

in gold we trust
.report

May 27, 2020
Extended Version

The Dawning of a Golden Decade



We would like to express our profound gratitude
to our Premium Partners for supporting the
In Gold We Trust report 2020

Details about our Premium Partners can be found on page 354 f.



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Introduction

“All roads lead to gold.”

Kiril Sokoloff

Key Takeaways

- **Monetary policy normalization has failed**

We had formulated the failure of monetary policy normalization as the most likely scenario in our four-year forecast in the *In Gold We Trust* report 2017. Our gold price target of > USD 1,800 for January 2021 for this scenario is within reach.

- **The coronavirus is the accelerant of the overdue recession**

The debt-driven expansion in the US has been cooling off since the end of 2018. Measured in gold, the US equity market reached its peak more than 18 months ago. The coronavirus and the reactions to it act as a massive accelerant.

- **Debt-bearing capacity is reaching its limits**

The interventions resulting from the pandemic risk are overstressing the debt sustainability of many countries. Government bonds will increasingly be called into question as a safe haven. Gold could take on this role.

- **Central banks are in a quandary when it comes to combating inflation in the future**

Due to overindebtedness, it will not be possible to combat nascent inflation risks with substantial interest rate increases. In the medium-term inflationary environment, silver and mining stocks will also be successful alongside gold.

- **Dawn of a new monetary world order**

In the decade that has just begun, trend-setting monetary and geopolitical upheavals are to be expected. Gold will once again play an important role in the new monetary world order as a stateless reserve currency.

- **New gold all-time highs are only a matter of time**

The question is not whether the gold price will reach new all-time highs, but how high these will be. We are convinced that gold will prove to be a profitable investment over the course of this decade and will provide stability and security in any portfolio.

Gold is not a story until it's a story.

Guy Adami

Like the weather, markets are turbulent.

Benoit Mandelbrot

We're only down 15% from the all-time high of February 19, and it seems to me that the world is more than 15% screwed up.

**Howard Marks,
April 20, 2020**

This year's 14th edition of our *In Gold We Trust* report, titled "The Dawning of a Golden Decade", is being published at the opening of a new decade.¹ As the last decade draws to a close, gold has once again demonstrated its sensitive seventh sense and alerted the keen observer that the general situation in the financial markets is about to change fundamentally.² Last year economic activity cooled off noticeably, and it was only a matter of time before the long overdue recessionary storm broke. In anticipation of the storm, the development in calendar year 2019 was superb on a US dollar basis, with a plus of 18.9%, and even more remarkable on a euro basis with 22.7%.

But even before the storm clouds could thunder and a "conventional recession" could occur, the world was confronted with the novel coronavirus and the dramatic reactions to it. The economic storm that we are now experiencing is indeed unprecedented. **The pandemic became the trigger and accelerator of the following fundamental dynamics:**

- **Economic emergency braking**

After a prolonged period of economic expansion, the global economy is experiencing the most severe recession in over 80 years. The IMF is forecasting a contraction in global GDP of 3% for the current year, and this figure is likely to have to be revised downwards.³ The real-time indicator of the Federal Reserve Bank of New York shows an unprecedented annualized contraction of US GDP of over 31% for the second quarter.⁴

- **Collapse on the financial markets**

The economic slump led to a spectacular collapse in financial assets, which had already been valued ambitiously. March 2020 will go down as one of the worst months in stock market history. In the first quarter of this year, the market capitalization of the US stock markets, measured by the Wilshire 5000 Total Market Index, fell by USD 7trn. The "everything bubble", which we have been pointing out for years,⁵ is now in acute danger of bursting. Central banks have since been trying to prevent further collapse with seemingly desperate stimulus measures

- **Monetary U-turn**

The normalization of monetary policy is off the table long before it could be completed. Quantitative easing is now (again) the norm because of the prevailing zero interest rate level. The dimensions of the new QE programs beggar the imagination. At the height of the financial market panic, the Federal Reserve dished out USD 1mn every single second, day and night, for two weeks.⁶ It should be noted that monetary policy had already turned

¹ All 13 previous issues of the *In Gold We Trust* report can be found in our archive at <https://ingoldwetrust.report/archive/?lang=en>.

² See Stoeferle, Ronald: "Gold - The 7th Sense Of Financial Markets", Presentation: Precious Metals Summit, November 11, 2019

³ See IMF: *World Economic Outlook, April 2020: The Great Lockdown*, April 2020

⁴ *Nowcasting Report*, Federal Reserve Bank of New York, as of May 15, 2020

⁵ See "Introduction" and "White, Gray and Black Swans", *In Gold We Trust* report 2017; "Introduction", *In Gold We Trust* report 2018; "Introduction" and "The Status Quo of Gold", *In Gold We Trust* report 2019

⁶ It took the Federal Reserve 2 weeks to create USD 1trn. It would take over 31,000 years to count up to this number, assuming you count one US dollar per second.

Suckers think that you cure greed with money, addiction with substances, expert problems with experts, banking with bankers, economics with economists, and debt crises with debt spending.

Nassim Taleb



Federal Reserve Bank of Chicago

Monetary and Fiscal Policies in Times of Large Debt: Unity is Strength
Francesco Bianchi, Renato Faccini, and Leonardo Melosi

REVISED
May 8, 2020

WP 2020-13

<https://doi.org/10.21033/wp-2020-13>

*Working papers are not edited, and all opinions and errors are the responsibility of the author(s). The views expressed do not necessarily reflect the views of the Federal Reserve Bank of Chicago or the Federal Reserve System.

Source: Federal Reserve Bank of Chicago

Gold is a constant. It's like the North Star.

Steve Forbes

around in the second half of 2019 in order to combat the looming recession early on.

- **Fiscal policy crescendo**

The renewed QE programs in the trillions are now being joined by a highly expansive fiscal policy. In 2020 the US is likely to triple last year's already excessive budget deficit of 4.6%. Record debt growth is also expected in the eurozone. Italy, Greece, Spain and France, already economically depressed countries, will be hit particularly hard.

- **The limits of debt sustainability**

Many households, companies, emerging markets, and even industrial nations could reach the limits of their debt sustainability as a result of the devastating economic slump and the numerous government interventions. According to the latest estimate of the International Monetary Fund (IMF), the debt of the industrial nations will soar from 105% of GDP in the last year to over 122% in this calendar year alone.⁷

- **The end of central bank independence:** The dramatic debt developments are increasingly undermining the independence of central banks. The intertwining of fiscal and monetary policy is progressing steadily. For example, in April the very traditional Bank of England broke a fundamental taboo and is now financing the government deficit through direct government bond purchases.⁸ In the US, too, central bank circles are now openly considering the official interlinking of fiscal and monetary policy.⁹ All of these are steps that point further in the direction of implementing the controversial Modern Monetary Theory (MMT).

These developments have in some cases already built up over years and decades, but in the current crisis the situation is becoming exorbitantly worse. As unpleasant as the dynamics in general are, the conditions for gold could not be better, given massively overindebted economies, which as a last resort use the devaluation of their currencies to finance their deficits. For these and a number of other reasons, we take a broad view and foresee "The Dawning of a Golden Decade".

But before we begin our analysis of this year's topics, we would first like to take a step back to reflect on our past theses.

Looking back on the recent past of the *In Gold We Trust* report, we find that we became optimistic too soon after the gold price slump in 2013.

By the time the US economy began to slow down in 2015, a recession was already in the air. Interest rates were still at a low level, even in the USA, and monetary policy normalization seemed light years away. Our expectation at the time was that, due to the prevailing low interest rate level, gold would experience a strong

⁷ IMF DataMapper: [Gross debt position in % of GDP](#)

⁸ "Bank of England to directly finance UK government's extra spending", Financial Times, April 9, 2020

⁹ Bianchi, Francesco, Faccini, Renato und Melosi, Leonardo: "[Monetary and Fiscal Policies in Times of Large Debt: Unity is Strength](#)", Federal Reserve Bank of Chicago, Working Paper No. 2020-13, revised May 11, 2020

appreciation when the coming recession hit. The gold bulls were just beginning to trot when they were abruptly slowed down again at the end of 2016.



Source: https://de.wikipedia.org/wiki/Donald_Trump³

"There are two ways to be fooled. One is to believe what isn't true; the other is to refuse to believe what is true."

Soren Kierkegaard

Ironically, it was Donald J. Trump. The election of the presidential candidate originally unloved by Wall Street fuelled hopes of a renaissance of America on the basis of a nationalistic growth policy. President Trump brought about a change in sentiment, especially among a class of society that had lost its trust in the economic system and political institutions. Stocks received another boost, and the increase in the gold price was (temporarily) halted.

Source: *In Gold We Trust* report 2017, p. 7

What had happened? Donald Trump was elected President of the United States, and with him a Republican majority in both houses of Congress. It was obvious to us that Trump would be a determining factor in the price of gold. This required a reevaluation of the situation. **We therefore made a forecast for the gold price in the *In Gold We Trust* report 2017, which was timed to coincide with Donald Trump's four-year term.**¹⁰

Our thesis was that the combination of deficit spending and the change of mood among previously disappointed sections of the US population would (finally) allow monetary policy to begin to normalize. The litmus test for us was whether a "normal" interest rate level could be reached or whether the reduction of the Federal Reserve's balance sheet could be implemented without choking off the debt-induced upswing.

Reserve's balance sheet could be implemented without choking off the debt-induced upswing.

We worked out the following four scenarios for the gold price at that time, with a time horizon of January 2021:

Term of office is characterized by	Growth	Monetary policy normalization	Gold price in USD
Scenario A: Genuine Boom	Real growth > 3% p.a.	Successful; Real interest rate level >1.5	700-1,000
Scenario B: Muddling Through	Growth & Inflation 1.5-3% p.a.	not completed	1,000-1,400
Scenario C: Inflationary Boom	Growth & Inflation > 3% p.a.	not completed	1,400-2,300
Scenario D: Adverse Scenario	Growth / Contraction <1.5%	Normalization paused or renewed easing	1,800-5,000

Source: Incrementum AG

With regard to the likelihood of a successful monetary policy normalization, we formulated the following position in the *In Gold We Trust* report 2017 and also advocated this position in the following two issues,^{11,12} despite strong headwinds:

"From our perspective, one can essentially rule out that this [monetary policy normalization, note] can be done without triggering a recession."¹³

Truth hurts. Maybe not as much as jumping on a bicycle with the seat missing, but it hurts.

