investment strategies have also emerged. The big players have a large number of royalties in their portfolios; however, their main assets are streams. A typical stream provides a bigger cash flow than a typical royalty, which is more suitable for big companies. A royalty that generates USD 2-3mn per year may be very interesting for the smaller players like Empress Royalty or Star Royalties, but not so much for Franco-Nevada or Wheaton Precious Metals. Another advantage for the bigger players is that the streaming segment is not so crowded. There are only a limited number of companies that can afford to acquire a substantial stream valued at several hundred million USD, therefore there is lower competition. On the other hand, almost every one of the abovementioned 20 companies can afford to acquire a royalty valued at USD 20mn or less. The desire to start making bigger deals is probably one of the reasons why Gold Royalty pursues the growth path so aggressively.

Some of the smaller companies have developed specific strategies when it comes to acquiring new assets. For example, Empress Royalty stresses that it prefers creating new royalties to acquiring the old ones. Therefore, it collaborates directly with the mining companies. Vox Royalty elected to take quite the opposite route. Its main competitive advantage is a proprietary database of more than 8,000 royalties. Vox claims that it is the largest database of this kind in the world, and that it enables it to better identify and approach potential sellers of these royalties. That may be true, as shown by Vox's recent acquisition of a royalty on Sibanye's Limpopo project, with measured, indicated, and inferred resources of 36mn troy ounces of platinum, palladium, rhodium, and gold. Royalties and streams on such attractive assets are usually held by the bigger players. Moreover, Vox acquired the royalty at a very reasonable price.

There are also companies that create their own royalties. They technically combine the project generator and R&S business models. They originally started as project generators, but as the projects started maturing, their portfolio of royalties kept on expanding and became the more important part of their business. A typical example is our dear premium partner EMX Royalty, formerly known as Eurasian Minerals. Today, EMX owns nearly 150 royalties on projects in different parts of the world, but it also has numerous exploration projects and keeps on selling them to other companies.

And then there are companies that adopted, or tried to adopt, a hybrid model. That means they not only invest in streams and royalties but also try to develop their own mining projects. Although this model may provide attractive upside potential, it also brings back some of the operational risks that the typical R&S business model eliminates. This is why the hybrid model is not too popular among investors. A good example of the challenge is Osisko Gold Royalties. In late 2019, after the acquisition of Barkerville Gold and its Cariboo project was announced, Osisko's shares started lagging behind its peers. The situation began improving in the autumn of 2020 when a spin-out of the exploration project into a separate entity called Osisko Development was announced and completed.

A vegan in a Hummer has a lighter carbon footprint than a beefeater in a Prius.

Michael Pollan

Attention should also be paid to the newest trend in the R&S industry, carbon credit streaming. The recent surge in carbon credit prices attracted the R&S companies. For example, Star Royalties established a daughter company called Green Star Royalties that is investing in carbon offset projects. The carbon streams and royalties work in the same way as the gold streams and royalties. The difference is that the cash flow is not generated by a mining project but by a carbon offset project. The carbon offset projects, e.g. forest planting, reduce the volume of carbon dioxide in the atmosphere. The project operator receives carbon credits equivalent to the volume of eliminated carbon dioxide. The carbon credits are subsequently sold to companies, e.g. steel makers, coal plants, etc., that need them to compensate for the carbon dioxide they release into the atmosphere. Star Royalties is just a small player entering the carbon streaming industry. **The leader of this R&S industry segment right now is Carbon Streaming Corp. Further IPOs are expected in this segment.**

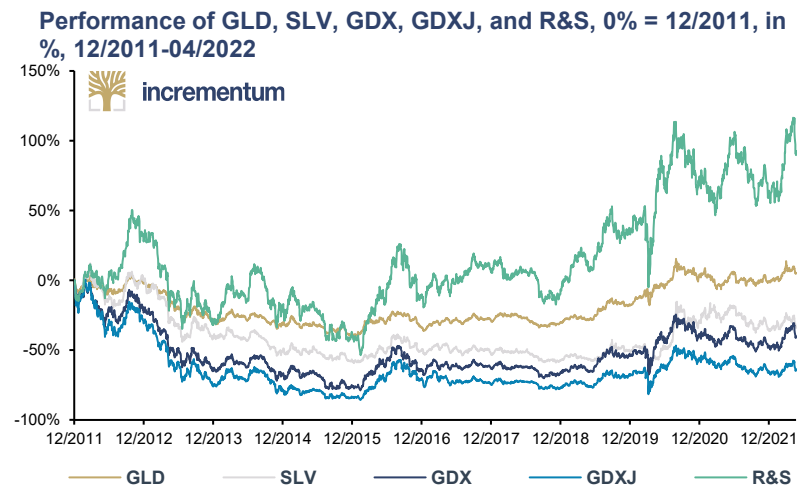
The performance of the R&S industry

As mentioned earlier, the R&S companies have numerous advantages in comparison to the common mining companies. This makes them an attractive investment option. However, what is probably the most important is their performance in comparison to other assets, whether the mining stocks or physical metals.

In order to be irreplaceable, one must always be different.

Coco Chanel

The chart below shows the performance of a simple R&S index calculated as an average return of the top 5 industry players – Franco-Nevada, Wheaton Precious Metals, Royal Gold, Sandstorm Gold, and Osisko Gold Royalties (added as of July 7, 2016). As can be seen, over the last 10 years, the R&S index outperformed gold, represented by the SPDR Gold Trust ETF (GLD), and silver, represented by the iShares Silver Trust ETF (SLV), as well as gold and silver miners, represented by the VanEck Vectors Gold Miners ETF (GDX) and VanEck Vectors Junior Gold Miners ETF (GDXJ). The outperformance of the precious metals miners is especially impressive: When the R&S index grew by 90%, the GDX declined by 41% and the GDXJ by 64%.

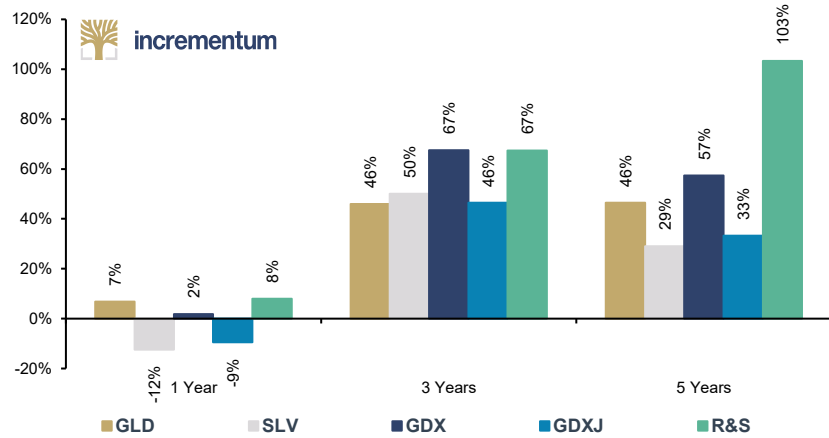


In any investment, you expect to have fun and make money.

Michael Jordan

The R&S companies have recorded superior performance on shorter time periods, as shown in the chart below. They outperformed GLD, SLV, GDX, and GDXJ over the 5-year, 3-year, and also 1-year time periods. The only exception is GDX over the last 3 year, as it grew by 67,5%, while the R&S index grew by 67.46%.

Performance Comparison, in %, 04/2017-04/2022



Source: Own processing, YahooFinance, Incrementum AG

Conclusion

Investing is not about a once-in-a-lifetime opportunity. It is a life-long journey of prudent investments that grow with time. You need to start small and let the magic of compounding do its trick.

Naved Abdali

R&S companies are an important segment of the mining industry. There are approximately 20 precious metals-focused R&S companies of different sizes and with different business strategies, which offers investors diverse options. In general, the precious metals R&S companies offer an attractive way to invest in precious metals. They offer exposure to growing metals prices, while eliminating operational risks related to classical mining companies. Moreover, as the historical data shows, this mining industry segment is able to outperform gold and silver, as well as gold and silver miners, on a regular basis.

There is space for further growth of the R&S industry. Moreover, investors may also benefit from adopting some new trends, such as carbon-offset streams, or from taking advantage of the consolidation that is ongoing in the industry right now.



Focusing on what matters.

To make mining work, we build trust with our stakeholders, create value for our shareholders, and contribute to the well being of our people, their families and the communities in which we operate.



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mining work.



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Stock Symbol: AEM (NYSE and TSX)

The New Low-Emissions Economy: Gold as a Savior

“The ESG push and related green transformation effort have so much political capital behind them that failure is simply not an option. The best analogy to me is the euro.”

Steen Jakobsen

Key Takeaways

- COP26, a call to a new economic paradigm: shifting to a low-CO₂ economy driven by the energy transition
- Gold producers are well positioned to profit from the introduction of a carbon tax.
- In the new low-emission economy, a new economic metric must be created for the mining sector: all-in emissions cost (AIEC). This metric will translate nonfinancial into financial, actionable costs for investors and stakeholders.
- Jurisdiction risk has evolved into one of the mining industry’s primary sources of concern.
- Raising the gold allocation in an investor’s portfolio has a notable positive impact on the carbon footprint and emissions intensity of the overall portfolio. Increasing the gold allocation decreases the CO₂ footprint of a portfolio even when compared to an allocation to the S&P 500.

The current impact of decarbonization on prices is minimal - be it from emissions trading or carbon taxes. We must complete the green transition of the economy to prevent the Earth from turning into a frying pan.

Christine Lagarde

To improve is to change; to be perfect is to change often.

Winston Churchill

I am anti-tax, but I am pro-carbon tax.

Elon Musk

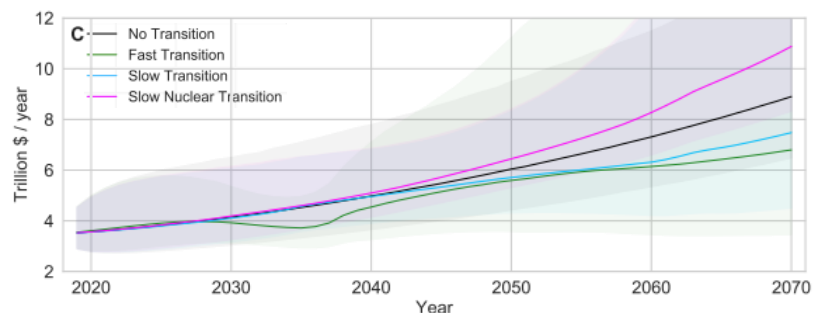
We start this year’s article where we left the *In Gold We Trust* report 2021: the road to the Paris Accord, -1.50C by 2030.⁹⁰ We will be discussing COP26, the resulting paradigm shift to a low-emissions economy and its meaning for gold-producing companies. **We will be introducing a new metric for gold producers: all-in emissions costs.**

We will then look at gold’s competitive advantages over other asset classes with regards to CO₂ emissions and how gold can balance a portfolio’s emissions footprint. Finally, we will focus on a **recurring theme for the past 18 months: jurisdiction risk.**

COP26: Driving the Change for the New Economic Paradigm

After a 12-month pandemic delay, the UN Climate Change Conference (COP26) was held in Glasgow in October 2021. This was *the* international stage on which the main ESG objectives for the next five years, if not decades, were defined. **The summit concluded with the unanimous adoption of the Glasgow Pact**, which aims to increase climate-control ambitions and actions by keeping the 1.5°C target alive, better defining the urgency of tackling global warming and, in doing so, reducing greenhouse gas emissions (GHG). This will require vigorously pursuing the 2050 path to net zero emissions with actions rather than mere promises.

Energy transition cost



Source: Way, Rupert, Penny, Mealy and Farmer, Doyne J: "Estimating the costs of energy transitions scenarios using probabilistic forecasting methods," *INET Oxford Working Paper*, No. 2021-01, p. 12

To achieve net zero, an unfathomable amount of capital will have to be continuously deployed for decades. **Consequently, where will the funds come from?**

⁹⁰ See "ESG and Your Portfolio – Building a More Sustainable Future," *In Gold We Trust* report 2021

Will the New Low-Carbon Economy Save the Planet or Governments?

I've got 99 problems, but the new low-carbon economy isn't one.

Not Jay-Z

You guessed it: Funds will flow from the central banks' printing presses. **As quantitative easing would gradually give way to quantitative tightening, central banks are on the lookout for new means to artificially boost the economy to avoid an economic meltdown and continue the endlessly ballooning growth.** No government leader wants to be admitted to an austerity rehab program. In this vein, COP26 has provided the ideal escape route: saving the planet, one tonne of CO₂ at a time, by focusing on energy transition and reducing CO₂ emissions, whatever the cost. The new economy will avoid CO₂ as much as possible.

Financing the energy transition will allow governments to undertake new debt-creation objectives:

- **Raise monetary velocity:** higher number of times one unit of currency is spent to buy goods and services per unit of time
- **Create high-skilled employment opportunities**
- **Replace lost opportunities in fossil fuels**
- **Increase taxes:** implementation of unified carbon credit system

So, I came up with 'eMMT', which stands for Environmental Modern Monetary Theory.

Marin Katusa

To meet these objectives, money will have to flow differently than it has since QE was first implemented. Money will not go to bankers and a select few, as previously, but to consumers, contractors, project owners, and financiers who are assisting in the fight against climate change. **As discussed in last year's *In Gold We Trust* report,⁹¹ we believe that gold miners should benefit from such new financings and should focus on financing the energy transition, with the main goal of maximizing emissions reduction.**

Gold Miners and CO₂ Emissions

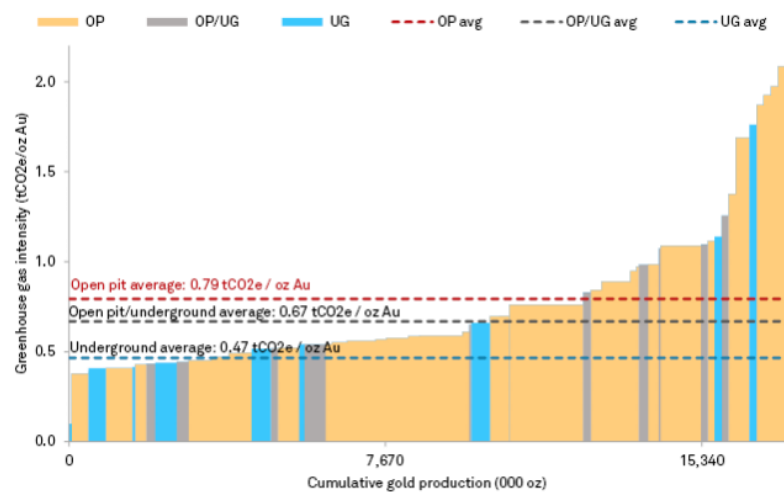
The way in which mining organisations position themselves today in preparation for this more sustainable future could redefine competitive advantage over the next decade.

Steven Walsh

Gold mining companies emitted an average of nearly 1 tonne of CO₂ per ounce of gold produced in 2019. However, strong differences exist both regionally and between open-pit versus underground mining methods. Underground mining operations have on average lower CO₂ emissions than open-pit or hybrid mining, as seen in the following chart.

⁹¹ See "ESG and Your Portfolio – Building a More Sustainable Future," *In Gold We Trust* report 2021

Gold mines emission average as function of mine type



Source: S&P Global: "Greenhouse gas and gold mines – Emissions intensities unaffected by lockdowns"

The following case provides an interesting insight into emission-reduction possibilities, but also underlines that many other factors influence the emissions of a gold mine:

- **Barrick/Newmont Nevada JV:** Due to a rise in Scope 2 emissions from electricity purchased rather than produced on site, the joint venture's 2020 emissions were 3.6 MtCO₂e, a 25% increase year over year. The mine's coal-fired TS Power Plant has now been converted to run on natural gas by Barrick and Newmont. The transition should eliminate around 650,000 tCO₂e, or about 24% of the site's 2020 Scope 1 emissions, once completed.