Inspector Frank Drebin

This year's *In Gold We Trust* report marks the end of our nearly four-year observation period. Today we know this: Monetary policy normalization has failed spectacularly, and the U-turn towards a loose monetary policy is finished. With regard to the scenarios we formulated, we can state that during Trump's term of office the economy has largely been in *muddling-through* mode

¹⁰ See "Conclusion", *In Gold We Trust* report 2017

¹¹ See "Conclusion", *In Gold We Trust* report 2018

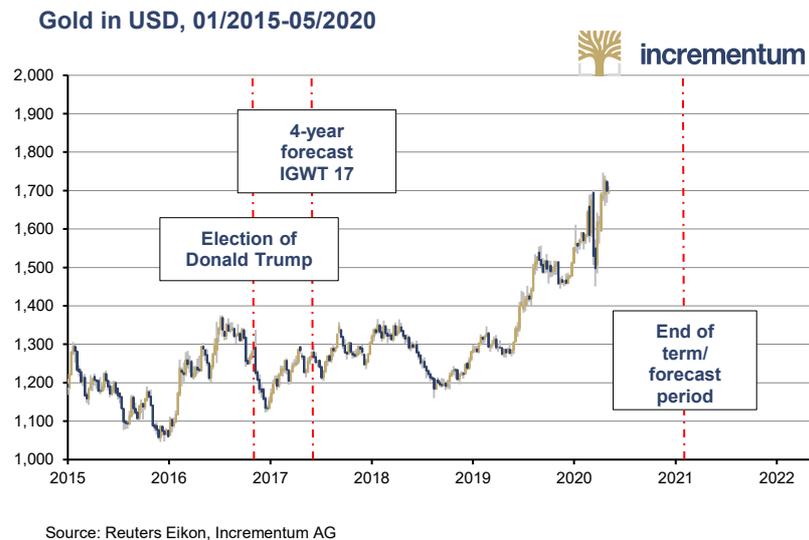
¹² See "Quo Vadis, Aurum?", *In Gold We Trust* report 2019

¹³ See "Conclusion", *In Gold We Trust* report 2017, p. 163

In order to succeed, you must first survive.
Nassim Taleb

(scenario B). This term of office will probably end under the conditions of an *adverse scenario* (scenario D), which we have repeatedly classified since 2017 as the most probable scenario.

The gold price also behaved as we expected in the respective scenarios. In the event of a reversal of monetary policy, in 2017 we predicted gold prices of over USD 1,800 by the end of January 2021. This is still likely to be the case.



In retrospect, we are quite satisfied with our assessments of the past few years, because the central theses of our past *In Gold We Trust* reports have proved to be true.

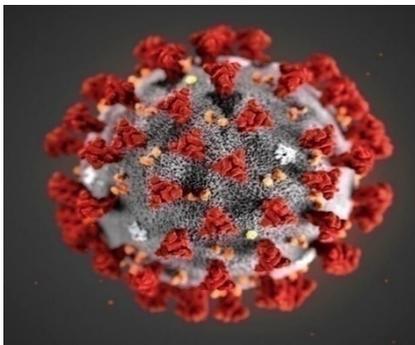
If we winter this one out, we can summer anywhere.
Seamus Heaney

Even more exciting than the review is the outlook. In line with this year's leitmotif, "The Dawning of a Golden Decade", we venture to offer a 10-year outlook for the gold price.¹⁴ First, however, we want to deal with the most burning issue at present.

Covid-19 and the prospect of recession

The international reaction to Covid-19 is largely responsible for the extraordinarily severe recession we are facing. **But would a recession have occurred even without the pandemic?** An answer to this counterfactual question is very important for the assessment of future developments. **We are convinced that even without a coronavirus pandemic in 2020, major economies would have slid into recession. What leads us to this view? Germany, Italy and Japan, for example, were already in recessions or quasi-recessions.**

Most telling for us was the fact that world trade volume, which normally grows about 5% per annum or double the rate of the increase in GDP, last year declined by about 0.5%. This marked only the third decline since 1980. The other two declines happened during the deep recessions of 1982 and 2009.¹⁵ **So it seems that we had already entered 2020 in a very weak**



Source: Center for Disease Control and Prevention (CDC) via AP

¹⁴ This can be found as usual in the final chapter "Quo vadis, aurum?"

¹⁵ See Lacy Hunt: "The Road Through Deflation Toward Eventual Hyperinflation", *Macrovoices*, April, 30 2020

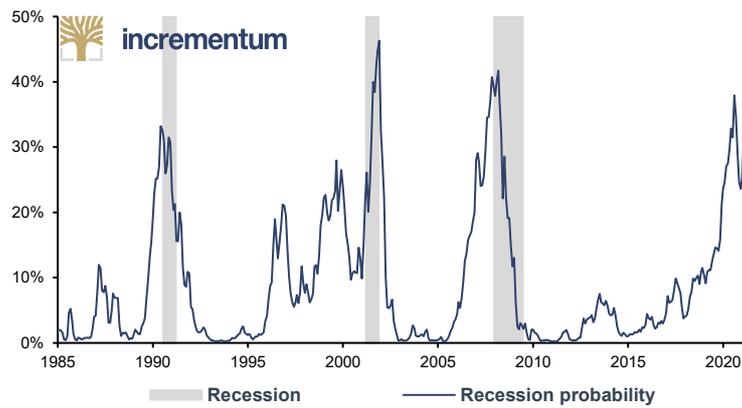
condition, which leads us to think that the US would have entered a recession even without Covid-19. We would like to underpin this thesis at this point with some charts on the US economy.

The Fed can change how things look, but not how things are.

Jim Grant

An inversion of the yield curve has always been considered one of the most reliable leading indicators for recessions. As early as 2019, the proportion of yield curve inversions was already considerable, massively indicating an approaching recession. According to this indicator, a recession would not have been unlikely by mid-2020.

Recession probability within the next 12 months, 01/1985-04/2021



Source: Federal Reserve NY, Incrementum AG

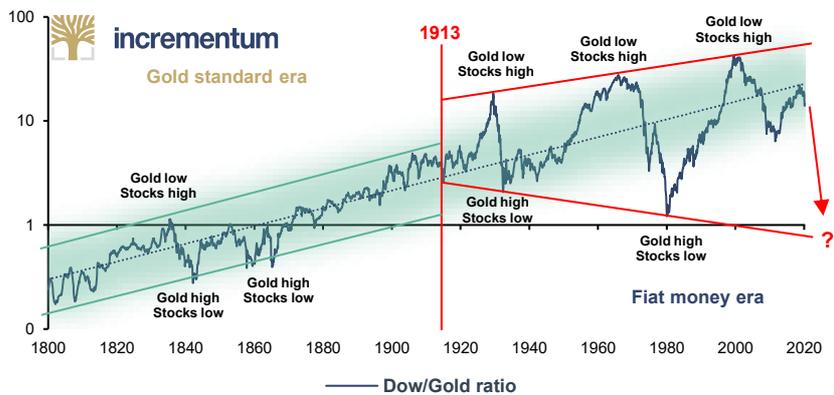


Courtesy of Hedgeye

The Dow/gold ratio is also of great interest to us, as an unsustainable equity rally is sometimes snuffed out by a strongly rising gold price.

According to the Dow/gold ratio, share prices had already peaked at the end of 2018. Since then, shares measured in gold have been on a clear downward trend. The long-term chart clearly shows the potential fall in share prices expressed in gold.

Dow/Gold ratio (log), 01/1800-04/2020



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

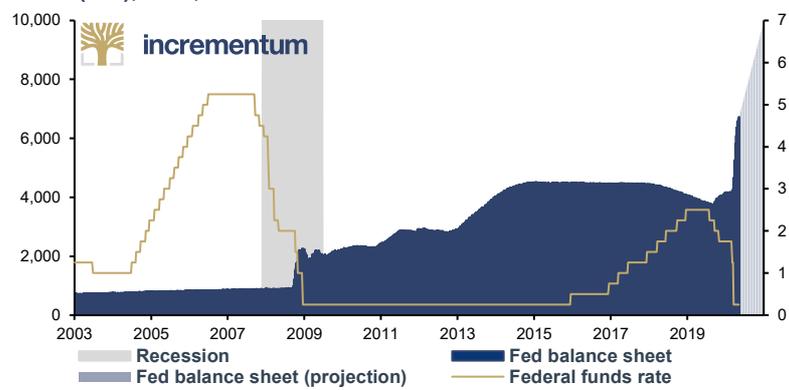
However, the most convincing evidence for the approaching recession is the U-turn in US monetary policy. In 2017/2018 the Federal Reserve continuously communicated its intention that monetary policy normalization would be carried out, come what may. As recently as December 2018, Jerome

My friends keep telling me the Fed shot its gun and is out of bullets. Are you kidding me? They own the bullet factory.
Harris Kupperman

Powell said that the reduction in the Federal Reserve’s balance sheet was still “on autopilot”.¹⁶ Only a few days later, he rowed back this statement, in view of the massive correction in stock markets. For the first time since 2008, the Federal Reserve finally cut the key interest rate on July 31, 2019, with two further interest rate cuts to follow in 2019.

In autumn 2019, the quantitative tightening of the balance sheet was stopped. The Federal Reserve began to expand its balance sheet again, initially with the aim of keeping the rise in short-term interest rates in check. These measures were taken long before the outbreak of the coronavirus and testify to the fact that economic momentum had already weakened significantly by 2019.

Federal Reserve balance sheet (lhs), in USD bn, and Federal funds rate (rhs), in %, 01/2003-05/2020



Source: Reuters Eikon, Incrementum AG

This scheme essentially merges the Fed and Treasury into one organization.
Jim Bianco

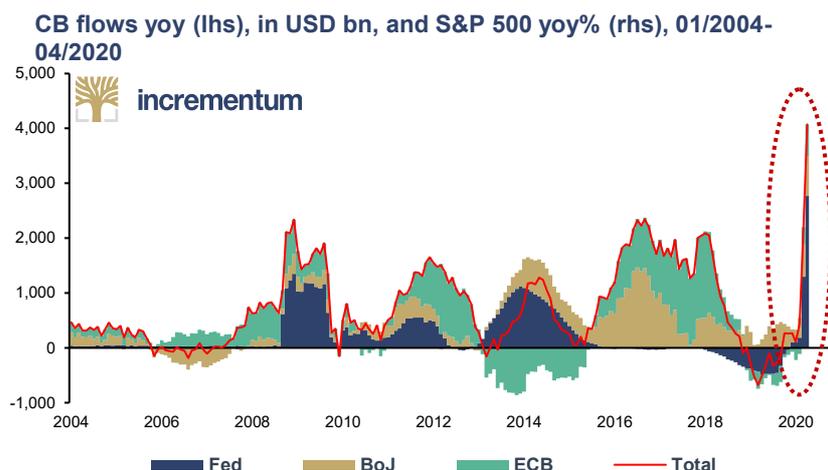
Why is the question of whether the recession would have occurred even without the coronavirus so relevant? Ben Bernanke had always argued that the Federal Reserve’s bond purchases were not government financing through the printing press, as the increased bond holdings were to be held only temporarily by the Federal Reserve:

“The (FOMC) has often stated its intention to return the Fed balance sheet to normal, pre-crisis levels over time. Once that occurs, the Treasury will be left with just as much debt held by the public as before the Fed took any of these actions.’ When that happens, it will be clear that the Fed has not been using money creation as a permanent source for financing government spending.”¹⁷

The highly abnormal is becoming uncomfortably normal. ... There is something vaguely troubling when the unthinkable becomes routine.
Claudio Borio, BIS

Between 2008 and 2015 the Federal Reserve’s balance sheet total increased from USD 0.9trn to 4.5trn. Only a fraction of this increase was repaid in the course of the economic cycle. After the first round of Federal Reserve measures to combat the catastrophic economic effects of Covid-19, the balance sheet total currently stands at a breathtaking USD 7trn. In reality, the exact opposite of Ben Bernanke’s statement is true: The balance sheet inflation is permanent and is therefore government financing through the printing press.

¹⁶ See “Treasury Yields fall as Fed’s Powell says balance sheet reduction on auto pilot”, Reuters, December 19, 2018
¹⁷ “In-Depth: Is the Fed Monetizing Government Debt?”, Federal Reserve Bank of St. Louis, April 1, 2013



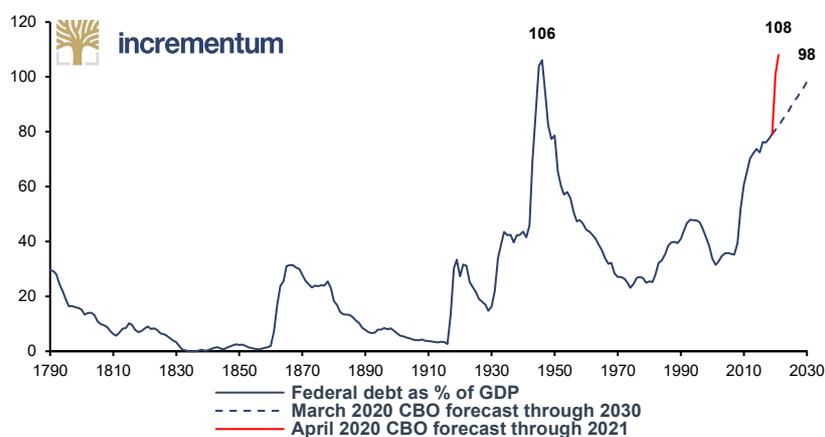
If my answers frighten you, Vincent, then you should cease asking scary questions.

Pulp Fiction

Have the industrial nations fallen prey to QE addiction?

In our view, the occurrence of another recession even before monetary policy normalization confirms that the “medicine” of unconventional monetary policy is at best paused but can no longer be stopped. **QE is now conventional monetary policy, part of the new normal, and the (indirect) financing of the state budget via the electronic printing press is the new permanent state of affairs.**

Federal debt as % of GDP, 1790-2030



Gold has stood the test of time, providing a stable store of wealth to mankind for millennia. And as we look to an increasingly uncertain future, with fiat currencies across the globe under siege from rising debt levels, it remains the only money guaranteed to survive.

Grant Williams

There is unanimity among governments and central banks on how to combat the economic consequences of the Covid-19 crisis: As many people as possible should be saved, whatever the cost. Après nous le déluge – the level of debt no longer matters. The combination of an unprecedented economic collapse and soaring debt levels is explosive. The debt is now threatening to get out of hand for good. **After the Covid-19 crisis, a worsening debt crisis looms.** It will probably no longer be possible to finance the debt, as global savings volumes are no longer sufficient to cover the financing requirements necessary to keep the electronic printing press up and running.



Credit: [Wikipedia](#)

The central banks are not only playing along with the governments' debt game, they are actively encouraging it. In the case of the eurozone, Madame Lagarde calls for a “*common European fiscal response*”, which should be “*swift, sizeable and symmetrical*”.¹⁸ Yet through their actions, central banks are putting the last remnants of their independence at risk. Neel Kashkari, president of the Federal Reserve Bank of Minneapolis, recently answered the question of whether the Federal Reserve would simply print money on the TV show *60 Minutes*:

“That’s literally what Congress has told us to do. That’s the authority that they have given us, to print money and provide liquidity into the financial system. And that’s how we do it. We create it electronically. And then we can also print it with the Treasury Department, print it so that you can get money outta your ATM.”¹⁹

Money printer go Brrr

The realization that the central bank money supply will only know one direction will also affect the highest good of an uncovered fiat currency: confidence. In addition to system-critical gold bugs, an increasing number of fiat-money critics can also be found within the younger generation,



Source: [Money Printer Go Brrr \(the original!\)](#), YouTube

most of whom reach this insight by studying cryptocurrencies. As the new QE programs are rolled out, these youthful citizens of the world are taking to social media to hold the overseers of monetary policy responsible. With the implementation of the new QE programs, memes,²⁰ fun homepages,²¹ and YouTube videos have appeared online in the USA around the slogan “Money Printer Go Brrr”. Critics of the current monetary system are still in the minority. However, a world dominated by permanent money printing should increase the popularity of this critical view in the coming years. **In addition, even more radical measures such as the implementation of MMT, helicopter money, increased financial repression measures such as cash restrictions, and low negative interest rates can be expected in the course of the next few years.**

The Great Monetary Inflation

The extent of the central bank measures is not only of concern to a critical minority of consumers. Assorted investment legends have also been unable to hide their concerns about the ginormous QE programs. For example, hedge fund luminary Paul Tudor Jones has drawn attention in his latest report, entitled “The Great Monetary Inflation”. He states that he is extremely critical of monetary policy and therefore bullish on gold:

“The depth and magnitude of the economic drop-off took modern monetary theory – or the direct monetization of massive fiscal spending – from the



Courtesy of Hedgeye

¹⁸ “[Lagarde urges eurozone to launch joint fiscal stimulus](#)”, Financial Times, May 8, 2020

¹⁹ “[Coronavirus and the economy: Best and worst-case scenarios from Minneapolis Fed president](#)”, CBS News, March 22, 2020

²⁰ Know Your Meme: [Money Printer Go Brrr](#)

²¹ [brrr.money](#)

theoretical to practice without any debate. It has happened globally with such speed that even a market veteran like myself was left speechless.”²²

I think Gold will go substantially higher.

Paul Tudor Jones

It’s important to highlight that both periods of extremely depressed commodities prices (1970 and 2000), were accompanied by overvalued equity markets and related investment bubbles – a situation that exists once again today.

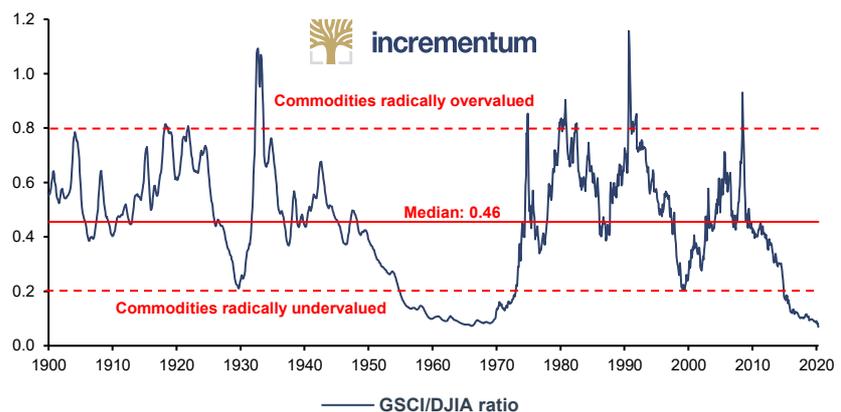
Leigh Goehring & Adam Rozenchwajg

In addition, Jones has expressed a positive view of Bitcoin as a hedge against the incoming monetary tsunami, as he sees a high convexity here. The topic of Bitcoin is also close to our hearts, which is why we regularly report on it in our *In Gold We Trust* reports, as we did again this year. **Recently, we also started offering a fund strategy for professional investors that invests in both physical gold and Bitcoin.**²³

Where does the money flow to?

It is very possible that experimental monetary policy will trigger a renaissance of hard assets. If that thesis is correct, the battered commodity sector should also offer opportunities to courageous contrarian investors. Relative to the Dow Jones index, commodities are currently trading at the lowest valuation level since the mid-1960s. Compared to equities, commodities were undervalued to a similar extent only before Black Thursday on October 24, 1929 and during the exaggerations of the dotcom bubble.

GSCI/DJIA ratio, 01/1900-04/2020



Source: Goehring & Rozenchwajg, Reuters Eikon, Incrementum AG

Let us take a closer look at the two phases in which commodities were so favorably valued compared to equities, at the onset of commodity bull markets. What both phases have in common is that they were preceded by massive monetary inflation.

The parallels of the decade changes around 1970 and 2000 to the current situation are astonishing. Each time before, an expansive monetary policy had fed a period of bullish stock markets. What the Nifty Fifty were in the 1960s, the dotcoms were in the 1990s and the FAANG stocks are now. Could history now repeat itself? After 1970 and 2000, a decade of commodities began in each case. In the past 10 years we have experienced the most expansive and experimental monetary policy in history, but it has only peripherally reached the commodity markets.

²² Jones, Paul T. and Giorgianni, Lorenzo: “The Great Monetary Inflation”, *Market Outlook – Macro Perspective*, May 2020

²³ Further information can be found at www.noninflatable.com.

It takes 20 years to build a reputation and five minutes to ruin it. If you think about that, you'll do things differently.

Warren Buffett

Gold is the anchor of trust for the financial system. If the whole system collapses, the gold stock can serve as a basis to build it up again.

De Nederlandsche Bank

Fiat system goes critical

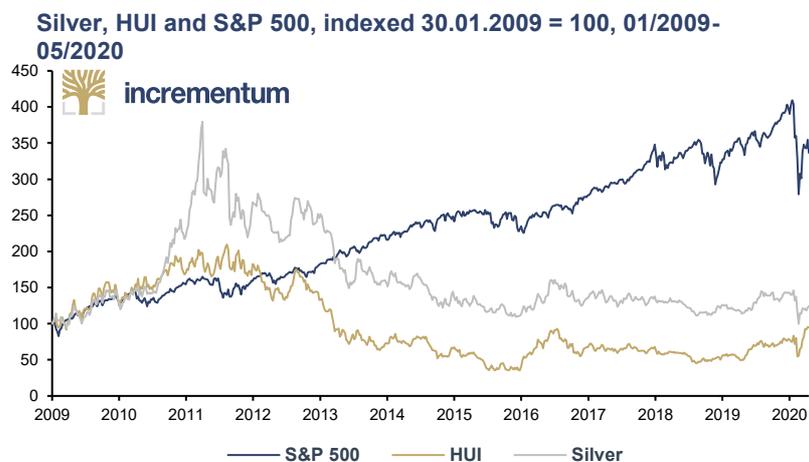
With the dawn of the new decade, the world will become increasingly interventionist. In keeping with the motto “Once your worldly reputation is in tatters, the opinion of others hardly matters”, all the barriers to new debt are now being breached. Debt no longer plays a role, and zero interest rates and money supply expansion remain the order of the day as far as the eye can see.

The mixed situation at the beginning of this decade holds the possibility that the world monetary order that has existed for almost half a century may be fundamentally unhinged. This is the conclusion reached by an increasing number of analysts working for traditional banks. Deutsche Bank, for example, writes in its outlook for the year 2030 that our monetary system could start to totter before the end of the decade:

“The forces that have held the current fiat system together now look fragile, and they could unravel in the 2020s. If so, that will start to lead to a backlash against fiat money, and demand for alternative currencies such as gold or crypto could soar.”²⁴

Savers and investors will find it increasingly difficult to navigate their assets safely through the coming times. While the world is threatened by a flood of fiat currencies, safe havens are scarce. Gold could also increasingly compete with bonds in an era of negative interest rates. The conditions for investing in gold could not be better. While we do not know what the level of debt or the money supply will be at the end of the decade, in the case of gold or even Bitcoin, it is quite likely that there will be a relative shortage.

Historically, permanent central bank-financed debt has always led to rising inflation rates. In addition, silver and mining stocks are good investments for inflationary scenarios. Both assets have been rather shunned by traditional investors in recent years and are still relatively cheap. Therefore, we are devoting a chapter to silver and silver mining stocks in this year’s *In Gold We Trust* report.



²⁴ Reid, Jim: “The end of fiat money?”, in: “[Imagine 2030 - The decade ahead](#)”, db research, December 4, 2019, p.10

Our claim has always been to provide a holistic analysis of the financial markets. Ultimately, our approach differs from that of other gold analysts in that we aim to capture the longer-term *big picture* as comprehensively as possible.

Year after year, the *In Gold We Trust* report strives to be the most recognized, widely read, and comprehensive analysis of gold in the world. This would not be possible without the fantastic help of our entire team of more than 20 people and especially without the support of our [Premium Partners](#)²⁵, to whom we would like to express our gratitude and sincere thanks.