Introducing a New Concept: All-In Emissions Cost (AIEC)

These numbers are increasingly important – carbon taxes could come in, so you need to establish your exposure.

George Cheveley

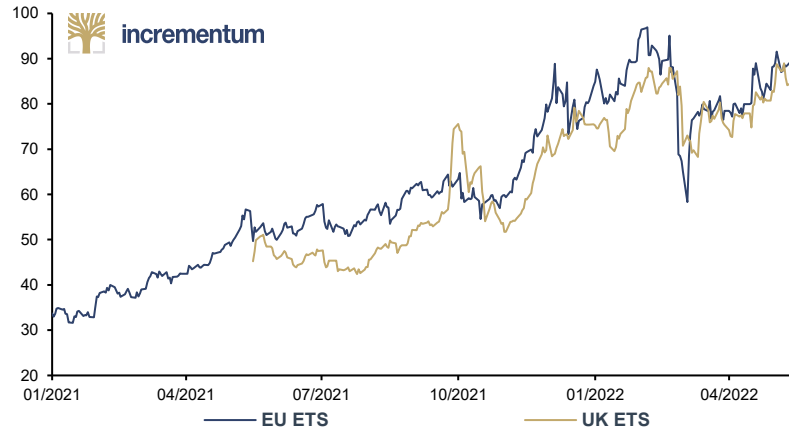
Comparing gold mining companies or future gold mines solely on emissions is extremely difficult, as emissions are reported as nonfinancial information. The incorporation of nonfinancial data into financial reporting is simply deficient. Investors must sift through sustainability reports for hours to determine the costs – both present and future – of Scope 1 and Scope 2 emissions. **In the new low-emission economy, a new economic metric must be created for the mining sector: all-in emissions cost (AIEC).** This metric will translate nonfinancial into financial, actionable costs for investors and stakeholders.

$$\text{AIEC} = \frac{\text{Scope 1 \& 2 emissions times carbon credit price}}{\text{total ounces produced}}$$

The AIEC is the total of all Scope 1 and Scope 2 emissions of a gold mining company, multiplied by the projected regional carbon credit price, divided by the amount of gold produced. Scope 1 emissions occur directly in the company, while Scope 2 emissions are indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling. (Scope 3 emissions are those that occur in the upstream and downstream supply chain. They are not included in AIEC.) **For**

gold miners, we believe AIEC will be widely adopted throughout the industry in short order.

EU ETS, in EUR, and UK ETS, in GBP, 01/2021-05/2022



Source: ember-climate.org, Incrementum AG

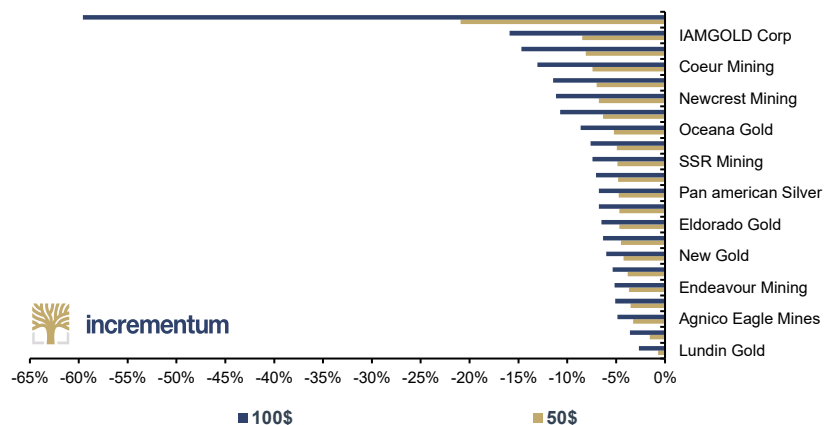
We are looking at climate stress tests. I think it's very likely that climate stress scenarios, as we like to call them, will be a key tool going forward.

Jerome Powell

As seen in the above chart, current carbon credit prices vary in different regions of the world and could accordingly lead to financial benefits and improved economics, depending on the jurisdiction. We believe AIEC should not be included in AISC, but rather be seen as a stand-alone metric. **This will become one of the most important metrics for new gold mining project financing**, as it indicates long-term capital exposure and allows investors to easily translate CO₂ emissions into US dollars and incorporate the result into their financial models.

AIEC will also allow investors to understand their current exposure and move capital according to the actual costs of emissions rather than solely on the basis of generic ESG scores regarding emissions.

Negative Impact of the Carbon Credit Tax, in % of EBITDA



Source: Bloomberg, S&P, Reporting Companies, Incrementum AG

For most gold mining companies, the imposition of a carbon tax would have limited impact on their balance sheets. Additionally, for companies with high emissions, the tax would serve as an incentive to rapidly plan and execute their energy transition.

Portfolio Allocation: CO₂ Impact of Gold as a Financial Asset

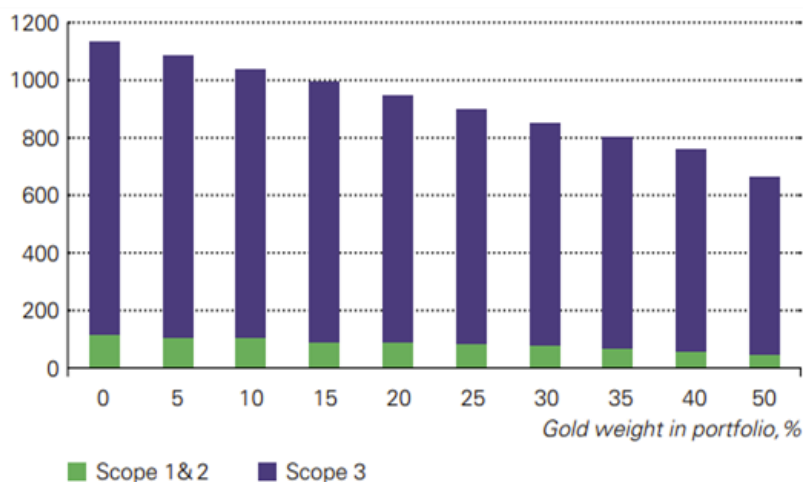
Ignoring the need for ESG-focused knowledge and talent can have an effect on the company's technical analysis, risk management, auditing, and disclosure capabilities. We can't wait on this. We've got to do it today.

Jennifer Reynolds

Gold has a significant advantage over other metals and, more broadly, most financial assets. When tracking a product's CO₂ exposure, most of the impact is frequently attributed to Scope 3. However, **Scope 3 emissions from gold mining companies are almost nonexistent**, because their product, gold bars, will undergo very little transformation, mostly through jewelry making and minting. Also, and counterintuitively, **gold has extremely low Scope 1 and 2 CO₂ emissions per ounce of gold** produced for such large operations.

Consequently, **increasing gold allocation in an investor's portfolio results in a notable positive impact on the carbon footprint and emissions intensity of the overall portfolio.**

Gold allocation and portfolio carbon intensity (tCO_{2e}/USD 1mn)



Source: World Gold Council: "Gold and climate change – Decarbonising investment portfolios", p. 2

Today, buying gold or gold equities is not only a good investment from an ESG perspective, but given its work in remote, poor or otherwise neglected areas of the world, it can also be one of the best impact investments you can make.

Peter Sinclair,
Advisor, World Gold Council

For a portfolio of 70% equities and 30% bonds, introducing a 10% allocation to gold (and reducing other asset holdings by an equal amount) lowered the emissions intensity of a portfolio by 7%, and a 20% holding in gold lowered it by 17%, as calculated by the World Gold Council in a report titled "Gold and climate change – Decarbonising investment portfolios".

Even more interesting, studies have shown that not only does gold allocation have a positive impact on portfolio CO₂ emissions, it also maintains its advantage against the S&P 500 and even the carbon-efficient version of the S&P 500.

Depending on how emissions calculations evolve over time, physical gold could be the only truly neutral emissions asset, as physical gold has zero emissions because all emissions are produced when mining and refining the gold. **Holding physical gold produces no emissions. This means that soon physical gold could improve the emissions impact of a portfolio even more, and increase its CO₂ diversification.**

One problem with many green bonds is that they are issued by governments or government agencies, making them harder for central banks to buy at a good price.

**Jarno Ilves,
Bank of Finland**

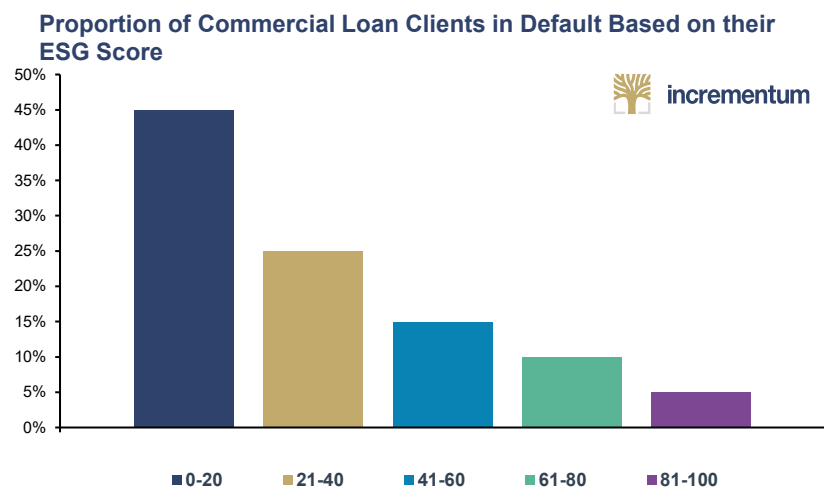
...the possible causality between sustainability and credit risk could convince regulators to allow banks to hold less capital against loans to companies with high ESG metrics.

Bain & Company

Should investors now consider only emissions when investing in a gold mining company? Such thinking would be extremely reductive of all issues regarding ESG. Even if the consequences of the COP26 resolution adoption is to focus mainly on emissions, gold miners are facing increasingly difficult external factors, rendering investment decisions for all stakeholders, from producers to bankers or investors, increasingly more complex.

ESG and Credit Risk Opportunity

The correlation between ESG score and stock performance has been well documented and established.⁹² Mining stocks with higher ESG ratings have outperformed the market and demonstrated greater resilience, a correlation that has persisted throughout the Covid-19 outbreak. However, as we are looking at the aspects of a low-carbon economy, how does ESG translate in terms of loan-default rates for bankers? Is there an incentive for both the creditor and the borrower to finance top-tier ESG-rated companies and projects at better rates and lending conditions? **The answer is yes, as the percentage of commercial loan clients in default is directly proportional to the debtor's ESG score.**

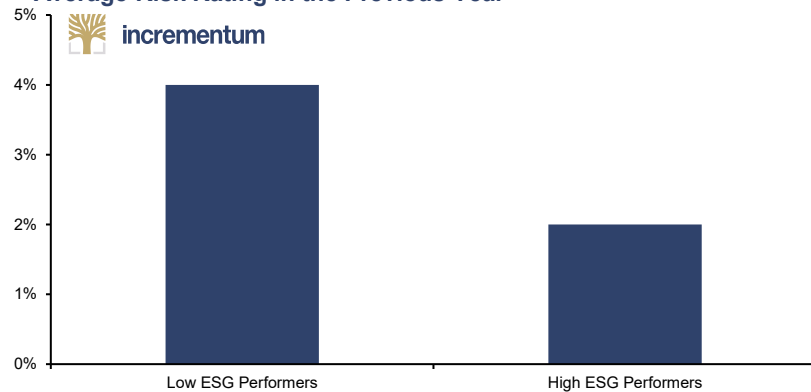


Source: Bain & Company, Incrementum AG

Even more interestingly, when directly comparing companies a year after they started at the same risk rating, **low ESG performers were roughly twice as likely as high ESG performers to fall behind on payments over the course of the year.**

⁹² See "ESG Compliance and Financial Stability," *In Gold We Trust* report 2020

Commercial Loan Customers in Default Based on the Same Average Risk Rating in the Previous Year



Source: Bain & Company, Incrementum AG

There is a growing body of evidence to demonstrate that taking ESG matters seriously improves business performance; ESG best practice must become integral to the business and should be a given.

Kamran Ahmad

Investment committees will have to dig even deeper into their ESG analysis to increase the accuracy of their risk models and improve their client’s risk evaluation. **This could translate into better financing terms and conditions and improve funding costs for top-tier ESG performers.** Investors’ demand for sustainable assets currently outstrips supply, and a bank that can securitize and sell its ESG-intensive loans will be able to obtain cheaper funding from governments. This will result in better terms and conditions for their clientele.

Jurisdiction Risk: Opportunity or Damnation?

Jurisdiction risk, which has always been among the biggest risks in mining investment, has now risen to third place, and is still rising.

There are currently over 50 gold-producing countries. Of these, only 15 countries account for almost 75% of current world production. None of these countries have clear targets on how to achieve net zero by 2050, and most of them present high political and economic risk.

Risk Assessment of the 15 Major Gold Producing Countries, 2020

Country	Production, in Tonnes	Jurisdictional Risk (Economic and Political)	CAT Net Zero	Scope 1, 2 & 3 Absolute Emission per Tonne of Gold
China	368	High	Bad	n.a.
Russia	331	High	Bad	14,421
Australia	327	Low	Bad	16,449
USA	190	Low	Average	15,031
Canada	170	Low	Average	9,795
Ghana	138	Moderate	Bad	13,333
Brazil	107	High	Bad	6,452
Uzbekistan	101	High	Bad	n.a.
Mexico	101	High	Bad	17,211
Indonesia	100	Moderate	Bad	n.a.
South Africa	99	Moderate	Bad	23,710
Peru	97	Moderate	Bad	10,268
Mali	93	High	Bad	n.a.
Burkina Faso	93	High	Bad	n.a.
Sudan	83	High	Bad	n.a.

Source: Climate Action Tracker, World Gold Council, Mining.com, Emission (tCO_{2e}) per Ton of Gold, Incrementum AG

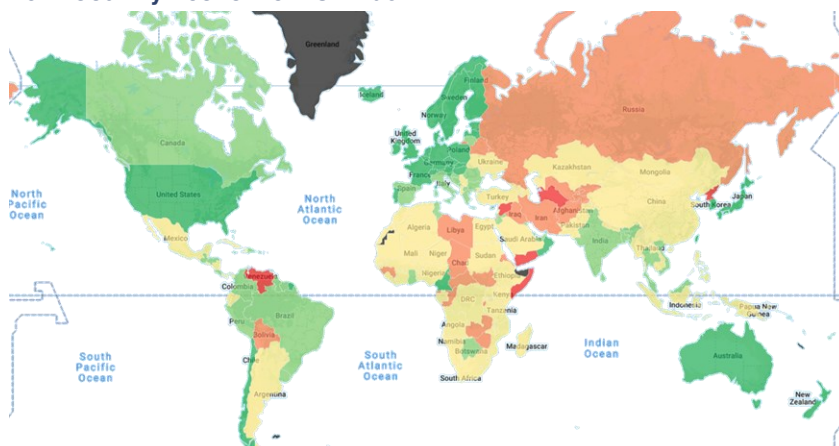
These countries' gold mining companies have the best opportunities to move from planning to action and embrace the energy transition, both for self-produced and purchased energy. **By committing to phase out fossil fuels as soon as possible, these companies will be seen as change agents in their communities, setting an example of responsible behavior and avoiding a massive increase in the price of carbon credits.** As previously stated, the incentive is significant because current demand for financing such projects exceeds supply, putting downward pressure on financing costs.