Learn from yesterday, live for today, hope for tomorrow. The important thing is not to stop questioning.

Albert Einstein

True to Prof. Einstein's words (on the left), we will continue to do our best to provide you, dear readers, with a comprehensive, informative, and entertaining guide to gold investments and the factors influencing it.

Now we invite you to our annual tour de force and hope that you enjoy reading our 14th *In Gold We Trust* report, "The Dawning of a Golden Decade", as much as we enjoyed writing it.

Cordially,



Ronald-Peter Stöferle and Mark J. Valek



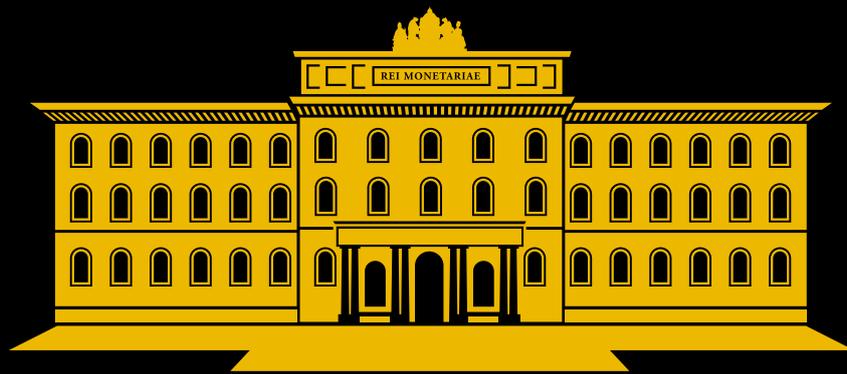
²⁵ At the end of the *In Gold We Trust* report you will find an overview of our *Premium Partners*, including a brief description of the companies.



MÜNZE
ÖSTERREICH

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GOLD DEPOT

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The Status Quo of Gold

“Realize that everything is connected to everything else.”

Leonardo Da Vinci

Key Takeaways

- Gold has recently reached new all-time highs in almost all currencies. With regard to the US dollar, the question is not whether an all-time high will be reached, but rather when.
- While liquidity worries and the fear that too little money would be printed still dominated in 2008, the Covid-19 recession/depression is likely to lead to a contrary market assessment.
- We are convinced that we are now close to a fork in the road: disinflationary pressures will (have to) be broken. Inflationary forces will prevail. We assume that inflation will be the dominant investment theme in the coming years.
- Central banks and institutional investors in particular will generate greater demand for gold.
- Rising price inflation coupled with a fading post-coronavirus economy is the “perfect storm” for gold.
- The expansion of the money supply, the negative real interest environment, and the disproportionate growth of debt have further increased the fragility of the global system.

When the traveler goes alone he gets acquainted with himself.

Liberty Hyde Bailey

It requires a very unusual mind to make an analysis of the obvious.

Alfred North Whitehead

As in previous years, we begin our long journey through the gold universe in this year's *In Gold We Trust* report with a detailed analysis of the most important influencing factors. Especially in times of upheaval, a comprehensive assessment of the situation is important. This applies to everyone personally, as well as to the macroeconomic overall picture. At least three reference points are needed to determine a position; and with each additional reference point, the position can be determined with increasing accuracy. Therefore, on the following pages we want to analyze the status quo of gold from as many perspectives as possible.

In contrast to the majority of gold analysts, we do not consider the exclusive analysis of supply/demand statistics to be very helpful for assessing gold price development. Gold is a stock commodity and a monetary metal.²⁶ As such, the decisive short and medium-term factors that ultimately affect price developments are closely related to the current situation of the monetary system and financial markets. **In our analysis we therefore focus primarily on the following factors:**

- Trend of the US dollar and other fiat currencies
- Opportunity costs (shares, bonds, ...)
- Trend in commodity prices
- Inflation trend and inflation expectations
- Level and trend of real interest rates
- Credit spreads (as an indicator of economic confidence and credit growth)
- Dynamics of the debt situation
- Trends and momentum of monetary growth
- Confidence in central bank policy and the stability of the financial system and economic development
- Confidence in politics and fiscal stability
- Geopolitical environment
- Technical setup (positioning, sentiment, ...)

²⁶ See "[Stock-to-Flow Ratio as the Most Important Reason for Gold's Monetary Importance](#)", *In Gold We Trust* report 2013, "[The Stock-to-Flow Ratio as the Most Significant Reason for Gold's Monetary Importance](#)", *In Gold We Trust* report 2014, "[Gold and Inflation](#)", *In Gold We Trust* report 2015

Status Quo of Gold in the Currency Context

“Scarcity is the fundamental starting point of all economics, and its most important implication is the notion that everything has an opportunity cost.”

Saifedean Ammous

Traditionally, we start our assessment by looking at the most important performance data. Over the past 12 months, gold has reached new all-time highs in almost all currencies, including EUR, JPY, CHF, CNY, AUD, CAD, GBP, etc. **The “market breadth” of the uptrend was therefore excellent.**

What’s past is prologue.
William Shakespeare

The development in calendar year 2019 was superb on a US dollar basis, with a plus of 18.9%, and even more remarkable on a euro basis with 22.7%. Let us now look at the gold price development since the last *In Gold We Trust* report in USD and in EUR. We see that three weeks after the publication of the last *In Gold We Trust* report on May 28, 2019 the gold price successfully jumped above the resistance zone at USD 1,360-1,380.²⁷ Subsequently, the impulsive move we had expected to see to just under USD 1,600 set in before the price consolidated in the autumn.

Gold in USD & EUR, 1 year performance



Source: Reuters Eikon, Incrementum AG

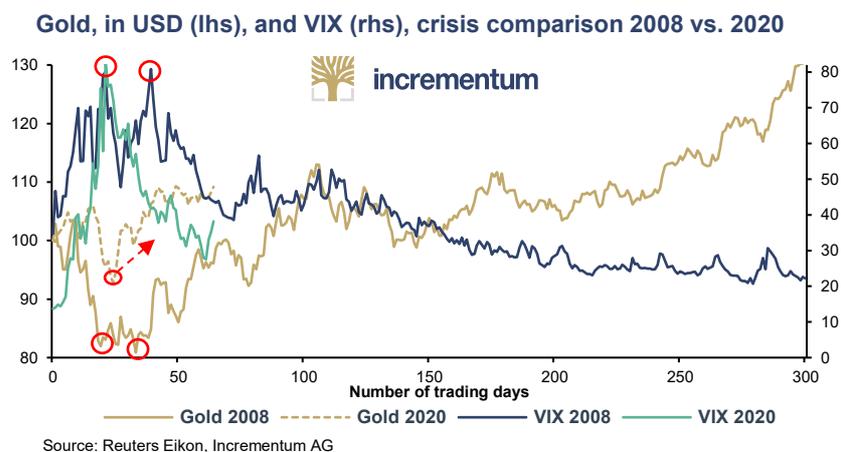
Since the outbreak of the coronavirus crisis and the epochal monetary and fiscal stimuli associated with it, even hard-boiled gold bulls have been surprised by the vehemence of the rally, even though gold also had a good run during the March stock market sell-off.

²⁷ However, it would be too much to attribute this breakthrough to our prediction alone.

If we look at recent developments, it seems that many investors have been disappointed and unsettled by gold's performance during the initial Covid-19 crash phase. In our opinion, the following factors were the main reasons for the weaker performance in the short term:²⁸

- **Stress liquidity:** Gold is a highly liquid asset, with an average of USD 260 billion in gold contracts traded each day. During situations of stress in financial markets, gold can be liquidated quickly and at low cost. When volatility rises to extreme levels, selling pressure sets in, as can be seen from the following chart. In such exceptional situations, one of gold's great strengths – its ability to liquidate quickly into fiat currencies almost anywhere in the world – translates into temporary losses.
- **Profit-taking:** Gold rallied in the first trading weeks of 2020 and on March 9 – just before the sell-off – was already up 7% on the year. Profit-taking then occurred.
- **The selling pressure came primarily from the derivatives market:** The net long position on the COMEX was at a record high before the sell-off. Between March 9 and March 19, trading volumes amounted to almost 5 million futures contracts. On the other hand, there were massive inflows on the physical demand side and also in ETFs.
- **Real interest rate development:** Crash phases are always deflationary, i.e. real interest rates rise due to imploding inflation expectations, which naturally means headwinds for the gold price.

In 2008 the high in the VIX (CBOE Volatility Index) at 80 points corresponded to the lows in gold. A similar situation occurred in 2020, when the VIX reached a high of 82.7 on March 16 and gold saw its intraday low at USD 1,455.



²⁸ See also "Investment Update: Gold prices swing as markets sell off", World Gold Council, March 19, 2020

After that, gold and mining stocks recovered more quickly than stocks and other risk assets in general. By the time the S&P 500 hit its low of 2,237 on March 23, 2020, gold had already risen USD 100 from its lows. As we have formulated in previous years, gold usually trades weaker at the beginning of a crash, for the reasons mentioned above. **It is fiscal and monetary measures that boost the gold price again only a short time later.**

Bear markets have three stages – sharp down, reflexive rebound and a drawn-out fundamental downtrend.

Bob Farrell, Rule #8

Now the question arises: Has the danger in markets already been averted? Have central bankers and politicians once again bailed us out? Will the financial and real economy soon return to “business as usual”? The loyal reader probably already suspects that a healthy dose of skepticism is in order, because historically market crashes occur in three phases:

1. Initial panic selling ✓
2. Relief rally from the low point, aka “dead cat bounce”²⁹ ✓
3. Demoralizing retest of the panic low as disastrous corporate and economic news is released. But the market no longer falls below the initial panic lows. ✗

After these three crash phases, it seems not completely implausible that the markets will test their lows again and the VIX will snap up once more. This was the case in 2008/2009, when the VIX reached almost 90 during trading on 24 October 2008. Then, on the 20th November, after a sharp interim fall, the VIX rose above 80 again, **which, if the pattern repeats in 2020, could mean some headwind for the gold price.**

The biggest misconception about gold is that it’s no longer money. The idea that a bureaucrat, a president, could say in 1971 that gold’s not money and therefore it isn’t. After 4,000 years, that the bureaucrats control money, is an absurdity to anyone who studied history and understands economics.

Daniel Oliver

But let us now turn to the “market breadth” of gold, i.e. the development in different currencies. This analysis helps us to understand how solid the upward trend is. The world gold price, which represents the gold price in the trade-weighted external value of the US dollar, has successively marked new all-time highs and is currently quoted at 2,500. The divergence between the gold price in US dollars and the world gold price is a good indication of the strength of the US dollar, which has been dominant since the end of 2012. **In view of the extremely strong rise in the world gold price recently, it seems that a consolidation is now likely.**

²⁹ See Wikipedia entry: “[Dead Cat Bounce](#)”: “The term is a metaphor in the financial markets. It describes the unsustainable recovery after a strong, usually prolonged, slump. The term is derived from the cynical saying: ‘Even a dead cat will bounce if it is dropped from high enough!’ So after a short ascent the course continues to collapse.”

Gold in USD, and world gold price, 01/2008-05/2020



Source: Reuters Eikon, Incrementum AG

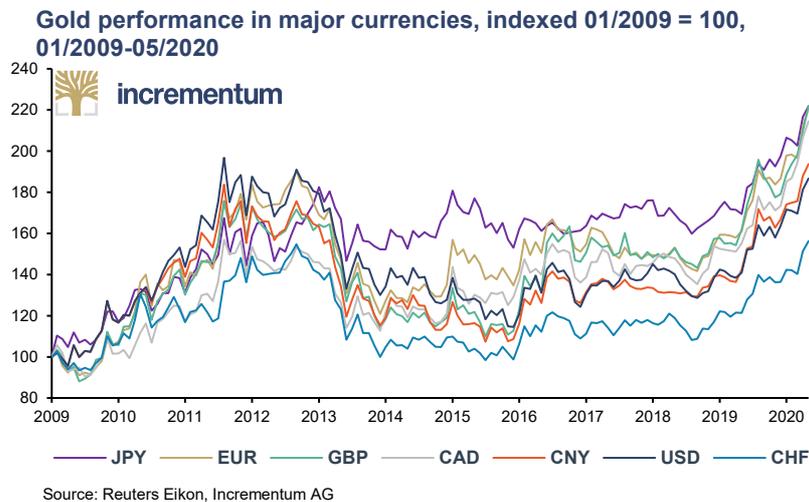
Now we want to break down the currency spectrum even further and look at the gold price in the major currencies. **The full year 2019 was clearly positive for gold in all currencies, with an average of 18.3%.** The performance in this secular bull market remains impressive. The average annual performance from 2001 to 2020 is 10.30%. **During this period, gold was able – despite significant corrections – to clearly outperform practically every other asset class and, above all, every other currency.** Since the beginning of 2020, the performance has been stellar.

Gold performance since 2001 in various currencies (%)

	EUR	USD	GBP	AUD	CAD	CNY	JPY	CHF	INR	Average
2001	8.1%	2.5%	5.4%	11.3%	8.8%	2.5%	17.4%	5.0%	5.8%	7.4%
2002	5.9%	24.7%	12.7%	13.5%	23.7%	24.8%	13.0%	3.9%	24.0%	16.2%
2003	-0.5%	19.6%	7.9%	-10.5%	-2.2%	19.5%	7.9%	7.0%	13.5%	6.9%
2004	-2.7%	5.3%	-2.3%	1.8%	-1.9%	5.3%	0.7%	-3.4%	0.6%	0.5%
2005	36.8%	20.0%	33.0%	28.9%	15.4%	17.0%	37.6%	37.8%	24.2%	26.1%
2006	10.6%	23.0%	8.1%	13.7%	23.0%	19.1%	24.3%	14.1%	20.9%	17.2%
2007	18.4%	30.9%	29.2%	18.3%	12.1%	22.3%	22.9%	21.7%	16.5%	21.7%
2008	10.5%	5.6%	43.2%	31.3%	30.1%	-2.4%	-14.4%	-0.1%	28.8%	15.5%
2009	20.7%	23.4%	12.7%	-3.0%	5.9%	23.6%	26.8%	20.1%	19.3%	16.5%
2010	38.8%	29.5%	34.3%	13.5%	22.3%	24.9%	13.0%	16.7%	23.7%	25.2%
2011	14.2%	10.1%	10.5%	10.2%	13.5%	5.9%	4.5%	11.2%	31.1%	11.2%
2012	4.9%	7.0%	2.2%	5.4%	4.3%	6.2%	20.7%	4.2%	10.3%	7.5%
2013	-31.2%	-28.3%	-29.4%	-16.2%	-23.0%	-30.2%	-12.8%	-30.1%	-18.7%	-24.1%
2014	12.1%	-1.5%	5.0%	7.7%	7.9%	1.2%	12.3%	9.9%	0.8%	6.2%
2015	-0.3%	-10.4%	-5.2%	0.4%	7.5%	-6.2%	-10.1%	-9.9%	-5.9%	-3.8%
2016	12.4%	9.1%	30.2%	10.5%	5.9%	16.8%	5.8%	10.8%	11.9%	12.3%
2017	-1.0%	13.6%	3.2%	4.6%	6.0%	6.4%	8.9%	8.1%	6.4%	6.3%
2018	2.7%	-2.1%	3.8%	8.5%	6.3%	3.5%	-4.7%	-1.2%	6.6%	2.6%
2019	22.7%	18.9%	14.2%	19.3%	13.0%	20.3%	17.7%	17.1%	21.6%	18.3%
2020 ytd	17.6%	14.3%	24.4%	22.7%	23.0%	17.0%	13.2%	14.8%	22.0%	18.7%
Average	9.7%	10.7%	12.0%	9.5%	10.0%	9.7%	10.1%	7.8%	13.0%	10.3%

Source: Goldprice.org, Incrementum AG, figures as of May 22, 2020

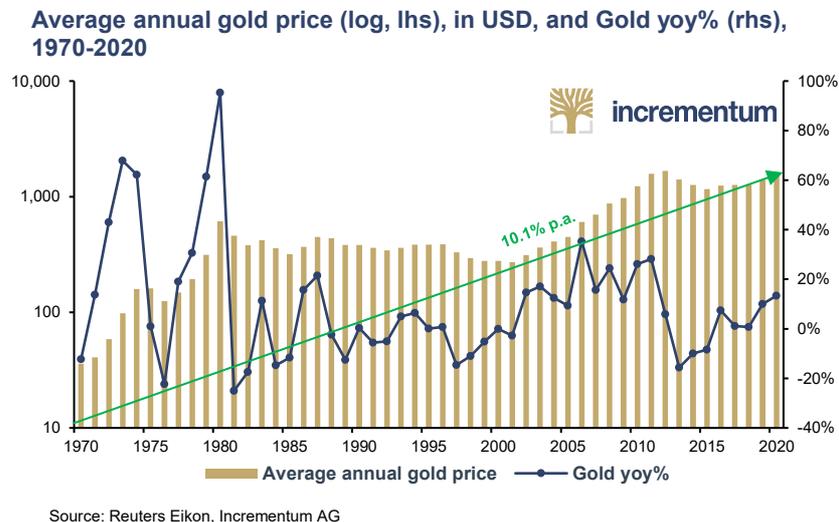
If we now look at the gold price development in the 7 most important currencies, we can observe that only on the basis of the US dollar the highs from 2011-2013 have so far not been exceeded.



Gold has worked down from Alexander's time... When something holds good for two thousand years, I do not believe it can be so because of prejudice or mistaken theory.

Bernard Baruch

But let us now turn back even further in the history books. Since 15 August 1971 – the beginning of this new monetary era – the average annual increase in the price of gold in US dollars has been 10.1%. The inflation-adjusted appreciation of gold against the US dollar is 6.1% per year on average. The chart below impressively demonstrates that the regular accumulation of gold (“gold saving”), taking advantage of the cost-average effect, is advisable.



If we look at the gold price development in different currencies and over decades, we see that the performance diverges significantly. The 1970s in particular, and to a lesser extent the 2000s, can be described as golden decades. If you look at the development of real interest rates in the US dollar, this performance makes perfect sense. The 1970s were characterised by negative real interest rates as a result of high inflation. The dynamics changed dramatically in the early 1980s. While zero interest rates were reached for the first time at the end of the 2000s, the relatively low rate of inflation in the 2010s did not cause real interest rates to fall further, although nominal interest rates remained at their lowest levels.

Gold Yields	1971-1980	1980-1990	1990-2000	2000-2010	2010-today
USD	1,268%	-22%	-28%	281%	39%
EUR	1,256%	-3%	-15%	168%	80%
GBP	1,275%	9%	-28%	281%	84%
CHF	1,098%	-24%	-26%	148%	32%
JPY	1,219%	-53%	-49%	246%	59%
AUD	1,269%	7%	-18%	179%	85%
CAD	1,282%	-23%	-10%	177%	75%
INR	1,274%	30%	33%	313%	114%
RUB	1,296%	-17%	30%	306%	209%
ZAR	1,251%	142%	73%	357%	189%
CNY	1,204%	155%	26%	214%	46%
TRY	1,358%	74%	71%	939%	442%
BRL	1,360%	-24%	72%	278%	232%
ARS	1,356%	68%	-29%	1,370%	1,930%

Source: Bloomberg, Michael Nicoletos, Incrementum AG

Conclusion

Last year we drew the following interim conclusion:

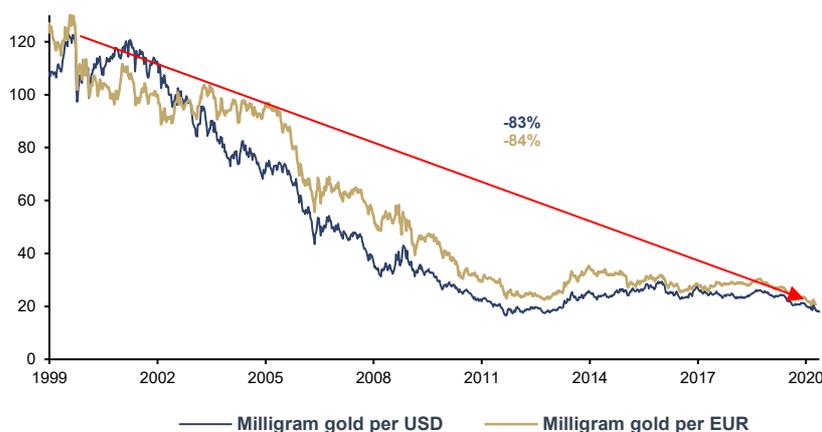
“Whether viewed in EUR or USD, it seems that the price of gold is slowly creeping up, on the quiet and far from any attention from the media or the wider investment community. The fact that gold is already trading at new all-time highs in some currencies confirms this theory.”³⁰

Currencies don't float, they just sink at different rates.

Clyde Harrison

Our forecast, or rather our conclusion from last year, that gold was in a new bull market, has come true. The strength of the trend was accentuated even further last year, which is why we assume that new all-time highs will soon be reached in US dollar terms. For us it is obvious that the gold price – against any currency – is about to enter a golden decade, i.e. the purchasing power of EUR, USD, etc. measured in gold will continue to fall.

Milligram gold per USD & EUR, 01/1999-05/2020



Source: Reuters Eikon, Incrementum AG

³⁰ See “The Status Quo of Gold”, In Gold We Trust report 2019

Status Quo of the US Dollar and the US Economy

“The cycle of manias and panics results from procyclical changes in the supply of credit ... Money always seems free in manias.”

Charles Kindleberger

When we recall the recessions of recent years, the Anna Karenina principle comes to mind.³¹ Leo Tolstoy noted in his epoch-making novel:

“All happy families are alike; each unhappy family is unhappy in its own way.”

While many factors, such as sexual attraction, finances, child rearing, religion, and relationships with in-laws and friends must all go well to make possible a happy family life, it is enough for *one* of these factors *not* to be positive for unhappiness to prevail.

In general terms:

- Success requires many positive factors, all of which must be interlinked.
- For failure, only one negative factor is needed.³²

A recession is when you have to tighten your belt; depression is when you have no belt to tighten. When you've lost your trousers – you're in the airline business.

Adam Thomson

The situation is similar with recessions. While upswings are usually similar, every economic downturn has its own characteristics. In the 1930s it was deflation, which in turn had its origins in the inflationary *Roaring Twenties*; in the oil crises it was the politically motivated supply shock combined with double-digit inflation and interest rates in the USA; in 1999/2000 it was the dotcom mania; in 2008/2009 the subprime crisis with its devastating consequences for the banking sector; and now finally the coronavirus recession. **But all crises had their origins in too-expansive monetary policy in the run-up to them, which fired up too wild a party. Just as a lack of alcohol brings the party to an abrupt end, so the withdrawal of liquidity and rising interest rates will mark the end of the stock market party.**

Black Swan or Gray Rhino?