Political Risk

Sometimes, the easiest way to solve a problem is to stop participating in the problem.
Albert Einstein

Geopolitical paradigm shifts are underway, and the mining industry is at the center of many of them. Jurisdictional risks, more specifically political and economic risks, are now one of the top three concerns when a vetting committee examines a new investment.

2021 Country Economic Risk Index



Source: Marsh

Nature, when left to universal laws, tends to produce regulation out of chaos.

Immanuel Kant

As discussed previously, many gold mining companies have been impacted by political unrest and government interventionism in the past year, or are expected to be impacted in the near future:

- **Papua New Guinea:** The government revoked Barrick’s “social licence” to operate. Only after Barrick ceded 51% control interest back to the PNG government was the mine put back into production.
- **Mali:** A coup d’état has had no direct consequences for gold miners for the moment.
- **Sudan:** The prime minister resigned over tensions between civilians and the army, with no direct consequences for gold miners at present.
- **Kazakhstan:** The government resigned in January 2022 after mass protests and riots over oil price increases, with no immediate consequences for gold miners.
- **Kyrgyzstan:** The government seized Centerra’s Kumtor gold mine.
- **Russia:** As a result of the invasion of Ukraine by Russia, central banks temporarily suspended buying Russian gold production. Russian gold producers have been excluded from the FTSE equity indices. There has been massive divestment by strategic investors such as BlackRock.
- **Chile:** The supreme court forced the closure of Barrick’s Pascua-Lama mine. Moreover, Chile is currently looking into the possibility of nationalizing copper and lithium mines and has increased their tax rate to as high as 80%.

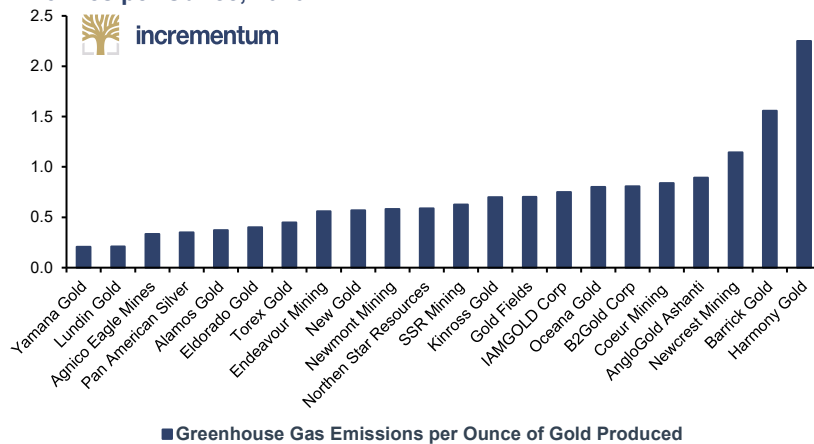
Best and Worst in Class, 2021

Gold actually has a much better standing at actually providing negative correlation.

Chris Brycki

It is always difficult to establish best and worst in class based strictly on ESG scores. Diving deeper into ESG scores, we identified the best and worst performers per GHG emissions per ounce of gold produced, as well as per total Scope 1 and Scope 2 emissions.

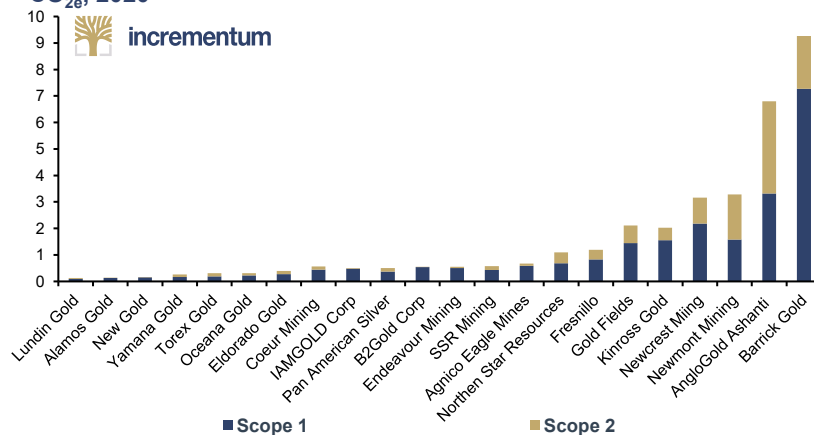
Greenhouse Gas Emissions per Ounce of Gold Produced, in Tonnes per Ounce, 2020



Source: Bloomberg, S&P, Reporting Companies, Incrementum AG

There seems to be correlation between companies' ESG scores and emissions, both per ounce of gold and per Scope 1 and Scope 2 emissions. As seen in the graph below, two companies, AngloGold Ashanti and Barrick Gold, are emitting massive amounts of CO₂. These companies mostly use coal to produce electricity and should focus on rapidly transitioning to renewable energy.

Gold Miner Emissions by Scope 1 and Scope 2, in mn Tonnes CO_{2e}, 2020



Source: Bloomberg, S&P, Reporting Companies, Incrementum AG

Traceability: Sooner Rather than Later

How can investors know if the gold bar they bought came from one of the best or one of the worst ESG-performing gold producers? They must be able to assess where, how, and with which type of energy their gold was mined. Investors want to stay clear of any gold mined by criminal gangs or in conflict zones. To answer this growing need, the World Gold Council is developing, with the help of the London Bullion Market Association (LBMA) as well as aXedras and Peer Ledger, a digital system to track gold through the supply chain. Using blockchain technology, all transactions and movements will be tracked on a ledger.

This ledger will not be fully public in the way that Bitcoin's is, but will be made available only to stakeholders. This initiative, with a focus firstly on simple traceability, will evolve into a fully transparent supply and custody chain for gold bars and coins.

How to Navigate Around All These Risks

The investment landscape comprises a spectrum of approaches, including a growing number of ESG factors. Strategies that use ESG as an additional consideration in the investment process, rather than relying on screening-based investment restrictions, are gaining in popularity. Events in the oil and gas sector in May 2020, when a Dutch court ruling accelerated Royal Dutch Shell's goal to reduce carbon emissions from 20% to 45% by 2030, and on the same day Exxon Mobil Corp. was forced to accept two board members chosen by Engine No. 1, an activist hedge fund, perfectly demonstrate how ESG is not only here to stay but will shape corporate behavior from now on.

The ESG and green transformation is simply the single largest policy bet ever undertaken, and the main consequences will be inflation and ever lower real rates.

Steen Jakobsen

To assist this transition, the [UN Principles for Responsible Investment \(UNPRI\)](#) provides a highly practical framework. It lists six principles to help asset owners and managers structure an approach to ESG that is consistent with international peers, while remaining broad enough to avoid confining them to an unrealistic mandate. Since its inception in 2006, the UNPRI has gathered almost 4,000 signatories, [with just over USD 120trn in assets under management as of 2020](#). Clearly, investors are no longer staying on the sidelines and waiting for the perfect solution, but are taking part in shaping tomorrow's world in a more sustainable fashion.

Conclusion

Forget the "super-cycle", this is bigger.

Robert Friedland

Government intervention is on the rise all over the world. Given how difficult it is to assess the true outcome of COP26, the resulting paradigm shift to a low-emissions economy and mining nationalization, gold mining companies must commit to planning and implementing net-zero-by-2050 strategies. If not for the sake of saving the planet, they should do so in order to be able to access current favorable financing conditions.

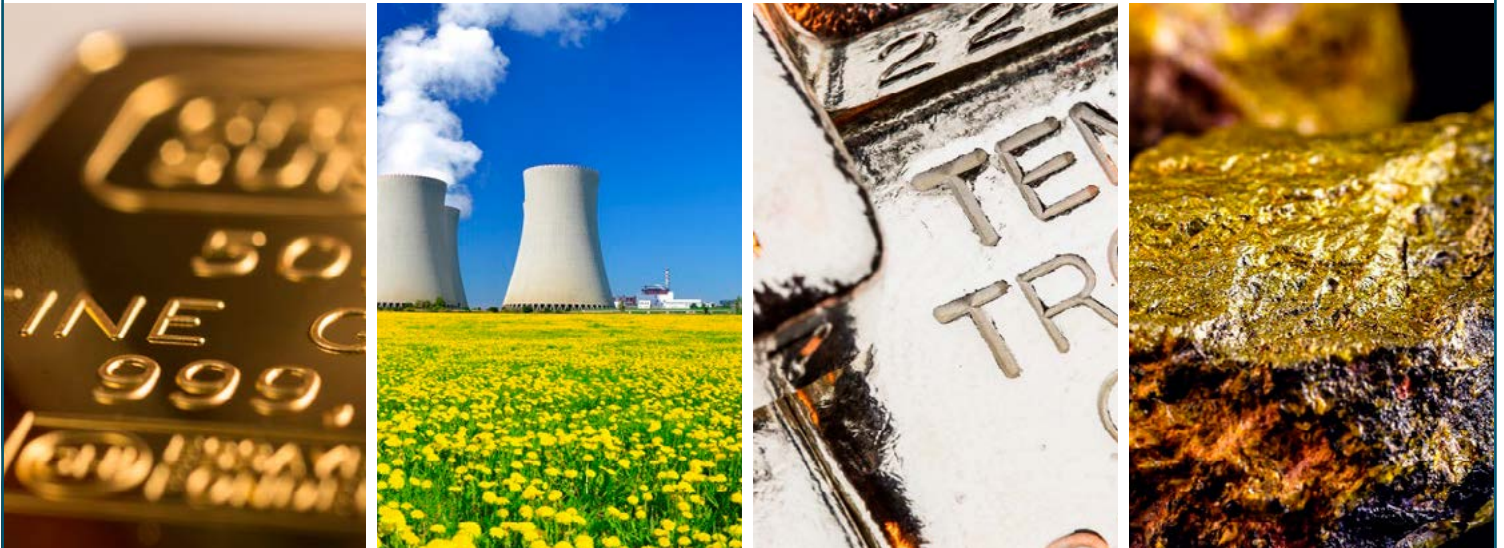
Everybody complains about the weather, but nobody does anything about it.

Mark Twain

To conclude, investors should prepare for the oncoming inflationary storm while avoiding the additional costs of the low-carbon economy. They should actively consider investing in gold miners with good ESG ratings and increase their gold allocation.

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Technical Analysis

“Patience is very bitter, but its fruits are sweet.”

Jean-Jacques Rousseau

Key Takeaways

- Since gold’s all-time high in 2020, a consolidation has taken place, which should provide a healthy foundation for further price increases.
- The Coppock indicator generated a long-term buy signal at the end of 2015. The cup-handle formation is still intact, but the breakout attempt has failed several times. The price target of this formation would be USD 2,700.
- The Optix Gold Index is at 49 and thus in neutral territory. Although sentiment has clouded recently, an extreme bearish washout has not (yet) taken place.
- Seasonal analysis of the gold price shows that in years with US midterm elections, seasonal headwinds set in from the end of May but reverse again in early July. June is, after May, the second weakest month in midterm election years.
- The Midas Touch Gold Model™ switched into bearish mode on April 19. The initial situation has deteriorated further since then, and a sustainable bullish signal is not discernible at the moment.

After our comprehensive macroeconomic and fundamental analysis, we now turn to the technical analysis of the gold price. Last year we wrote in this space:

“The analysis of market structure, sentiment, and price patterns leads us to a positive technical assessment. Since the all-time high in August last year, a speculative shakeout has taken place, which should provide a healthy foundation for further price increases. ... In this respect, the conditions for the continuation of the new bull market seem excellent from a technical perspective.”⁹³

This assessment has turned out to be partially correct. A few days after the publication of the *In Gold We Trust* report 2021, a downtrend started, which only bottomed at USD 1,680 (38.2% Fibonacci retracement of the uptrend from 2015 to 2020). This was followed by several months of consolidation, which ushered in a rally to near all-time highs in early 2022, before the gold price – at least on a USD basis – went into reverse gear again from early April.

Time is more important than price. When time is up price will reverse.

W. D. Gann

What is our current technical assessment of the gold price? For the long-term assessment, we once again refer to the Coppock curve, which has proved to be a reliable momentum indicator.⁹⁴ A buy signal occurs when the indicator, being below the zero line, turns upwards, i.e. assumes a positive value. The advantage of this indicator is that you can reliably detect major trend changes. Since the end of 2015, the indicator has been on “buy”. From summer 2020, the curve tended slightly south, but since December 2021 it is now back on an upward trend. The KST⁹⁵, on the other hand, has turned downward but is still in positive territory.

The long-term cup-handle formation, which could now soon be resolved, seems particularly interesting. The correction since August 2020 appears as the handle part of the formation. The price target can be estimated by measuring the distance from the right edge of the cup to the bottom of the cup and then extending further in the direction of the breakout area. **The price target of the formation remains at around USD 2,700.**

When all the experts and forecasts agree, something else is going to happen.

Bob Farrell

Let’s now take a look at market sentiment. Naturally, analysts become increasingly optimistic as a bull market continues, and vice versa. In the course of the ups and downs of recent months, price targets have now been lowered in the usual procyclical manner. Looking at the forecasts from the beginning of May 2022 for the end of 2022, a median price of USD 1,900 is expected. The price targets for the end of the following years are: USD 1,800 (2023), USD 1,787 (2024), USD 1,700 (2025) and again USD 1,700 (2026). De facto, the analysts therefore expect a sideways movement. This would be a development that – if you look at market cycles – seems extremely unlikely.

⁹³ “Technical Analysis,” *In Gold We Trust* report 2021, p. 322

⁹⁴ Specifically, we have two time-weighted momentum curves that are added together and whose long-term moving average is the Coppock line. We use a somewhat modified Coppock with slightly longer periodicities.

⁹⁵ Martin Pring’s *Know Sure Thing (KST)* indicator measures the price momentum of four different price cycles.

Bloomberg: Analyst consensus for gold: 2022-2026

Gold \$/t oz		As Of	Ticker Type Actual													
Quarterly Forecast		Yearly Forecast														
Overview		Curve Analysis					Ranking									
Firms		Standard					Custom					Rank All				
Consensus		Spot					As Of					Updated Last 6 Months				
Median	05/03/22	1900.00	1800.00	1787.00	1700.00	1700.00										
Mean	05/03/22	1891.98	1812.79	1791.06	1720.00	1700.00										
High	05/03/22	2068.00	2150.00	2000.00	1850.00	1800.00										
Low	05/03/22	1630.00	1406.25	1600.42	1610.00	1600.00										
Forward	1873.06	05/09/22	1889.13	1940.32	2046.53	2072.12										
Diff (Median - Curr)			+10.87	-140.32	-346.53	-372.12										

Source: Bloomberg

Nothing moves in a straight line, is the point. But picking bottoms is best left to the proctologists.