In recent weeks, countless experts have described the Covid-19 pandemic as a *black swan*. But it seems that the wrong animal metaphor is being applied here.³³

³¹ [“Wie Privatanleger eine drohende Rezession erkennen”](#) (“How private investors recognize an impending recession”), NZZ, August 14, 2019

³² See Wikipedia entry: [“Anna Karenina principle”](#)

³³ World Gold Forum: [“Keynote Speech – Ronald-Peter Stoeferle: ‘Gold in 2019: A New Bull Market Forming?’](#)”, YouTube, May 1, 2019

We issued our warning that, effectively, you should kill it in the egg. ... Governments did not want to spend pennies in January; now they are going to spend trillions.

Nassim Taleb

There is no vaccine against stupidity.

Albert Einstein

Historically the inversion of the yield curve has been a good sign of economic downturns, but this time it may not.

Ben Bernanke

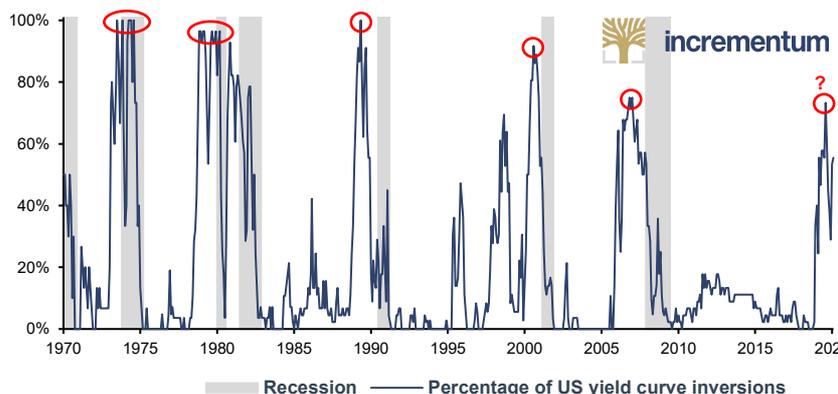
The term black swan was coined by Nassim Taleb. With it he describes an event that comes completely unexpectedly and exerts a great influence. The events of 11 September 2001, for example, were a typical black swan.³⁴ The current pandemic is not a black swan, in Taleb's eyes. After all, governments have had sufficient warning and enough time to prepare for the outbreak of a pandemic.³⁵ Countries such as Taiwan, South Korea, and Hongkong had taken the necessary precautions and adopted early containment measures, in large measure thanks to the experience gained from the 2002/2003 SARS pandemic. So far, success has proved them right.

If we stick to Taleb's original concept, the correct metaphor for the coronavirus crisis is that of a "gray rhino". A gray rhino event is very likely and has enormous consequences, but the responsible actors have systematically underestimated the threat. The term was coined by policy analyst Michele Wucker, who published the book *The Gray Rhino: How to Recognize and Act on the Obvious Dangers We Ignore* after the Greek financial crisis of 2012.³⁶

So the Covid-19 pandemic is not the black swan. The reaction of politicians and central banks and the downstream consequences for the real economy, companies, prosperity, society, and financial markets; that is the black swan.

The prediction of the final drop that causes the barrel to overflow is known to be complex. However, it was evident that the barrel was filled to the brim. In previous years, we have often referred to the increasing fragility of the global economy and to specific risk factors.

Percentage of US yield curve inversions, 01/1970-02/2020



Source: Tavi Costa, Crescat Capital LLC, Incrementum AG

Our economic pessimism was based primarily on the interest rate structure, which, as is well known, has the best track record in terms of recession forecasts. The yield curve has once again impressively demonstrated this forecasting ability, even though in the course of the inversion numerous reasons were given as to why "this

³⁴ A detailed explanation of Taleb's concept of the black swan can be found in "Gold in the Context of Portfolio Diversification", *In Gold We Trust report* 2016

³⁵ See "Systemic Risk of Pandemic via Novel Pathogens – Coronavirus: A Note", Joseph Norman, Yaneer Bar-Yam, Nassim Nicholas Taleb, January 26, 2020

³⁶ Wucker, Michele: "The Gray Rhino: How to Recognize and Act on the Obvious Dangers We Ignore", 2016

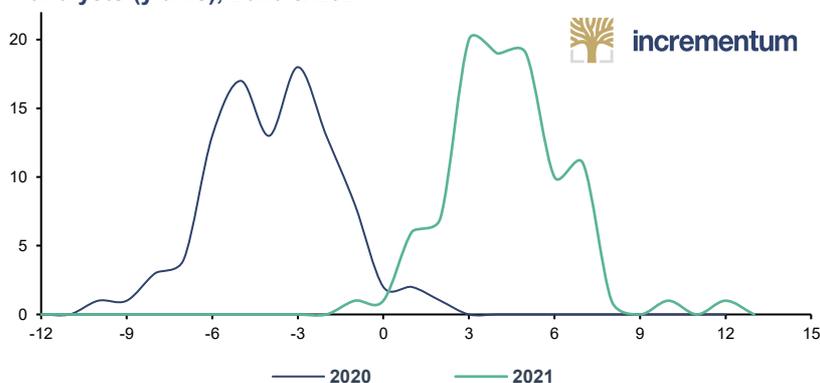
time is different". **History is known to be the best teacher for the most inattentive students.**

The only function of economic forecasting is to make astrology look respectable.

John Kenneth Galbraith

Last year we also pointed out that of the 87 analysts surveyed by Bloomberg, not a single one (!) expected GDP to contract in 2019, 2020, or 2021. The expected growth in these three years averaged between 1.8% and 2.4%. This may be ascribed to herd mentality but also to structural problems (career risk). For 2020, the 96 analysts surveyed forecast an average economic downturn of 4.2% for the USA. According to the analysts, US GDP will recover again in 2021 and increase by 3.9% on average. However, the unusually wide range of estimates shows that there is still a great deal of uncertainty in the market and that the current economic situation is difficult to assess, with the result that the forecast growth figures have to be revised almost weekly - usually downwards.

Smoothed distribution of annual US GDP growth projections made by 96 analysts, GDP growth (x-axis), in %, and number of analysts (y-axis), 2020 & 2021



Source: Bloomberg, Incrementum AG

Mises's solution follows logically from his warnings. You can't fix what's broken by breaking it again. Stop the credit gavage. Stop inflation. Don't encourage consumption, but rather encourage saving and the repayment of debt.

Mark Spitznagel

But let us now take a closer look at the phenomenon of recession.

Where does the recession phobia actually come from? Actually, the evil "R-word" should be allowed to take place. We see recessions as something healthy and necessary. The downturn corrects the mistakes and excesses of the upswing. In the process, encrusted structures in the labour market break down, labour costs fall, and productivity and competitiveness generally increase. Misallocations are corrected; unprofitable investments are stopped, written off, or liquidated; and mismanaged governments are voted out of office. Investors and entrepreneurs who act too riskily and are overleveraged suffer losses, and goods prices are adjusted to actual consumer preferences. According to our analogy of monetary tectonics,³⁷ one could also say that smaller quakes prevent larger quakes because they reduce tensions. Similarly, recessions reduce imbalances.

Fighting depression through forced credit expansion is like trying to heal an evil by its own causes.

Friedrich August von Hayek

This also means, however, that these adjustment processes become all the more unpleasant the longer you delay them and the more you try to stem them through fiscal and monetary policy interventions. In a democratic system there is a real political danger that a painful adjustment process cannot be allowed to take place because the interventions have previously been too

³⁷ See "Gold and Inflation", In Gold We Trust report 2014; "Gold and Inflation", In Gold We Trust report 2015

extreme and the adjustment processes will therefore take too long to bear fruit. No democratic government which, at the next election, gets the receipt for the obvious successes and failures during its term of office, will voluntarily allow a deep, cleansing recession, even if it believes that the adjustment processes are necessary.

The performance of gold in recessions

In view of the current horrific economic news, the question arises whether we are facing even worse or whether the worst is already behind us. In the *In Gold We Trust* report 2019, we examined the performance of gold in recessions in detail and explained why gold is an excellent equity diversifier and recession hedge.³⁸ An important reason for gold's good performance in recessions is that gold discounts the typically implemented fiscal and monetary policy measures early on.

So let's now take a closer look at gold and equity performance during recessions.^{39,40} Readers of the *In Gold We Trust* report know that gold, as an event hedge or safe haven, should perform well during recessions. **In the table below we look at all recessions in the US since 1970, breaking each one down into four phases:**

- **Phase 1:** Pre-recession phase (one quarter before the recession)
- **Phase 2:** Unofficial recession (entry into recession until the official announcement of GDP growth figures by the statistical authorities; assumption: one quarter)
- **Phase 3:** Official recession
- **Phase 4:** Final phase of the recession (last quarter of the recession)

Performance: S&P 500 and gold, in USD and EUR, in %, 1970-2020

	Duration of the recession	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%	N/A	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	Q2/2020-	1.2%	8.5%	-9.3%		4.5%	3.1%	12.1%		9.0%	0.2%	16.0%	
Average:		-3.1%	-0.5%	-6.9%	6.6%	8.4%	6.0%	13.9%	8.8%	7.5%	7.9%	18.0%	2.5%

Source: Federal Reserve St. Louis, Investing.com, World Gold Council, Incrementum AG

If we look at performance over the entire recession cycle, it is striking that gold has seen significant price increases on average in both USD and EUR at every stage. By contrast, equities (S&P 500) were only able to make significant gains in the final phase of the recession. **Thus, gold was able to compensate very well for the stock losses in phases 1, 2 and 3.**

Furthermore, it is noticeable that on average gold performed the stronger the

³⁸ See "Portfolio Characteristics: Gold as Equity Diversifier in Recessions", *In Gold We Trust* report 2019

³⁹ The data are based on the recessions for the USA, determined by the NBER.

⁴⁰ See "Gold in a Context of Portfolio Diversification", *In Gold We Trust* report 2015; "Gold in a Context of Portfolio Diversification", *In Gold We Trust* report 2016; "The Portfolio Characteristics of Gold", *In Gold We Trust* report 2017

Nothing beats a little cash in a bear market, of course, and the oldest form of cash is gold.

Jim Grant

higher the price losses of the S&P 500. This has once again proven to be true in the course of the current crisis.

So all in all the data shows that gold was very good at compensating for stock price losses during recessions. **We expect that gold should continue to be used as a corrective in equity bear markets in the future, even in the looming sharp recession. We are about to enter Phase 3, the official declaration of recession, and massive monetary and fiscal rescue packages have already been thrown together to combat the downturn.** And we are certain that a vast amount of further stimulus will be injected over the course of the coming quarters.

If we now look at the performance of gold in all the years in which the S&P 500 has closed out the year with a loss, our theory that gold cushions equity market risk is confirmed – although we can also see that negative performance of the S&P 500 does not necessarily lead to positive performance of gold.

	S&P 500	Gold	Out-/Underperformed
1973	-17%	72%	Outperformed
1974	-30%	73%	Outperformed
1977	-12%	25%	Outperformed
1981	-10%	-32%	Underperformed
1990	-7%	-2%	Outperformed
1994	-2%	-2%	Flat
2000	-10%	-6%	Outperformed
2001	-13%	1%	Outperformed
2002	-25%	24%	Outperformed
2008	-38%	3%	Outperformed
2011	0%	11%	Outperformed
2015	-1%	-10%	Underperformed
2018	-6%	-2%	Outperformed
2020	-14%	14%	Outperformed
Average	-13%	12%	Outperformed

Source: Blackrock, Reuters Eikon, Incrementum AG

How did other asset classes such as US Treasuries, commodities, or currencies perform during the last recessions?⁴¹ Contrary to intuition, commodities tend to be stronger on average at the beginning of a recession, which is surprising given the fact that other risk assets tend to perform poorly. Looking at the last 12 months, commodities have generally performed more weakly than they typically have when emerging from a recession, although the strength of gold is reminiscent of the experience of the last three recessions.

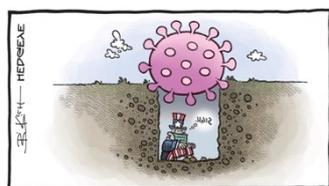
⁴¹ See "Recession Playbook", Morgan Stanley Research, July 23, 2019

Asset	Xm returns going into a recession				Xm returns after recession starts			
	12m	6m	3m	1m	1m	3m	6m	12m
UST 10Y	3.3%	2.5%	3.1%	-1.0%	-2.2%	2.9%	6.6%	10.9%
US investment grade	-1.6%	-1.7%	-0.3%	0.0%	-0.3%	-1.7%	-2.0%	-5.0%
DXY	3.8%	1.5%	1.5%	1.1%	-0.7%	-2.4%	-3.6%	6.3%
EUR/USD	-0.6%	0.5%	-1.2%	-0.9%	0.5%	2.4%	3.8%	-7.8%
Bloomberg Commodity Index	15.0%	11.7%	6.0%	4.6%	1.6%	-2.0%	-0.3%	-16.8%
Brent oil	24.4%	4.2%	13.4%	8.1%	13.8%	27.7%	19.0%	-20.1%
Gold	34.0%	28.3%	20.4%	11.1%	2.6%	-5.2%	0.8%	-7.7%

Source: Morgan Stanley, Reuters Eikon, Incrementum AG

A recession is like a cut and heals quickly. A depression is a deep wound that heals slowly; a wound that ushers in a secular change in consumer attitudes towards debt, savings and expenditure.

Dave Rosenberg



Courtesy of Hedgeye

Recession or depression, that is the question here!

The question of whether we are “only” sliding into a global recession or whether we are heading for a severe depression was originally the subject of widely divergent forecasts. This is mainly due to the high level of uncertainty about the coronavirus pandemic. Nobody knows how long economic and social life will remain impaired.

The assumption originally made by many economists that normality would quickly return from Q3/2020 onwards – a V-shaped-recovery – was probably far too optimistic from the outset. Christine Lagarde, President of the ECB, was right to make a realistic forecast of a year-on-year decline in economic output of between 5 percent and 10 percent.

Goldman Sachs’ forecast of -24% for the second quarter of 2020 was the first to foresee a slump of more than 20% for one quarter, and thus in our view, entered realistic territory. Goldman has then revised this estimate downwards. A minus 34% for Q2/2020 for the US does not seem impossible, according to the forecast, made in early April. Per May 15, the *Nowcasting Report* calculated by the *Federal Reserve Bank of New York* is posting a dramatic collapse of -31.1%.⁴²

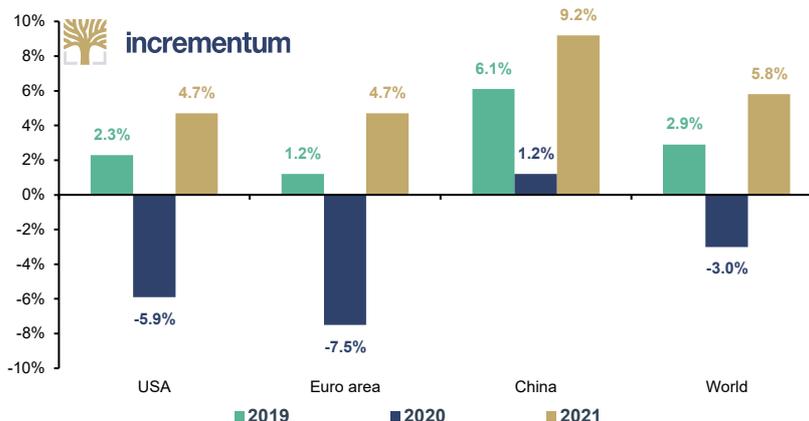
The IMF, in its spring forecast, also expects a substantial slump in the global economy over the entire year 2020.⁴³ However, the predicted global minus of 3.0% could prove too optimistic, as could a strong recovery in 2021. At present, for example, it is completely in the stars as to when air traffic and tourism will return to pre-crisis levels, if this can be achieved at all in the foreseeable future.

Likewise, it cannot be ruled out that infection rates will rise sharply again in late autumn.

⁴² [Nowcasting Report](#), Federal Reserve Bank of New York

⁴³ [“World Economic Outlook, April 2020: The Great Lockdown”](#), IMF, April 2020

Real GDP growth, 2019-2021



Source: IMF, Incrementum AG

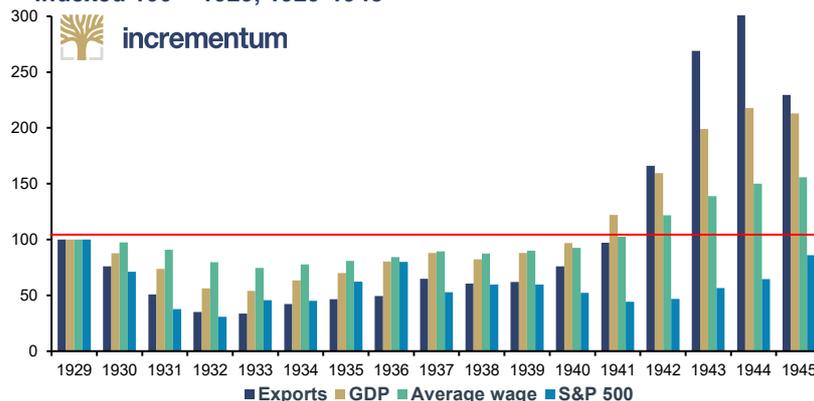
In our view, it is worth comparing the current crisis with the 1930s. A depression leads to secular, i.e. long-term, changes in behaviour. There is a complete rethink, a paradigm shift among individuals, households, companies, and states.⁴⁴ A recession, on the other hand, is only an intermittent slowing down of the engine, which is shifted back into a higher gear after the end of the recession without being fundamentally changed.

What makes a depression different than a recession is that a depression ushers in many years of secular change in behavior. Recessions do not.

Dave Rosenberg

In particular, attitudes towards debt, spending, and savings are undergoing a radical shift. During the Great Depression the savings rate rose from a de facto 0% to 28%, even long after GDP had bottomed out. It is often forgotten that the Depression did not end until 8 years after GDP had reached its lowest point (1933). The stock market did not exceed the highs of 1929 until 1958. The economic, political, and social after-effects were felt for generations.

Changes of selected macro variables during The Great Depression, indexed 100 = 1929, 1929-1945



Source: Federal Reserve St. Louis, Nick Laird, goldchartsrus.com, Incrementum AG

Other noteworthy figures from the Great Depression:

- Real GDP fell by 28% between 1929 and 1933. It was not until 1938 that the level of 1929 was reached again.

⁴⁴ See "Breakfast with Dave", Rosenberg Research, April 13, 2020

- Industry shrank by 50% from 1929 to 1932 and did not reach the level of 1929 until 1939.
- The unemployment rate exploded from 3% to 25% within three years and was still above 10% in 1940.
- The employment rate fell by 20% and only returned to pre-crisis levels after a decade.
- The S&P 500 lost 85% from its high in October 1929 to its low in June 1932.⁴⁵

Nothing moves in a straight line is the point. But picking bottoms is best left to the proctologists.

Dave Rosenberg

It is difficult to imagine that this looming economic slump of historic proportions will not trigger a profound change of mentality in a society increasingly hollowed out by narcissistic demonstrative consumption and in which status symbols often seem to be taken for vital goods.

The US dollar before the breakout?

Now we'll turn to the US dollar and its recent development. Last year we asked the central question: *What will happen to the US dollar if the current Goldilocks scenario is called into question, recession concerns arise, and the Federal Reserve is forced to reverse its monetary policy?*

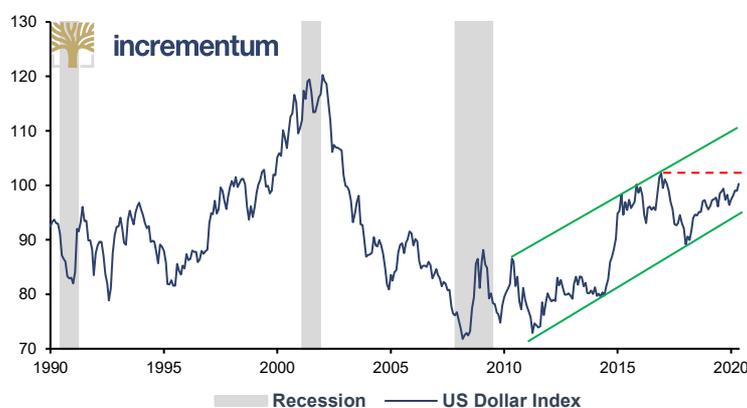
If we reach the point where the U.S. dollar stages a significant uncontrolled breakout higher, gold will spike as the market begins to price in the possibility of a reset of asset prices. At that point, gold would become the ultimate convexity trade for U.S. dollar debasement. Dollar debasement is a key tail risk in the end game.

Paul Wong, Sprott

As is well known, a monetary U-turn has taken place and the interest rate differential between the US dollar and the euro has melted faster than ice in the Caribbean sun. This should be a weighty reason for a weaker US dollar, one would think, and until the beginning of March it looked like it would be. But from March onwards, the US dollar showed its muscle and benefited from its safe-haven function as the coronavirus crisis deepened. **Within a few trading days, the US Dollar Index rallied from just under 95 to 103.6.**

Apart from a pronounced weakness in 2017, the DXY has had only one way to go since the end of 2011, namely up. Looking at the monthly chart of the DXY Index, a breakout above the 102 mark could be followed by an impulsive move with a target in the 120 range. The chart also shows that the dollar tends to be firmer in the run-up to or during recessions, which would argue for a firmer trend.

US Dollar Index, 01/1971-05/2020



Source: Reuters Eikon, Incrementum AG

⁴⁵ See Rosenberg, David: "Stagflation is coming but not yet", *MacroVoices* #216, April 23, 2020

When all the experts and forecasts agree – something else is going to happen.

Bob Farrell, Rule #9

Looking at current estimates for the US dollar, we are stunned by the fact that the analysts' consensus sees the DXY tending towards a slight but persistent weakness after a brief rise. The median of analyst forecasts has the greenback slowly falling this year and then sharply lowering to 93 in 2021. **Not a single analyst expects a sharply higher DXY in the next 3 years.**

US Dollar Index, Q1/2000-Q4/2023e



Source: Bloomberg, Reuters Eikon, Incrementum AG

Gold should be the bedrock of all portfolios.