Dave Rosenberg

The picture is similar for silver. At the end of the year, a median price of USD 24 is expected, followed by a drop to USD 22.94 in 2023 and a minimum rise to USD 23 in 2024. However, the consensus is no longer really meaningful, as the number of active coverages on the part of the banks has been significantly reduced in recent years. **This confirms our hypothesis that silver is as popular in the financial sector as a pork knuckle and a pint of beer are for vegan teetotalers.**

Bloomberg: Analyst consensus for silver: 2022-2026

Silver \$/t oz		As Of	Ticker Type Actual													
Quarterly Forecast		Yearly Forecast														
Overview		Curve Analysis					Ranking									
Firms		Standard					Custom					Rank All				
Consensus		Spot					As Of					Updated Last 6 Months				
Median	05/03/22	24.00	22.94	23.02	22.99	24.50										
Mean	05/03/22	23.74	22.07	23.11	22.99	24.50										
High	05/03/22	26.80	28.20	26.95	24.70	24.50										
Low	05/03/22	21.00	17.50	20.00	21.27	24.50										
Forward	22.24	05/09/22	22.92	23.15	23.74	24.10	24.40									
Diff (Median - Curr)			+1.08	-0.21	-0.71	-1.11	+0.10									

Source: Bloomberg

The one who follows the crowd will usually get no further than the crowd. The one who walks alone is likely to find himself in places no one has ever been.

Albert Einstein

Now let's take a look at the sentiment situation in the sector. One of our favorite sentiment indicators is the Optix Index from Sentimentrader.

This tracks the most common sentiment indicators as well as data from the futures and options market. The logic underlying this barometer is a simple one. When public opinion forms a strong consensus, this broad consensus is a good contra-indicator. The market is usually too bullish when prices have already risen (sharply) and too bearish when they have already fallen (sharply).

Man is not a rational animal; he is a rationalizing animal.

Robert A. Heinlein

If the Optix Index rises above the red dotted line at 75 points, it is time to become more cautious. If it is at 30 points or below, on the other hand, pessimism is pronounced and the downside risk is limited. Currently, the Optix Index is at 49 and thus in neutral territory. It can also be seen that no sentiment lows were marked in the course of the correction in recent months. This confirms our assessment that sentiment in the sector is basically constructive, but that a further washout seems possible.

Optix indicator and gold price, 2002-2022



Source: Sentimentrader.com

Never invest on the basis of a story on page one. Invest on the basis of a story on page sixteen that's headed to page one.

Don Coxe

Regarding the mood in the silver sector, we wrote last year: *“In silver, the party has apparently not really started yet, although the guests are now slowly arriving.”*⁹⁶ Further party guests have actually arrived in the meantime, but others have quickly left the party again in frustration. The Optix Index for silver is currently trading at 39, close to bearish territory.

Optix indicator and silver price, 2002-2022



Source: Sentimentrader.com

This year, we also want to take a brief look at seasonal patterns. The following chart shows the annual development of gold in US midterm election years. It can be clearly seen that seasonal headwinds set in from the end of May, but reverse again at the beginning of July.⁹⁷ June is, after May, the second weakest month in election years. From a seasonal perspective, further headwinds can therefore be expected in the coming weeks.

⁹⁶ “Technical Analysis”, *In Gold We Trust* report 2020, p. 331

⁹⁷ The seasonal charts were provided to us by our friends at www.seasonax.com.

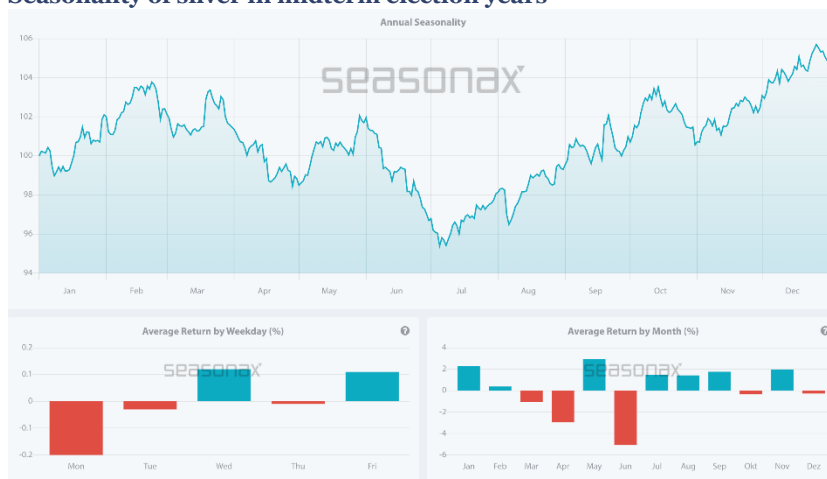
Seasonality of gold in midterm election years



Source: Seasonax.com

In silver, a strong seasonal uptrend can be seen from July. June marks the weakest month, and on a weekly basis, Monday seems to be predestined for anticyclical buying.

Seasonality of silver in midterm election years



Source: Seasonax.com

The Midas Touch Gold Model™⁹⁸

“Nothing has such power to expand the mind as the ability to systematically and truly examine everything you observe in life.”

Marcus Aurelius

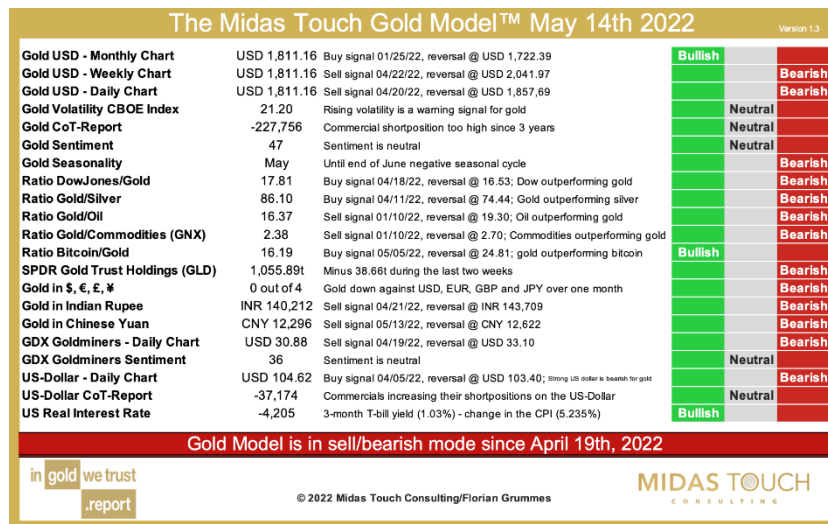
As always at this point, it is time for an update on the current status of the *Midas Touch Gold Model*™⁹⁹ as well as a short to medium term outlook from Florian Grummes. The Midas Touch Gold Model™ illuminates the gold market from many different perspectives through a rational and holistic approach. It convinces with its versatility as well as its quantitative measurability. Although

⁹⁸ We would like to thank Florian Grummes for this digression. Florian Grummes is the founder and CEO of Midas Touch Consulting (www.midastouch-consulting.com). Our readers can sign up for free updates and the associated newsletter at the following link: <http://eepurl.com/ccKg2r>

⁹⁹ A detailed description of the model and its philosophy can be found in: “Technical Analysis,” *In Gold We Trust* report 2016.

however, it is better to plan for a time frame of one to three years before the breakout above the bulwark between USD 2,000 and USD 2,070 will actually succeed.

Midas Touch Gold Model™



Source: Midas Touch, Tradingview

The first principle is that you must not fool yourself – and you are the easiest person to fool.

Richard Feynman

The Midas Touch Gold Model™ switched into bearish mode on April 19.

The initial situation has deteriorated further since then, and a

sustainable bullish signal is currently a long way off. In retrospect, numerous building blocks switched into bearish mode as a result of the price slide below USD 1,940 between April 18 and April 22. In particular, these were new sell signals on the daily and weekly charts for the gold price in US dollars as well as in Indian rupees and on the GDX Gold Mines ETF. In addition, there was a sell signal from the Dow Jones/gold ratio. The gold/silver ratio turned due to the weak development of the silver price that had already occurred on April 11, thus giving an early announcement of the drama of the last weeks. Only the monthly chart for the gold price in US dollars, the Bitcoin/gold ratio, and negative real interest rates in the US currently contribute bullish signals.

Overall, the following conclusions can currently be derived from the Midas Touch Gold Model™:

- **On the monthly chart for the gold price against the US dollar, a buy signal is still active.** This would currently only be negated at prices below USD 1,722. On the upside, however, prices above USD 2,041 are needed to be able to classify the weekly chart as bullish again. Until then, USD 230 are missing. We must therefore assume that the gold price will probably need a lot of time until a new sustainable bullish setup is established on all three decisive time levels (monthly, weekly and daily).
- **The sharp rise in the gold/silver ratio also makes it clear that we will have to be patient.** It may still take a long time before the silver price heralds the next exaggeration phase on the upside with a clear outperformance against gold.
- **The weakness of gold against the other commodities is also striking.** Since a significantly weaker oil price is not foreseeable for the time being in

view of the difficult geopolitical situation, and many other commodities will increasingly suffer from supply difficulties, a new buy signal for the gold price will probably take longer.

- **Although Bitcoin has mercilessly outperformed gold in recent years, the Bitcoin/gold ratio currently favors gold.** It currently takes just under 16 ounces of gold to equal one Bitcoin.
- **The US Dollar Index rose by a good 17.3% in the last 12 months.**

Thanks to the steep rally, the DXY is currently trading at its highest level in 21.5 years. However, the strongly overbought, overheated situation could soon force a countermovement, which would allow at least a temporary recovery in the gold price. Should the DXY fall below 103.40, this component within the Midas Touch Gold Model™ changes to bullish.

Gold in USD (daily chart)



Source: Midas Touch, Tradingview

We believe that now is the time to start layering in gold exposure, not when the rest of the world tries to do so.

John Hathaway

On the daily chart, the gold price fell from USD 1,998 to USD 1,799 without much resistance in the last 20 trading days. Thus, the large dark green upward trend line was reached on Friday, May 13, and was not undercut at least per daily and weekly closing prices. Despite this sharp price slide and a clearly oversold situation, however, hardly any signals for a bottom and a possible recovery are discernible so far. Rather, the support zone around USD 1,850 was cracked within five trading days. The 200-day line (currently USD 1,836) withstood the pressure of the bears for only two trading days. The stochastic oscillator would actually be strongly oversold, but has nestled below 20 for 10 trading days, thus tightening the downward trend for the time being.

Since the consequences of the bursting of the tech bubble are not yet fully foreseeable and a merciless liquidation wave has been pulling the rug out from under all markets on a large scale for weeks, significantly lower prices are also conceivable on the gold market. In the short term, the action-and-reaction principle should ensure a steep interim recovery around the December low of USD 1,750 at the very latest. This could even start now and lift the gold price at least back above the 200-day line in the direction of the USD 1,850 mark. In a second recovery step, a presumably unsuccessful attempt at the new downward trend line in the area of 1,900 USD would then be possible. Subsequently, the gold

price would have to undergo a second test of its slightly rising 200-day line until midsummer – after all, it is better to stand on two legs.

Great opportunities do not come every year.

Charles Dow

Alternatively, the crash on the financial markets will continue more or less straightforwardly. However, the bombed-out sentiment speaks against this. The gold price would certainly not be able to escape this crash scenario, similar to 2008's, and would probably reset to at least about USD 1,680. Therefore, in the current environment one must continue to drive cautiously and on sight. Only those who still have sufficient liquidity at the final low will be able to successfully exploit the opportunities that arise.

*The waiting is the hardest part
Every day you see one more card
You take it on faith, you take it to
the heart*

The waiting is the hardest part.

Tom Petty

All in all, the gold price is in very difficult waters, not only in chart terms but also seasonally. A bullish expectation has rarely paid off in the past between March and July. The best thing to do as a gold bug in this phase is to simply, patiently keep your feet still, because only from August onwards would the start of a new multi-month upward wave in the precious metals sector be conceivable.

Conclusion

Despite some weaknesses, technical analysis is a useful tool for determining the location and timing of investments. It is always important for us to understand the *big picture*, not only from a fundamental but also from a technical perspective.

The secret to being successful from a trading perspective is to have an indefatigable and an undying and unquenchable thirst for information and knowledge.

Paul Tudor Jones

The analysis of market structure, sentiment and price patterns leads us to a rather mixed technical assessment. Since gold's all-time high in August 2020, a speculative shakeout has taken place, which should provide a healthy foundation for further price increases. The Coppock indicator generated a long-term buy signal at the end of 2015. The resolution of the long-term cup-handle formation is proving to be much tougher and more protracted than expected. Although sentiment has clouded recently, an extreme bearish washout has not (yet) taken place.

From a seasonal perspective, the next few weeks could still bring headwinds. The recent increase in the relative strength of gold versus silver and mining stocks also makes us cautious. **In this respect, the conditions for the continuation of the bull market seem clouded from a technical perspective in the short term, and we expect a difficult market environment in the coming weeks.**

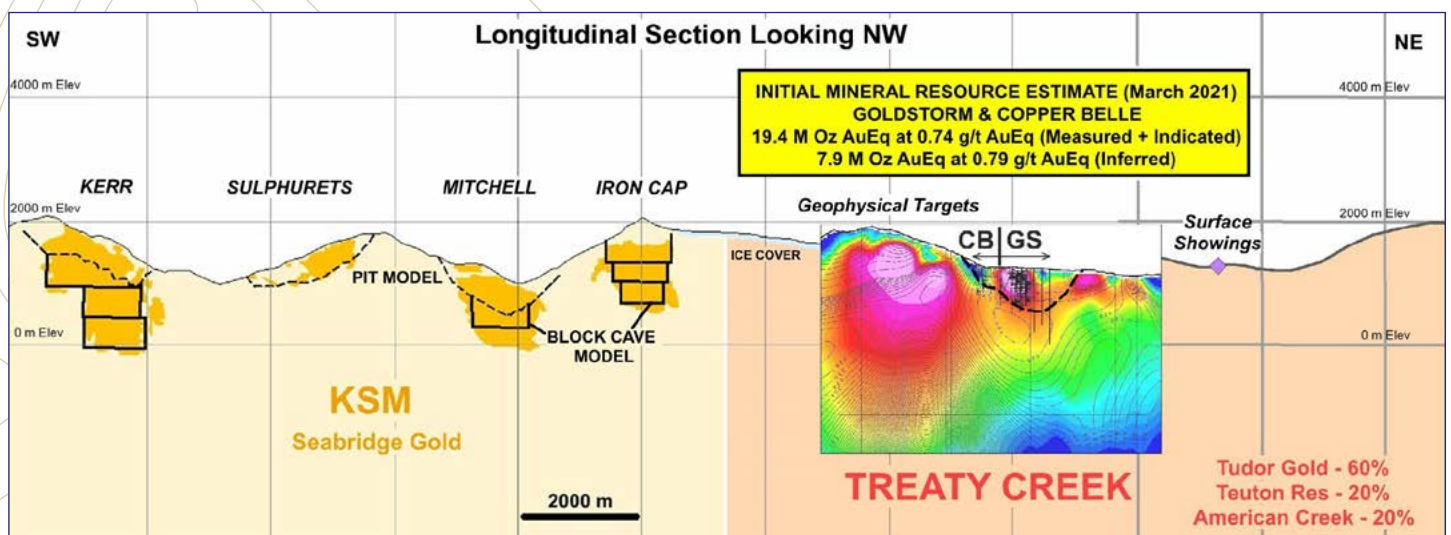


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- ✓ **Excellent Exploration Potential for discovery of other Mineralized Systems similar to Goldstorm Deposit**
 - Goldstorm Deposit remains open in all directions and depth – Tudor plans an extensive drill program in 2022.
 - Several high potential drill targets (e.g. Eureka, Perfect Storm, CBS) exist on the property, some of which have returned significant gold values from previous drill seasons.

Treaty Creek – One of the Largest Gold Discoveries of the last 30 years!



Quo Vadis, Aurum?

“Our New World Disorder will be characterized by greater volatility, higher inflation and deeper financial repression.”

Alexander Chartres

Key Takeaways

- Monetary policy has its back to the wall. It is forced to at least pretend to stand up to wolfish inflation without causing a recessionary bear.
- The Federal Reserve is acting late but (for now) decisively. Internationally, this is increasingly putting central banks under pressure to follow suit.
- The balancing act of fighting inflation without triggering distortions on the markets is doomed to failure. The vehemence of the tightening cycle that has begun threatens to end the Everything Bubble in an Everything Crash.
- The current wave of inflation could peak this year in the wake of rising asset price deflation. However, a reversal of monetary policy could already usher in the next wave of inflation.
- The price of gold has also been affected by the Federal Reserve’s tightening. Even though gold is doing well relative to all other asset classes this year, further headwinds are to be expected for gold in the short term.
- We are sticking to our long-term price target of USD 4,800 by 2030. For the gold price to remain on track until the end of the year, it would have to rise to around USD 2,200. Provided that monetary policy departs from the announced hawkish path, we consider this to be realistic.

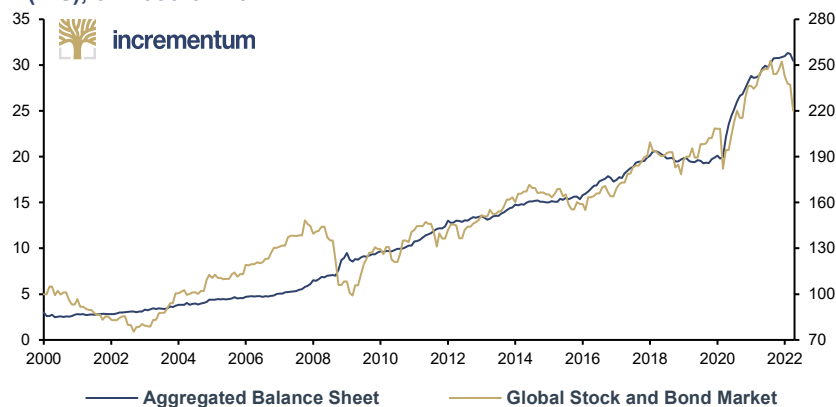
Everything Bubble, Stagflation, Everything Crash...

A financial crisis is a great time for professional investors and a horrible time for average ones.

Robert Kiyosaki

For years, the news has been dominated by reports of global crises. One disaster seems to follow the next: financial crisis, euro crisis, climate crisis, pandemic, and now, since February, a war in the middle of Europe. The seemingly chaotic and fragile times in which we live are causing increasing uncertainty and disenchantment with the news among large sections of the population. Remarkably, however, this uncertainty has so far manifested itself on the capital markets only in the short term. If you look at the long-term development of global stock and bond markets, you might think that all these crises had never happened.

Aggregated Balance Sheet of Fed, ECB, BoJ, and PBoC (lhs), in USD trn, and Global Stock and Bond Market Price Development* (rhs), 01/2000-04/2022



Don't become a mere recorder of facts, but try to penetrate the mystery of their origin.

Ivan Pavlov

A major reason for the spectacular returns for stock investors, but also for real estate and bond investors, especially in the past 25 years, is that every crisis was answered with ever more extreme monetary policy measures in line with the prevailing interventionist zeitgeist. Market participants have been conditioned like Pavlovian dogs to the *Fed put*. **The true costs of this policy of monetary largesse remained hidden for a long time.**

An essential point in the social philosophy of interventionism is the existence of the inexhaustible fund which can be squeezed forever. The whole system of interventionism collapses when this fountain is drained off: The Santa Claus principle liquidates itself.

Ludwig von Mises

The prerequisite for maintaining this deception was, first and foremost, the strong, structurally disinflationary forces. The flood of liquidity created out of nothing initially spilled into the capital markets and increasingly inflated asset prices. This *everything bubble* gave the impression that growth could continue unabated, that deficits and monetary expansion were not a problem, and that even global lockdowns and production stoppages could harm the economy only in the short term. However, the interventions in response to the Covid-19 crisis ushered in a change. **What we call monetary climate change was the beginning of a paradigm shift toward an inflationary environment. The war in Ukraine and the accompanying sanctions and export restrictions are just another accelerant.**

Now we are at the beginning of a major disappointment. While at least a small part of the population was able to enjoy rising asset values in times of

Will fiat currencies survive the policy dilemma that the authorities will experience as they try to balance higher yields with record levels of debt? That's the multi-trillion dollar question for the years ahead.

Jim Reid

The Fed is attempting a controlled demolition with a high potential for butterfly effects.

Paul Wong

disinflation, consumers as well as investors are finding life increasingly difficult in a time of increased inflation rates.

The omnipresent inflation means a noticeable reduction in the standard of living of the majority of people. When the *real pie* becomes smaller – whether in the form of higher prices, smaller package sizes, or thinner soups – this has far-reaching consequences for consumer behavior and investment activity. Distributional issues will be fought even harder socially, contributing to national and international tensions and further exacerbating the polarization that already exists. **The return of the wolf and all the calamities associated with it are increasing the pressure on monetary guardians to actually guard the purchasing power of the currency.**

Monetary policymakers therefore have their backs to the wall. They are forced to at least pretend to face the wolf. However, tentative attempts to stem the tide of liquidity are beginning to expose problems that have been masked for years, if not decades, by emergency measures. Just as in 2018, *when we warned of the inevitable consequences of the attempted turning of the monetary tides*, we are now issuing another explicit warning. **In addition to wolfish inflation, a bearish recession now looms.**

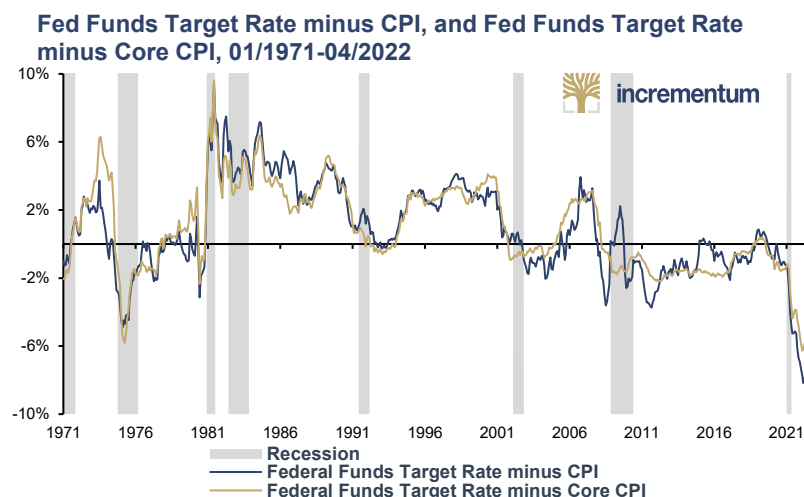
The Doomed Balancing Act



Courtesy of Hedgeye

In view of the decade highs in various inflation indicators – consumer prices, core inflation, producer prices, import prices – many a monetary policy dove has mutated into a hawk in recent months. In the US, there is currently the impression that the Federal Reserve cannot raise interest rates fast enough. This is hardly surprising in view of an inflation rate of 8.3%.

The real key interest rate has never been as low as it currently is. The first interest rate hikes have done nothing to change this. If the calculation of the real interest rate is based on the core inflation rate, the real key interest rate is at its lowest level since 1971.

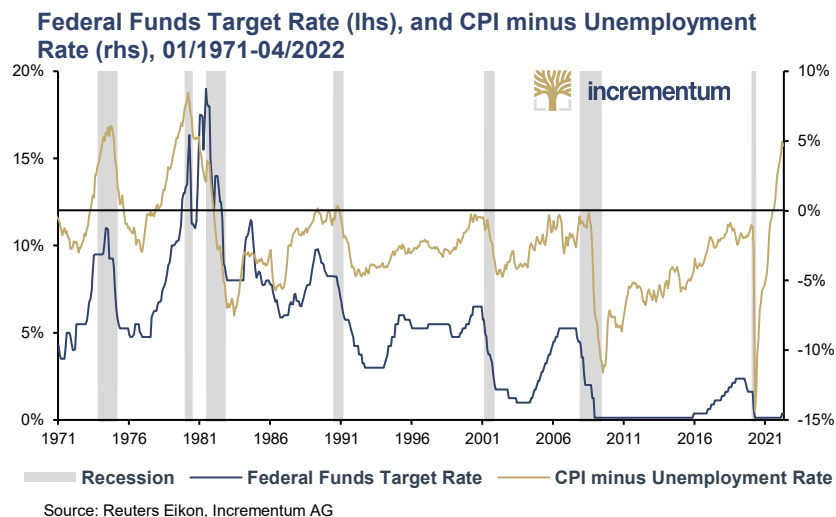


Source: Reuters Eikon, Incrementum AG

The last duty of a central banker is to tell the public the truth.

Alan Blinder,
Former Federal Reserve
Board vice chairman

According to official unemployment and inflation statistics, the Federal Reserve, which pursues a dual mandate regarding employment and price stability, should have acted long ago. The spread between the CPI and the unemployment rate in the US is currently higher than it has been for four decades. Back then, however, the key interest rate was 15 percentage points (!) higher than today.



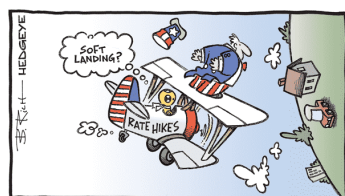
Volcker couldn't achieve a soft landing when he raised aggressively during high inflation with markets valued at 40% vs GDP & US debt at 30% vs GDP, but we are confident we can achieve a soft landing raising aggressively with markets valued at 190% vs GDP & debt at 124% vs GDP.

Sven Heinrich

Remarkably, **even Jerome Powell has recently admitted** that the Federal Reserve is now too late: *"If you had perfect hindsight you'd go back and it probably would have been better for us to have raised rates a little sooner."* Therefore, to preserve what was left of its credibility, the Federal Reserve had no choice but to announce aggressive interest rate moves and start implementing them. The pace and vehemence of the expected tightening cycle that has already begun – a Fed Funds Rate of nearly 3.50% by the summer of 2023 and an annualized QT pace of USD 1.14trn – would be the most aggressive monetary tightening since Paul Volcker.

In addition to curbing inflation, the declared further goal is to manage the turnaround in monetary policy without triggering a recession.

However, in our view, this balancing act of a *soft landing* is doomed to failure from the outset. A look at history and the latest *In Gold We Trust* reports¹⁰⁰ confirms our doubts .



Courtesy of Hedgeye

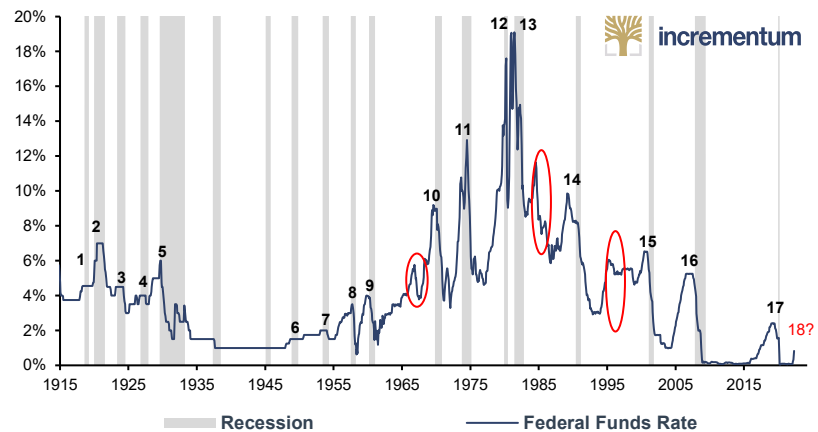
As a reminder, since the early 1980s, every interest rate hike cycle has ended below the peak of the previous cycle. This would mean that, according to the old pattern, rate hikes would stall at the very latest at an interest rate spread of 2.25–2.50%. Thus, in Q4/2018 the Federal Reserve was forced by markets to make a monetary policy U-turn towards a looser policy. The S&P 500 gave up more than 20% in the meantime; and already by January 2019 Powell abandoned the “autopilot” mode, which he had only announced at the beginning of December 2018, to the financial markets’ consternation.

¹⁰⁰ All previous *In Gold We Trust* reports can be found in our [archive](#).

But this time everything is supposed to be different – at least that is what the Federal Reserve and large parts of the economists’ guild want us to believe.

However, the following chart tells a different tale, as only 3 out of 20 interest rate hike cycles did *not* end in a recession.

Federal Funds Rate, 01/1915-05/2022



Source: Reuters Eikon, Incrementum AG

Quantitative tightening: very, very frightening

Dear @federalreserve
- we all know that your taper/rate hikes will trigger a recession and market crash. Can we just fast forward to NIRP and even more QE that always follow?

Zero Hedge

As a QT footnote, it is instructive to note that the Fed has never demonstrated much skill in reducing its balance sheet – almost every instance has led directly to US recession.

Trey Reik

The tightening of US monetary policy does not only consist of aggressive interest rate hikes. At the same time, quantitative tightening (QT), i.e. a reduction of the Federal Reserve’s balance sheet, is also planned. In our opinion, the QT plans are ambitious, not to say illusory. The Federal Reserve’s balance sheet is to be shortened by USD 522.5bn in 2022 alone and by USD 1,140bn in 2023. That would be a reduction of nearly 6% in the current year and another 13% or so next year. This process is set to continue until the Federal Reserve decides that the balance sheet has "normalized" or until the next crisis forces a turnaround. The latter is definitely more likely to occur.

Let’s take a look at the past. The Federal Reserve’s QE programs to date have had the following effects on capital markets:

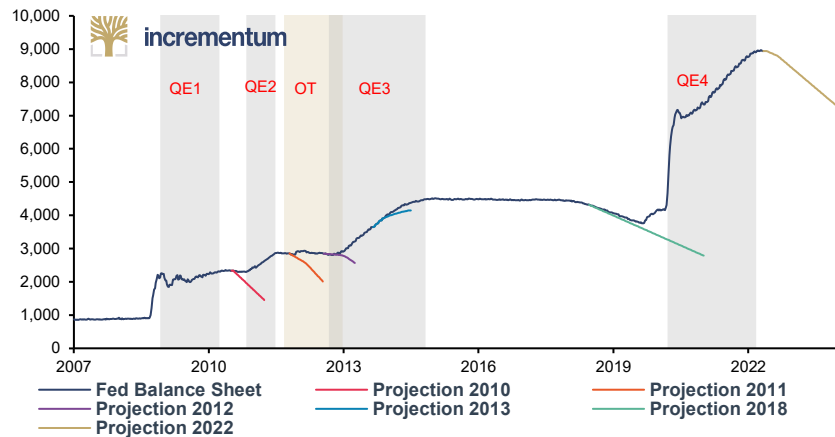
- Rising stock markets
- Increasing risk appetite
- Falling yield spreads (corporate bonds, junk)
- Falling interest rates
- Subdued price inflation
- Record low volatility

It seems obvious that QT has exactly the opposite consequences as QE.

As a reminder, the last tightening process was gradual and cautious. The Federal Reserve began QT in October 2017, almost two years after the first rate hike. QT volume was increased only slowly, from USD 10bn per month to USD 50bn per month in Q4/2018. The sharp equity market correction in December 2018 forced

the Federal Reserve to suspend rate hikes and announce a quick end to QT. Just a few quarters later, the Federal Reserve’s balance sheet grew again.

Fed Balance Sheet Path, in USD bn, 01/2007-01/2024e



Source: Reuters Eikon, Federal Reserve, Incrementum AG

If Mike Tyson gave me fair warning that he was going to punch me in the face, no matter how prepared I'll be, I'm still going to hit the floor.

Peter Boockvar

Financialization is profit margin growth without labor productivity growth.... Financialization is the zombiefication of an economy and the oligarchification of a society.

Ben Hunt

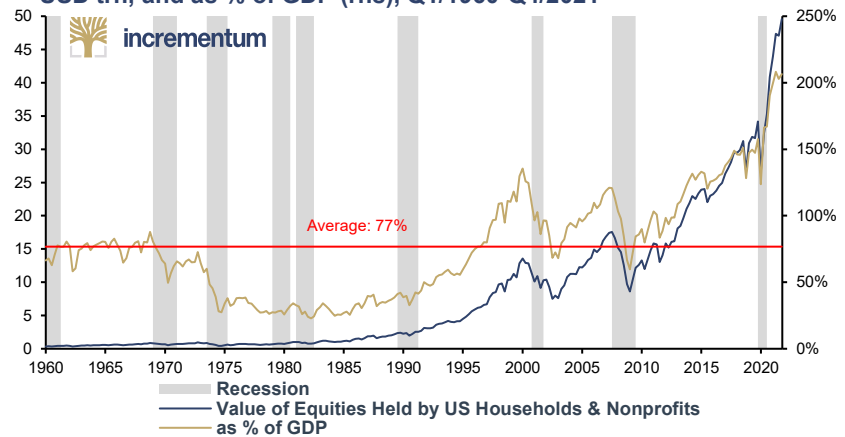
Can the reduction of the central bank balance sheet succeed this time without causing a recession and/or a replay of a financial crisis?

Considerable doubt is warranted. In its 109-year history, the Federal Reserve has attempted to reduce its balance sheet exactly seven times (1921-22, 1928-1930, 1937, 1941, 1948-1950, 2000, and 2017-2019).¹⁰¹ The 2017-2019 episode can be virtually disregarded, because the Federal Reserve had to quickly abandon its tightening policy. Prior to this experience, five of the Federal Reserve’s six historical QT efforts were followed by a recession, with 1941, the year of US entry into World War 2, being the only exception.

The Federal Reserve runs the risk of overestimating the impact of rate hikes and balance sheet reductions on containing inflation, just as it has underestimated the impact of rate cuts on boosting inflation. This is because the US consumer’s dependence on high and rising asset prices is greater than ever. As of Q4/2021, household equity holdings were at a new all-time high of USD 50trn. This amount is equivalent to twice the annual US economic output, well above the historical average of 77%. A decade ago, households owned only USD 12.8trn worth of stocks or about 80% of GDP. For this reason, a 20% correction today feels like a 60% plunge 10 years ago.

¹⁰¹ See Reik, Trey: "Broad Equity Valuation and Market Internals," Bristol Gold Group, March 31, 2022

Value of Equities Held by Households and Nonprofits (lhs), in USD trn, and as % of GDP (rhs), Q1/1960-Q4/2021



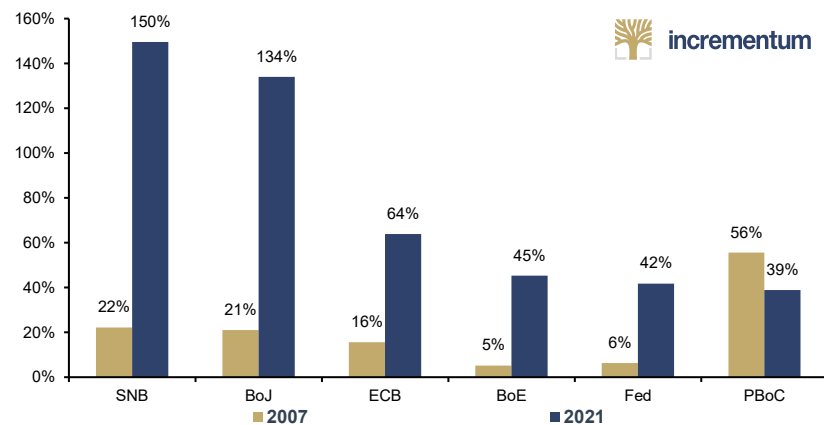
Source: Federal Reserve St. Louis, Incrementum AG

Liquidity is like the tide. When the tide rises, all the boats (financial assets) tend to float higher. When the tide goes out, all the boats (financial assets) tend to sink into the mud.

Richard Duncan

While the Federal Reserve is attempting to pull back on monetary policy, monetary surrealism is being blithely practiced elsewhere. The QE programs of the other major central banks, such as the ECB and the BoJ, are still ongoing, although here, too, there are increasing voices in favor of a cautious exit. The next chart clearly shows that the balance sheets of the BoJ and the SNB are significantly larger relative to GDP than those of their counterparts. It can also be seen that – with the exception of the Chinese central bank – central bank balance sheets have expanded massively in relation to GDP.

Central Bank Balance Sheets, as % of GDP, 2007 and 2021



Source: Central Bank Statistics, World Bank, Incrementum AG

An ornithological tutorial seems in order, as fewer hawks are now found in the ECB than chamois in the Netherlands.

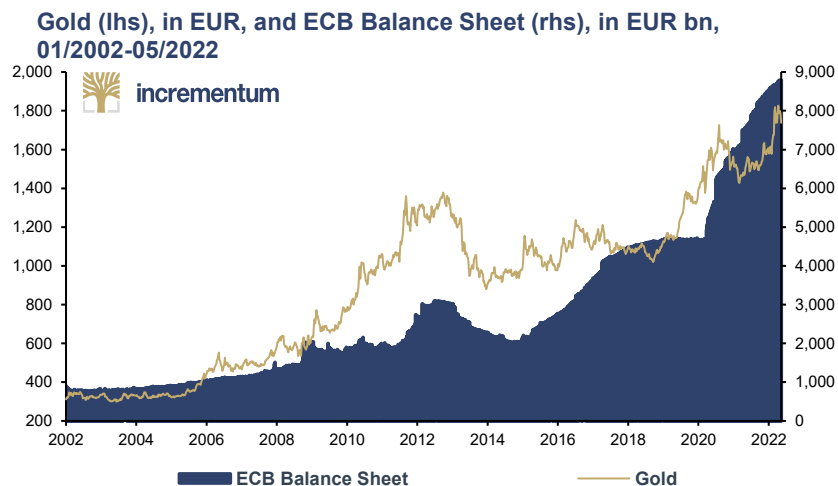
While central bankers in the US, the UK, and other countries have been late in getting the cycle of interest rate hikes underway, ECB President Christine Lagarde and many other representatives of the Governing Council seem to have no idea at all what a monetary policy hawk is. An **ornithological-economic tutorial seems in order, because there are now fewer hawks in the ECB than chamois in the Netherlands.** With the supposed gentleness of the dove, i.e. the greatest possible monetary policy passivity, the ECB hopes the inflation problem will disappear of its own accord. However, this view is not gentle or naïve, but rather incendiary. **In the euro area, for example, producer prices are now**

Will hiking rates off the near-zero line make a difference in economic behaviors? Oh yes! Just not the behaviors that the Fed (and the White House) expect.

Ben Hunt

rising at a rate of 5.3% per month, which is stronger growth than there used to be for the whole year.

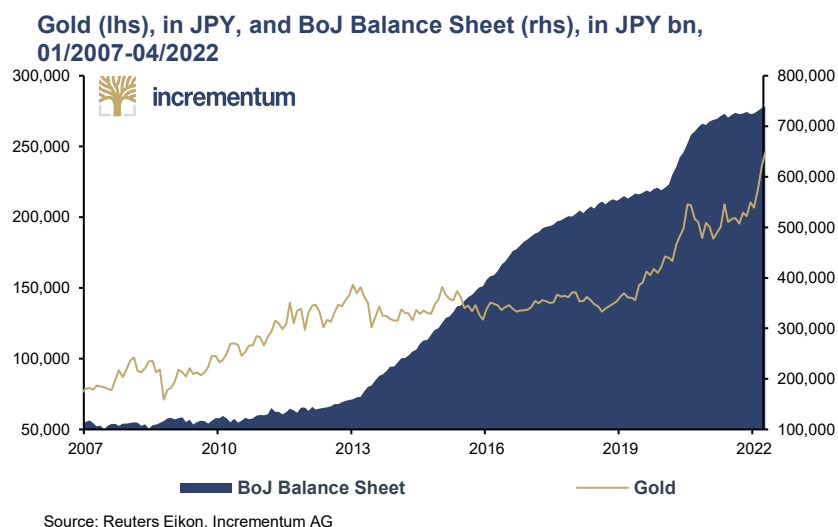
The hope that this wait-and-see approach will prevent another euro crisis will prove to be false. **The bitter losses of the euro against the US dollar – which only further increase inflationary pressure in the euro area – and the resulting performance of the gold price on a euro basis show this impressively.**



I've reached a point where I feel the only asset I have confidence in is gold.

Thomas Kaplan

Among the industrialized countries, monetary loosening seems to have progressed furthest in the Land of the Rising Sun. One should therefore pay particular attention to monetary policy developments in Japan, as they could serve as a blueprint for the Western world. The escalating yield curve control in Japan is already having an effect. **The gold price recently marked numerous all-time highs in JPY.**



The Powell pivot is alive and well and it is coming very soon.

Raoul Pal

The central banks thus face an insoluble dilemma, a dilemma they themselves caused by their ultra-lax monetary policy and aggravated for months by their denial of the inflation surge. They are now sitting in that pit they dug for themselves.¹⁰² The big question is: What happens if central banks have to hit the monetary policy pause button and then punch rewind? In our view, this would usher in the next wave of devaluation and inflation and further fragilize the currencies of the Western world. **In this case, nothing less than the credibility of central banks would ultimately be at stake. And with it, confidence in fiat money itself.**

Stagflation 2.0 – the Nightmare for Balanced Portfolios?

For a long time, the topic of inflation was as important to the capital markets as studying the snow report in the Sahara; so long that many investors forgot or never had to think about how certain asset classes behave in a highly inflationary environment.

Inflation is like kryptonite for bonds.

Jason Zweig

For a large proportion of mixed portfolios, simultaneously falling stocks and bonds are the absolute worst-case scenario. **In the last 90 years, there have been only four years in which both US stocks and bonds had negative performance in the same year. Currently, all indications are that 2022 could be the fifth year.**

Year	S&P 500	UST10Y
1931	-43.84%	-2.56%
1941	-12.77%	-2.02%
1969	-8.24%	-5.01%
2018	-4.23%	-0.02%
2022 YTD	-15.57%	-9.04%

Source: NYU, Reuters Eikon (as of May 13, 2022), Incrementum AG.

But what were actually the reasons for this *double whammy* back then?¹⁰³

- In 1931, in the midst of the Great Depression, the British pound, then the world's reserve currency, was devalued and taken off the gold standard. This had an inflationary effect.
- In 1941, the US was attacked by Japan and drawn into World War 2. Shortly thereafter, explicit yield curve control (YCC) was introduced, which was also inflationary.¹⁰⁴
- 1969 marked the beginning of a highly inflationary era, with the US devaluing the US dollar only 18 months later and Nixon releasing the US – initially *temporarily* – from the gold redemption obligation. This again had an inflationary effect.

¹⁰² See Stöferle, Ronald, Taghizadegan, Rahim and Hochreiter, Gregor: *The Zero Interest Trap*, 2019

¹⁰³ Gromen, Luke: FFTT, February 18, 2022

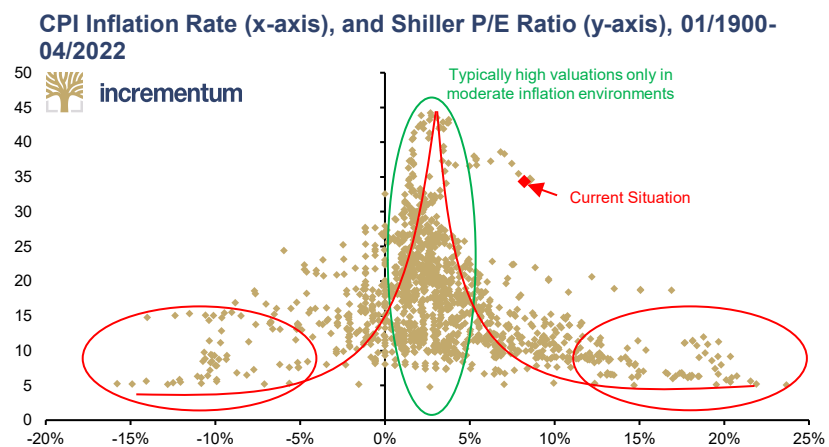
¹⁰⁴ See "The Status Quo of Gold," *In Gold We Trust* report 2021, pp. 43–45

- In 2018, the Federal Reserve was forced to end its interest rate hike program after heavy losses on the stock markets. Seven months later, the next rate-cutting cycle began. In response to the rise in repo rates, the Federal Reserve again began to expand its balance sheet. The effect was again inflationary.

Inflation was a sleeping dragon; this dragon has now awoken.

Otmar Issing

It can be seen that inflation played a central role in all the cases mentioned. But it is not only assets that are devalued by inflation but also the business models of many companies. **This is why we have repeatedly pointed out in previous years that selecting the right equity sector or the right company becomes significantly more important when inflation is above the “feelgood zone” of around 4%.** The fact that high inflation rates initially represent a headwind for equities is also confirmed by the next chart, which shows the monthly valuations of the S&P 500 based on the Shiller P/E ratio and the associated inflation rate.



It turns out that equities usually perform poorly in strongly deflationary and highly inflationary environments. This is mainly because companies’ sales and margins come under pressure. Because of the current high inflation rates, the S&P 500 is still too highly valued, with a Shiller P/E of just under 34. **In order to remain true to the previous empirical pattern, the Shiller P/E ratio would have to be roughly halved if the inflation rate remained constant.**

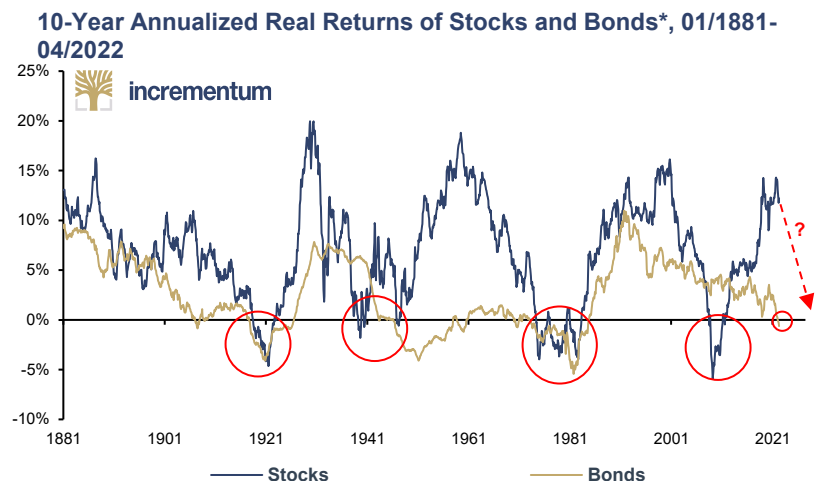
The US stock market today looks a lot like it did at the peak before all 13 previous price collapses. That doesn’t mean that a bear market is imminent, but it does amount to a strong warning against complacency.

Robert J. Shiller

To return to a value within the general statistical pattern, therefore, either prices, the inflation rate, or both would have to fall. We expect inflation in the USA to reach its *interim* high in the course of this year. Driven by weakening demand, increasingly recessionary tendencies, and fading base effects, inflation will slow down but is expected to remain above 5% yoy this year. **In this case, a continuation of the correction on the US equity market would be entirely appropriate from a valuation perspective.**

The following chart shows the course of 10-year annualized real returns of stocks (S&P 500 TR) and bonds (10-year US Treasuries) over the past 140 years. It is noteworthy that the returns are mostly symmetrical,

suggesting a positive correlation between the two asset classes over the longer term. But while equities are still yielding high returns, the annualized real return on bonds is in negative territory for the first time in almost 40 years.

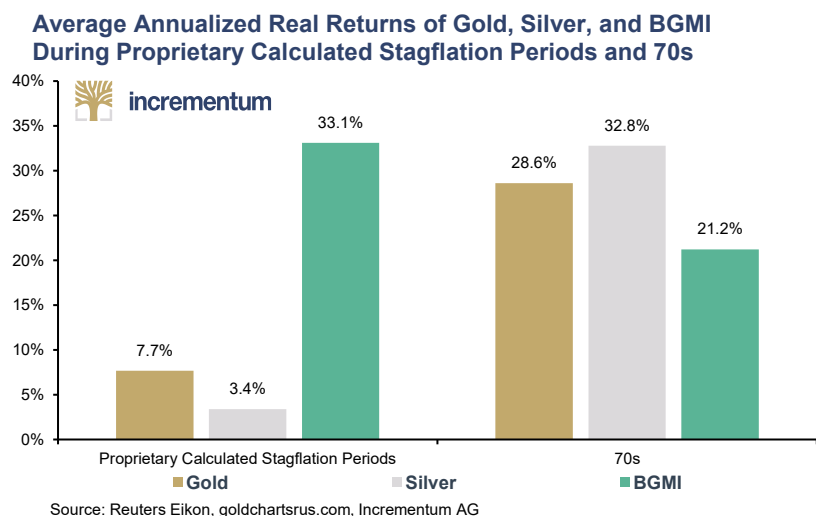


In the past 140 years, stock returns have slipped into negative territory only four times. The triggers were the two world wars, stagflation in the 1970s and the financial crisis of 2007/08. And each time before the long-term return collapsed, the stock market had previously been in a phase of euphoria, characterized by annualized returns of well over 10% in some cases.

I think the biggest potential surprise out there is that the stock/bond correlation – which everyone assumes will go to negative one in a crisis – instead goes to one.

Kevin Muir

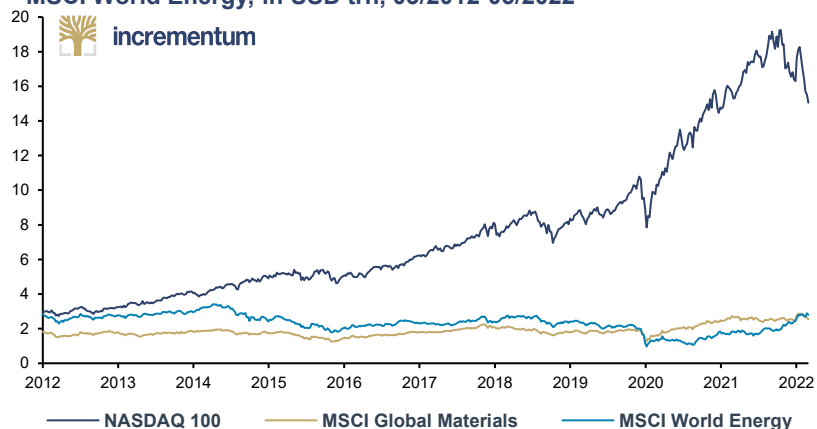
The high of the current cycle dates from September 2021 with a return of 14.3%. Since then, the return has gone slightly downhill. The question now is, what is the alternative or ideal portfolio companion to the broad equity market when bonds, with a high positive correlation to equities, have a negative long-term real return in the stagflationary environment? **Our quantitative evaluations show that gold, silver and mining stocks have historically outperformed in stagflationary times.**



One thing is certain: You will not be able to defeat a wolf and a bear in combination with a classic 60/40 portfolio. The historical performance of gold, silver and commodities in past periods of stagflation argue for a correspondingly higher weighting of these assets than under normal circumstances. But also, the relative valuation of technology companies to commodity producers is an argument for a countercyclical investment in the latter. *BoA's market strategists are already talking about FAANG 2.0:*

- Fuels
- Aerospace
- Agriculture
- Nuclear and renewables
- Gold and metals/minerals

Market Capitalization of NASDAQ 100, MSCI Global Materials, and MSCI World Energy, in USD trn, 03/2012-05/2022



Source: Bloomberg, Incrementum AG

For gold, recessions are typically a positive environment. As our analysis in the *In Gold We Trust* report 2019¹⁰⁵ has shown, times when the bear dominates in markets and the real economy are good times for gold. If we look at performance over the entire recession cycle, it is notable that in each of the four recessionary periods¹⁰⁶ gold saw significant price gains on average in both US dollar and euro terms. In contrast, equities as measured by the S&P 500 were only able to make significant gains in the final phase of the recession. **Thus, gold was able to superbly compensate for equity losses in the early phases of the recession.** Moreover, it is striking that, on average, the higher the price losses of the S&P 500, the stronger gold performed. **Once again, this worked well during the most recent recession in 2020.**

¹⁰⁵ See "Portfolio characteristics: gold as an equity diversifier in recessions," *In Gold We Trust* report 2019.

¹⁰⁶ Phase 1: Entry phase; Phase 2: Unofficial recession; Phase 3: Official recession; Phase 4: Last quarter of recession.

	Recession duration	S&P 500				Gold in USD				Gold in EUR			
		Phase 1	Phase 2	Phase 3	Phase 4	Phase 1	Phase 2	Phase 3	Phase 4	Phase 1	Phase 2	Phase 3	Phase 4
1 st Recession	Q1/1970 - Q4/1970	-1.8%	-4.6%	-7.0%	7.0%	-8.9%	-6.6%	0.0%	5.9%		4.6%	11.1%	3.0%
2 nd Recession	Q1/1974 - Q1/1975	-8.0%	0.3%	-15.0%	16.6%	-10.9%	58.5%	89.7%	-1.1%	7.2%	51.8%	51.0%	-6.2%
3 rd Recession	Q2/1980 - Q3/1980	7.1%	-2.1%	7.7%	10.0%	70.1%	-22.8%	-5.9%	21.8%	27.5%	0.5%	20.2%	-1.6%
4 th Recession	Q4/1981 - Q4/1982	-7.4%	2.9%	12.8%	15.9%	-14.6%	0.8%	1.2%	14.2%	2.6%	-4.8%	21.0%	10.4%
5 th Recession	Q4/1990 - Q1/1991	-10.7%	-0.1%	13.8%	13.9%	7.1%	-3.3%	-7.9%	-4.7%	4.6%	-9.3%	-12.2%	-3.6%
6 th Recession	Q2/2001 - Q4/2001	-5.7%	1.3%	-8.1%	0.5%	-1.5%	3.8%	5.4%	1.3%	-0.8%	8.3%	5.5%	-4.4%
7 th Recession	Q1/2008 - Q2/2009	0.5%	-10.2%	-50.4%	-18.0%	21.6%	14.3%	16.3%	24.0%	2.2%	12.2%	31.4%	19.8%
8 th Recession	Q1/2020 - Q2/2020	8.5%	-20.0%	-4.0%	20.0%	3.1%	3.6%	17.4%	13.3%	0.2%	5.3%	17.1%	11.2%
	Average:	-2.2%	-4.1%	-6.3%	8.2%	8.2%	6.0%	14.5%	9.3%	6.2%	8.6%	18.1%	3.6%

Source: Federal Reserve St. Louis, World Gold Council, Incrementum AG

95% of all financial history happens within two standard deviations of normal, and everything interesting happens outside of two standard deviations.

Ric Kayne

Overall, it can be seen that gold has largely been able to cushion share price losses during recessions. For bonds, the classic equity diversifier, on the other hand, things look less good. The high level of debt, the zombification of the economy, and the still very loose monetary policy reduce the potential of bonds as an equity hedge. **Gold will therefore remain an indispensable portfolio component in the future, allowing investors to sleep soundly in stressful situations in financial markets.**

Cold War 2.0 as a Structural Inflation Driver?

The princess winced and spoke: I really do not understand why men cannot live without wars; all Moscow speaks only of war.

Leo Tolstoy

In his bestseller *The Great Illusion*, published in 1911, Norman Angell, who was later to be awarded the Nobel Peace Prize, made the game-theoretical argument that wars between industrialized nations, in view of international economic interdependence, would entail such high economic and social costs that it would henceforth be irrational to start one. Accordingly, the *great illusion* was suffered by the state leader who expected a positive payoff for his country from a war.

Illusions recommend themselves by sparing feelings of displeasure and letting us enjoy satisfactions in their place.

Sigmund Freud

It is distressing how, after more than a hundred years, a large part of the public and the political elite could once again have fallen under exactly the same delusion. Until February 23 of this year, the belief in a world order persisted, in view of which, according to Peter Sloterdijk, people in large parts of Europe convinced themselves that “we had left the epoch in which wars take place”, while Putin mobilized his forces before everyone’s eyes but in the blind spot of this world view.

We hope and believe that an escalation to the extreme between NATO and Russia will be avoided. But entering into a protracted, expensive and grueling second Cold War seems increasingly likely. *Turning point, paradigm shift, and caesura* are among the terms that have recently been used in an almost hyperinflationary manner. The fact is that numerous asset classes have already priced in a geopolitical (war) premium and that the heyday of globalization and its disinflationary effect have come to an end.

I am an old man and have known a great many troubles, but most of them never happened.

Mark Twain

I have seen the future and it is very much like the present, only longer.

Kehlog Albran

Europe is not an entity that could live for itself. Europe is only possible within the world and within the world economy.

Gustav Stresemann

Russia will be a pariah state for the Western community for many years to come. In reaction, Russia will turn more and more to Asia economically and politically. The planned 2,600km long gas pipeline Power of Siberia 2, for example, will enable Russia to supply Western Siberian gas from the Yamal Peninsula to China in the future. Currently, only exports to Europe are feasible via the existing pipeline network.

Thus, it seems likely that a Western *community of shared values* and a pan-Asian *community of convenience* dominated by China and Russia will contest world affairs in the future. Regions that traditionally have not hewn to either of the two blocs (Latin America, the Gulf states, Southeast Asia, Africa) will presumably **enter into temporary alliances on a situational basis and opportunistically, or will decide for or against strategic integration into one of the two spheres after weighing up their economic, political and cultural interests.**

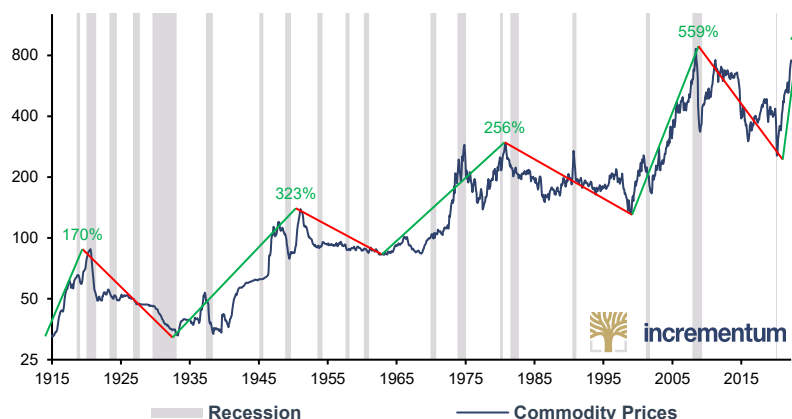
The striving for block self-sufficiency will prove to be almost impossible, especially for Europe, and in any case very expensive. The commodity leverage that Russia, but also China, have vis-à-vis Europe is underestimated.¹⁰⁷ Zoltan Pozsar highlights the case of Germany, where commodity imports – mainly energy imports from Russia – worth USD 27bn support economic activity worth USD 2trn. **However, the leverage effect of commodities has a striking impact not only on economic development but also on inflation.**

For the EU, for example, Russia is a major supplier of palladium, an important element for chemical and automotive catalysts, fuel cells and electronic applications. According to the US Geological Survey, the EU imports 98% of its rare earth elements (REEs) from China. Rare earths are indispensable components of many high-tech products, including military equipment and renewable-energy equipment. **However, the shift from carbon-based forms of energy to so-called renewable energies, which are now also referred to as "the energy of freedom", only exchanges one dependency (Russia) for another (China).**

From energy to base and battery metals to precious metals and agricultural commodities, the Ukraine war is now further disrupting supply chains and long-established supply/demand patterns. **This will cause commodity prices to settle at a new, higher level.**

¹⁰⁷ See 13D Research: What I learned this week, April 21, 2022

Commodity Prices*, 01/1915-04/2022



Source: Alpine Macro, Federal Reserve St. Louis, Reuters Eikon, Incrementum AG
*1913-1934 US PPI Industrial Commodities, 1935-1949 Spot Price 28 Commodities, 1950-1969 Spot Price 22 Commodities, since 1970 S&P GSCI

In the short term, the situation on the commodity markets looks overbought. As long as the Federal Reserve makes no move to leave the path of interest rate hikes, the general environment for risk assets will remain difficult. **A reversal of monetary policy or the Federal Reserve’s pushing the monetary policy pause button will give the starting signal for the next upward cycle.** This will probably be accompanied by a weaker US dollar. The upward momentum in recent months despite the firm US dollar has been surprising to us and at the same time a sign of the inherent strength of the commodity bull market. An increasingly expansionary China – after all, a new president will be elected by the National People’s Congress in the fall – should also provide further support for the sector.

Geopolitics rarely matters to investors as it is akin to the slow grinding of great tectonic plates. However sometimes things speed up and earthquakes follow.

Russell Napier

Gold and the weaponization of money

The emerging bloc formation will fundamentally reshape the existing global monetary order. The weaponization of money through the freezing of Russian foreign exchange reserves has further accelerated the process of de-dollarization. Certainly, new multinational institutions and arrangements do not emerge overnight. **But confidence in the existing US dollar-centric monetary order is likely to become passé in many strategically important countries.**

Given the multipolarity that can be expected, the new world monetary order will need an internationally recognized anchor of trust, and gold seems predestined for this purpose for several reasons.

- **Gold is neutral**
 - The US dollar, hitherto the global reserve and trading currency, has, with the freezing of Russia’s currency reserves, given up the appearance of political neutrality that is necessary for this status. Gold, on the other hand, belongs to no state, no political party, no dictator. In a new world monetary order, gold can thus represent the unifying element in a multi-polar world that has become much more fragile.

- **Gold has no counterparty risk**
 - Financial assets have a counterparty risk. If the debtor does not want to pay or cannot pay, the creditor's claim is worth nothing. Gold, on the other hand, has no counterparty risk. And the risk of the owner being prohibited from accessing his gold is easily solved for states by storing their gold within the state's borders or with a friendly state.
- **Gold is liquid**
 - Gold is one of the most liquid assets worldwide. In 2021, gold was traded daily to the tune of almost EUR 150 billion. In a study, the LBMA showed that gold has higher liquidity than government bonds in some cases.

Best of *In Gold We Trust* Report 2022

Other key findings from this year's *In Gold We Trust* report, Stagflation 2.0, include the following:

- **Debt:** Appearances are deceptive - this is how the development of the debt situation in 2021 can be summarized. The decline in (government) debt ratios is primarily attributable to the fact that economic growth in 2021 was well above average due to the pronounced economic slump in 2020. The decline in debt ratios due to this base effect is by no means an indication that the trend toward ever higher debt (ratios) has been broken. Nominal debt, on the other hand, exceeded USD 300trn for the first time.
- **Inflation:** Even though we think it likely that inflation rates will slowly pull back in H2 2022, we expect successive waves of inflation – analogous to the Covid-19 waves. And it seems that the next inflation virus variant is already being announced. One thing is certain: The era of the "Great Moderation" is definitely over.
- **De-dollarization:** The freezing of Russian currency reserves is comparable in its impact on the global monetary order to Richard Nixon's closing of the gold window in 1971. And while the Ukraine war preoccupies the West, Moscow and Beijing are expanding their cooperation. The long-unchallenged (petro)dollar is battered, as evidenced by the fact that the relationship between Saudi Arabia and the US has rarely been worse than it is right now. What the global monetary order will look like when the dust settles is unclear. What seems certain is that gold and commodities will gain considerably in importance.
- **Bitcoin:** The stock-to-flow model (S2F model) has been able to explain the price development of Bitcoin remarkably well historically. In the current cycle, however, Bitcoin's price is significantly below the range assumed by the model. Although Bitcoin is currently back in a veritable bear market, its adoption continues to grow, particularly among institutional investors but also among governments.

- **Silver:** The price of silver has disappointed many investors in view of the explosion of inflation. Is silver no longer a monetary precious metal that hedges against inflation? There were two weighty reasons for this disappointment. First, real interest rates stopped falling in August 2020. The inverse correlation of silver and real rates stopped the price rise. Second, consumer price inflation does not necessarily equate to monetary inflation. The good news – at least for silver investors – is that the probability of an inflationary decade is high.
- **Mining stocks:** The main reasons for the weak performance of the gold mining sector are capital expenditure (CAPEX) overruns, rising production costs, problems with permitting new mines, political instability, and declining reserves and new discoveries. Due to rising energy and construction material prices, increasing wage demands, and general inflation, all-in sustaining costs (AISC) are expected to increase further in the foreseeable future.
- **Royalty and streaming companies:** The market capitalization of this segment of the mining sector has increased from USD 2bn to more than USD 60bn in 15 years. An index of royalty and streaming companies in the precious metals sector outperformed gold and silver mining companies.
- **ESG:** In the new low-emissions economy, a new economic metric needs to be created for the mining sector: the *all-in emissions cost* (AIEC). This metric will transform nonfinancial costs into financial costs for investors and stakeholders. In principle, an increase in the proportion of gold in an investor's portfolio will translate to a significant positive impact on the CO₂ footprint and emissions intensity of the overall portfolio.
- **Technical analysis:** The analysis of market structure, sentiment and price patterns leads us to a rather mixed technical assessment in the short term. Although sentiment has clouded recently, an extreme bearish wash-out has not (yet) taken place. From a seasonal perspective, the next few weeks could still bring headwinds.

Quo Vadis, Aurum?

*This is gold, Mr. Bond.
All my life I've been in love with
its color... its brilliance, its divine
heaviness.*

Auric Goldfinger

For gold investors, 2021 was disappointing due to the sharp rise in inflation. Perhaps expectations were also too high, as 2019 and 2020 were fantastic years for chrysophiles. But in the last couple of months, gold fulfilled its role quite well, in our opinion, even if its 2021 performance lagged general expectations. It has provided stability and calm to portfolios in the wake of recent volatility. The gold price has stood up to collapsing equities, bonds, and crypto markets, as well as the rallying US dollar.

However, real upward momentum in the gold price can only be expected again when a turnaround to ultra-loose monetary policy is once more heralded. When that will happen is the crucial question.

If stocks don't fall, the Fed needs to force them.

Bill Dudley

It seems long, but it won't last forever.

Bambi's mother

Bottoms are better to watch than to try and catch.

Rebecca "Becky" Quick

So how seriously can the Federal Reserve's hard line be taken? During his semi-annual questioning before the Senate Banking Committee, **Jerome Powell** was asked by Senator **Richard Shelby (Rep)**: "Volcker put the economy in a recession to get inflation under control. Are you prepared to do what it takes to get inflation under control?", to which Powell replied, "I hope history will record that the answer to your question is yes."

The Federal Reserve seems to be serious. However, if the communicated tightening is implemented consistently, the Everything Bubble threatens to end in the Everything Crash. Stocks, bonds and cryptocurrencies have already fallen victim to the tighter monetary policy. Real estate would be next on the list.

Internationally, too, distortions are to be expected as a consequence of monetary policy tightening in the US. The euro area, but also Japan, could be threatened with trouble due to rising yields. **In the short term, gold holders should therefore probably still expect headwinds**, especially if further price declines trigger a panicky situation in markets. However, the bigger the storm on the financial markets, the more likely it is that there will be a renewed abandonment of tight monetary policy.

As soon as the Federal Reserve is forced to deviate from its planned course, we expect the gold rally to continue and new all-time highs to be reached. We believe it is illusory that the Federal Reserve can deprive the market of the proverbial "punchbowl" for any length of time, and we seriously doubt that the transformation of doves into hawks will last. Most hawks will merely turn out to be doves in hawk's clothing and will shed their hawkish garb sooner rather than later as a result of the inevitable consequences of monetary tightening: recession, rising yields, stock market corrections, bankruptcies, unemployment.

If the downward trend on the stock and bond markets that has persisted since the beginning of the year continues, a brash counter-reaction by the Federal Reserve seems to be only a matter of time. What might a new U-turn look like? What novel rabbit can central bankers pull out of their capacious hat? The following instruments are still in the toolbox of monetary and fiscal policymakers:

- Yield curve control
- Renewed QE or QQE
- Financial repression
- Other fiscal stimuli
- MMT or helicopter money
- CBDCs
- In the euro area: further communitization of debt via issuance of additional eurobonds

The use of one or more of these instruments is a foregone conclusion, with the further merging of monetary and fiscal policy proceeding inexorably. One thing is

Gold's properties as a portfolio diversifier have been institutionally forgotten by those who have spent a lifetime confusing the declining cost of money with investment genius.

Charlie Erith

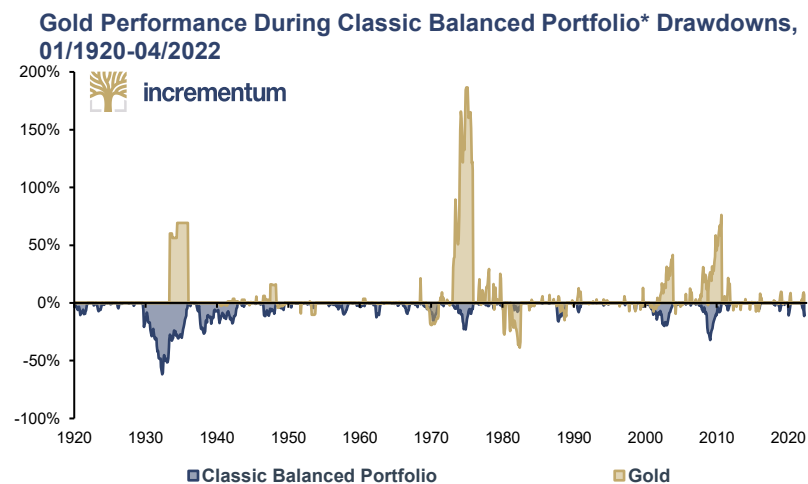
certain: The coming rescue measures will take on increasingly larger, more aggressive, and more abstruse features.

A successively higher share of deficits will be financed via the digital printing press. The longer and closer this liaison between monetary and fiscal policy continues, the greater the stagflationary forces and the higher the probability of a complete loss of confidence.

Many portfolios still seem inadequately prepared for Stagflation 2.0.

This is probably due in part to the fact that there are almost no fund managers in service today who have experienced an inflationary, much less a stagflationary environment during their investment careers. In addition, most portfolio approaches are based on backtesting strategies that go back 10, 20, or at most 30 years. However, very few portfolio strategies take into account the stagflationary environment of the 1970s.

In the current phase, which is characterized by the resurgence of stagflation, the positive correlation between equities and bonds means that a portfolio diversifier is needed that works. History suggests that gold has fulfilled this role admirably. Whenever the traditional portfolio experienced a drawdown, gold proved its capabilities as a reliable portfolio hedge.



Source: Bridgewater, Reuters Eikon, goldchartsrus.com, Incrementum AG
*60% Stocks (S&P 500 TR)/ 40% IG Bonds

Our New World Disorder will be characterized by greater volatility, higher inflation, and deeper financial repression.

Alexander Chartres

Two years ago, on the occasion of the transition into a new decade, we presented our gold price forecast until 2030 in the *In Gold We Trust* report 2020.¹⁰⁸ The central input factor of this estimate was the gold coverage ratio of the money supply. In our base case scenario at that time, we assumed an annual M2 money supply expansion of 6.3%. The resulting price target was around USD 4,800.

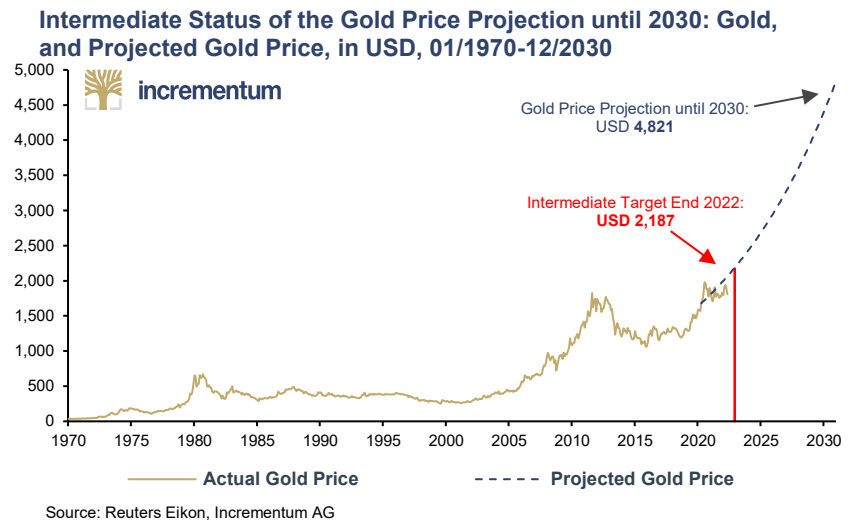
And trust is everything.

Paul Volcker

So far, gold has aligned itself quite well with our predicted price trend. For gold to remain on track through the end of the year, it would need to rise to USD 2,187. Taking into account the developments discussed in this year's *In Gold We Trust* report, we firmly believe that this is a realistic target,

¹⁰⁸ See "Quo vadis, aurum?", *In Gold We Trust* report 2020

provided that monetary policy moves away from the announced hawkish path. **Likewise, we maintain our long-term price target of around USD 4,800 by 2030.**



Keep cool.
Erasmus (1466-1536)

The coming years will undoubtedly be challenging for investors. Wolf and bear are fascinating predators, but in the economy they are a *duo infernale* that will demand everything from investors during **Stagflation 2.0.** Volatility in capital markets, in global politics, in the economy, in interest rates, and especially the volatility of inflation will be with us for some time. We are firmly convinced that gold increases the resilience of a broad portfolio, especially in this environment, and should be an indispensable portfolio component in the context of Stagflation 2.0.

Watch out, be cautious and don't take any crap.
Dr. Kurt Ostbahn

We look forward to continuing to analyze gold-related developments for you and to sharing our thoughts with you. Together we will master these challenges. Because, even more so in the maw of Stagflation 2.0:

IN GOLD WE TRUST

About Us

Ronald-Peter Stöferle, CMT



Ronnie is managing partner of Incrementum AG and responsible for Research and Portfolio Management.

He studied business administration and finance in the USA and at the Vienna University of Economics and Business Administration, and also gained work experience at the trading desk of a bank during his studies. Upon graduation he joined the research department of *Erste Group*, where in 2007 he published his first *In Gold We Trust* report. Over the years, the *In Gold We Trust* report has become one of the benchmark publications on gold, money, and inflation.

Since 2013 he has held the position as reader at *scholarium* in Vienna, and he also speaks at *Wiener Börse Akademie* (the Vienna Stock Exchange Academy). In 2014, he co-authored the international bestseller *Austrian School for Investors*, and in 2019 *The Zero Interest Trap*. He is a member of the board of directors at *Tudor Gold Corp.* (TUD), a significant explorer in British Columbia's Golden Triangle. Moreover, he is an advisor to *Matterhorn Asset Management*, a global leader in wealth preservation in the form of physical gold stored outside the banking system.

Mark J. Valek, CAIA



Mark is a partner of Incrementum AG and responsible for Portfolio Management and Research.

While working full-time, Mark studied business administration at the Vienna University of Business Administration and has continuously worked in financial markets and asset management since 1999. Prior to the establishment of Incrementum AG, he was with Raiffeisen Capital Management for ten years, most recently as fund manager in the area of inflation protection and alternative investments. He gained entrepreneurial experience as co-founder of *philorio Edelmetalle GmbH*.

Since 2013 he has held the position as reader at *scholarium* in Vienna, and he also speaks at *Wiener Börse Akademie* (the Vienna Stock Exchange Academy). In 2014, he co-authored the book *Austrian School for Investors*.

Incrementum AG



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Our goal is to offer solid and innovative investment solutions that do justice to the opportunities and risks of today's prevalent complex and fragile environment.

<https://www.incrementum.li/en>

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www.agnicoeagle.com



Asante Gold

Asante Gold is an emerging gold producer in Ghana, West Africa. We target growth through organic exploration and focused acquisitions. We believe in responsible development and strive to be Ghana's foremost gold producer and employer of choice.

www.asantegold.com



Aurion Resources

Aurion is a well-funded, Canadian exploration company operating in an emerging gold camp in Finland's Central Lapland Greenstone Belt. The Company's focus is on advancing its Flagship Risti and Launi projects, and JVs with B2Gold and Kinross.

www.aurionresources.com



Caledonia Mining

Caledonia Mining is a profitable, dividend-paying gold miner. It acquired an additional exploration project in late 2021 and continues to evaluate other opportunities with the aim to become a multi-asset, Zimbabwean gold producer.

www.caledoniamining.com



Dakota Gold

Dakota Gold (NYSE American: DC) is a South Dakota-based responsible gold exploration and development company with a specific focus on revitalizing the Homestake District of South Dakota.

www.dakotagoldcorp.com



EMX Royalty

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www.emxroyalty.com



Endeavour Mining

As a leading global gold producer and largest in West Africa, Endeavour is committed to the principles of responsible mining and delivering sustainable value to all stakeholders. Endeavour is listed on the LSE and TSE under the symbol EDV. www.endeavourmining.com



Endeavour Silver

Endeavour Silver is a mid-tier precious metals mining that owns two underground, silver-gold mines in Mexico, and has a compelling pipeline of exploration and development projects to facilitate its goal to become a senior silver producer. www.edrsilver.com



Hecla Mining Company

Hecla Mining Company (NYSE: HL) is the largest primary silver producer in the United States and the fifth largest gold producer in Quebec. Hecla is also the third largest US producer of both zinc and lead. www.hecla-mining.com



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MAM is a global leader in the acquisition and storage of gold, providing investors direct personal access to the biggest and safest private gold vault in the world, located in the Swiss Alps. We offer unique and exceptional personal service and advice to our clients. www.goldswitzerland.com



Minera Alamos

Minera Alamos is a new gold producer going through the ramp up of its first gold mine with commercial production expected in 2022. Specializing in low capex builds the Minera model remains insulated from inflationary pressures. www.mineraalamos.com



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www.vgex.com



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Ximen Mining (TSX.V XIM) is focused on responsible development, sustainable mining and exploration of its precious metals properties in southern BC, Canada, as it advances its Kenville Gold mine.

www.ximenminingcorp.com