Brent Johnson

From an anticyclical point of view, we are leaning towards a stronger US dollar, at least tactically. This may seem surprising, as it often seems that as a chrysoophile, i.e. as a friend of gold, one must necessarily also be a US dollar bear. In our opinion, this is a fallacy, because among the gold bulls there are numerous proponents of a strong US dollar thesis. One of these is our esteemed colleague Brent Johnson, who puts forward the following arguments (among others) for a significantly firmer greenback:

- *“As the Global Reserve Currency, there is global demand for the US Dollar (there is not global demand for Euro, Yen, Ruble, Lira, Real, Peso, etc.)*
- *There is currently no clear alternative to the US-Dollar Payment System. In the year of its existence, the INSTEX European non-dollar system has done one transaction of less than \$500,000 and was largely political in nature.*
- *While bilateral trade agreements between non-US countries continue to rise, they pale in comparison to the clear dominance of global trade taking place in US Dollars.*
- *Despite the massive stimulus provide by the FED, the central banks of the rest of the world will also be forced to dramatically increase money supply. Without global demand to backstop their stimulus, we believe these efforts will help to weaken their currencies.*
- *The US has the deepest and most liquid Capital Markets. Due to global demand for US Dollars, we believe the US capital markets will outperform the capital markets of the rest of the world*
- *This outperformance will create a vicious cycle leading to further upward pressure on the US Dollar and downward pressure on other fiat currencies.*

- *After the 2008 Global Financial Crisis, the US recapitalized the US Banking system. Much of the rest of the world did not. As foreign banking systems come under increasing pressure, this will be another factor making the US an attractive alternative.*
- *Much of the non-US Global Economy transacts on Eurodollars (dollars outside the US Banking system) but they do not have the ability to print them. This makes the Fed the de-facto Central Bank to the rest of the world.*
- *The US will use US Dollar liquidity (Repo & Swap Lines) as a weapon to shore up and enact new US Foreign Policy. Friends will be rewarded with access to liquidity, while competitors will be punished by the withdrawal of liquidity.*
- *The US Military will continue to enforce the US Dollar's use as the Global Reserve Currency."*

Conclusion

We broadly agree with Brent Johnson's reasoning.⁴⁶ **However, we also see considerable forces at work for a significantly weaker US dollar.** One of them is currently sitting in the White House. **Once again, it seems that an in-fight "Donald Trump vs. the market" is about to take place.** The fact that Donald Trump is no friend of a strong US dollar has recently been confirmed again (eloquently, as usual): "... it's 6.2 trillion dollars, and we can handle that easily, because of who we are, what we are. It's our money, it's our... we are the ones. It's our currency."⁴⁷

In economics, things take longer to happen than you think they will, and then they happen faster than you thought they could.

Rüdiger Dornbusch

The statement strikingly reminds us of Treasury Secretary John Connally, who in 1971 responded to a group of European finance ministers concerned about exporting US inflation with the famous bon mot "*The Dollar is our currency, but your problem*". Between 1971 and 1980, the US dollar then lost almost 50% of its value against the German mark. **So it seems that the fate of the dollar will depend on the outcome of the heavyweight bout between market forces and political will.** The long-term headwind that is blowing in the face of the US dollar is traditionally dealt with in the chapter "De-Dollarization 2020 – The Endgame Has Begun".

⁴⁶ Johnson, Brent: "Update on the Coming Currency Crisis: Re-Visiting the Dollar Milkshake Theory", YouTube, December 7, 2019

⁴⁷ "Remarks by President Trump at Signing of H.R.748, The CARES Act", Whitehouse Oval Office, March 27, 2020

Status Quo of Gold Relative to Stocks and Commodities

“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

Not only absolute development but also relative development – in particular with regard to shares, bonds, and commodities – is important for a comprehensive location analysis of gold price development. Thus, on the following pages we would like to examine the relative valuation and trend strength of gold compared to other asset classes in order to better understand the opportunity costs of an investment in gold.

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

Charles MacKay

Talking about ETFs is like talking about people. There are good ones, and there are bad ones.

Jack Bogle

Gold vs. Stocks and Bonds

On January 16, 2020, champagne corks may have been popping in Mountain View, the headquarters of Google. For the first time, the company was valued at USD 1 trillion on the stock exchange, joining Amazon, Apple, and Microsoft.⁴⁸ At times, the market capitalization of the FAANG companies exceeded the capitalization of all listed companies in Germany, Switzerland, and France combined. Numerous other indicators were also flashing warnings. The Shiller P/E (CAPE) was quoted at 31 on January 31, 2020, while only twice in history had the CAPE been at a higher level: in 1929 and 2000, both times just before the onset of a historic bear market.

But the momentum of the market, especially the tech sector, seemed unstoppable – driven as it was by passive-index investors – although the fundamental and market data were already gradually clouding over. Fund manager Peter Frech aptly described the situation as follows in January 2020: *“The Tech-Express is rolling towards the cliff at full speed, the cars full of passive passengers.”*⁴⁹ The cliff was finally reached in March, with the expected consequences.

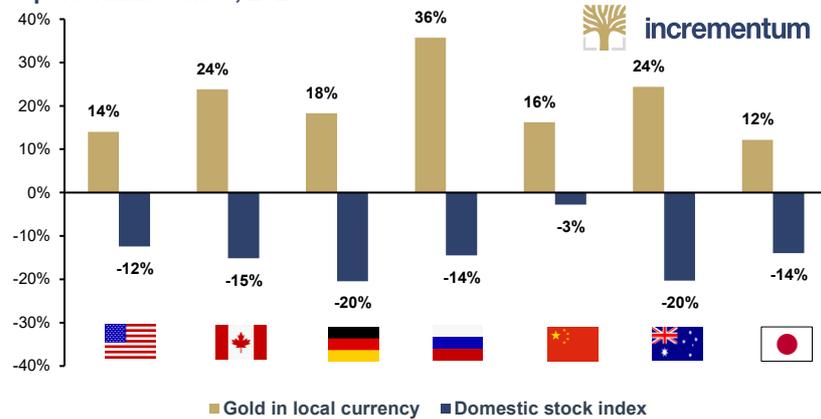


⁴⁸ [“Alphabet, Google’s parent company, hits trillion-dollar market cap for first time”](#), CNBC, January 16, 2020

⁴⁹ See [“Wer gute Prognosen macht”](#) (“Who makes good forecasts”), Peter Frech, *Quantex Werte*, January 2020

Gold acted like the “Robert Pecl”⁵⁰ of your portfolio, as it impressively demonstrated its defensive and stabilizing properties from a portfolio perspective during the Covid-19 crash. In all important markets gold outperformed the respective domestic stock market.

Gold in local currency, and domestic stock index, annual performance in %, 2020



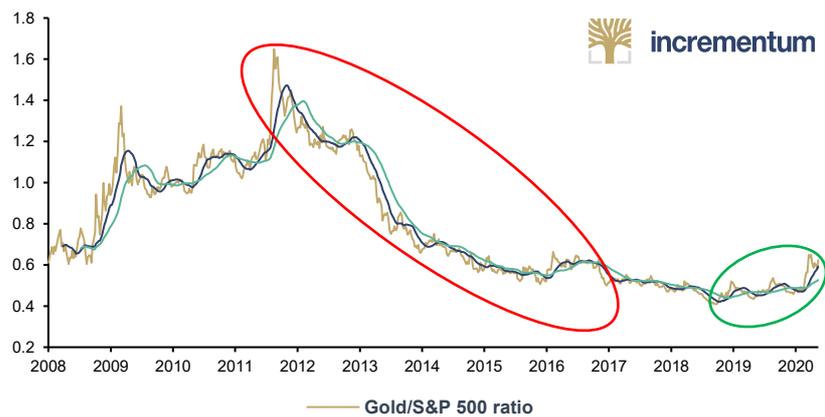
Source: Reuters Eikon (as of May 14, 2020), Incrementum AG

History shows that equities are at their most vulnerable when being outperformed by the yellow metal.

Martin Pring

Loyal readers know: We consider the stock market trend to be a major opportunity for gold. The following chart shows the Gold/S&P 500 ratio. The trend whereby an ounce of gold buys less and less of the S&P 500 has been broken, and gold’s purchasing power measured against the S&P 500 is clearly trending upwards again. For us, this relative valuation is an extremely valuable long-term signal for assessing opportunity costs and investment flows.

Gold/S&P 500 ratio, 01/2008-05/2020

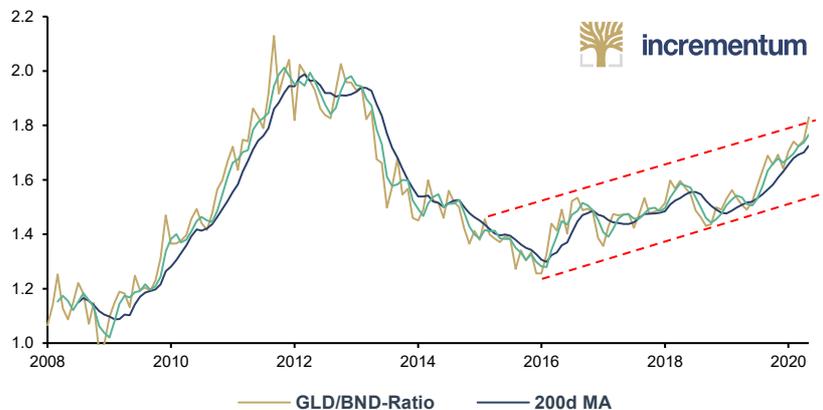


Source: Reuters Eikon, Incrementum AG

⁵⁰ Note: Robert Pecl was an Austrian football player. The defender, playing his entire career for Rapid Wien, was nicknamed “Eisenfuß” (“Iron Foot”) and “Roter Robert” (“Red Robert”) because of his relentless playing style.

But gold also shows clear trend strength against bonds. Already since 2016, gold has successively marked higher lows and higher highs, and is thus in an upward trend.

Gold/Bonds ratio (GLD/BND), 01/2008-05/2020



Source: Reuters Eikon, Incrementum AG

Isn't there likely to be far more pent-up demand for precious metals than for bonds?

Louis-Vincent Gave

Now let's take a closer look at the development of gold relative to Treasuries. During the Covid-19 crisis, the biggest economic shock since World War II, both asset classes were among the few reliable havens. Both gold and US bonds reached their interim highs for the year on March 9, were then sold off at short notice in the course of the general panic, and rallied soon afterwards. Both have thus fulfilled their anti-fragile role in an exemplary manner.

Gold (lhs), and 10-year US treasuries (inverted, rhs), in %, 01/2008-05/2020



Source: Reuters Eikon, Incrementum AG

But looking to the future is much more important than the past because it is in the future that we intend to live and reap the fruits of our investment decisions. **So the question arises whether gold will not increasingly take on the role of Treasuries as the most liquid safe-haven asset. The following reasons speak in favor of this:**⁵¹

⁵¹ See Gave, Louis-Vincent: "An Anti-Fragile Beauty Contest", *GavekalResearch*, April 14, 2020

- **Anyone who assumes that currency devaluation will be used to try to solve current and structural problems will prefer gold to bonds.**
- **Renaissance of hoarding: One of the key lessons from the coronavirus crisis will be that stockpiling makes sense.** The time of maximally optimized supply chains and just-in-time production is behind us for the time being. The securing of supply chains through storage capacity would represent a radical psychological change.
- **Shift in supply and relative scarcity:** The budget deficits and thus the financing needs of states will explode, while gold stocks will continue to grow only by a constant 1.6% per year.
- **Limited upside for bonds:** Investors hold bonds primarily to cover long-term liabilities, to participate in price gains, and to earn coupons. In view of record high price levels, upside seems very limited, and risk/reward appear clearly asymmetrical. In our opinion this also explains the growing correlation between gold and bonds.

If gold is a pet rock, then aren't bonds without yields just pet paper?

Louis-Vincent Gave

Because of gold's liquidity, it could easily succeed to the throne. The LBMA has shown in a paper that gold sometimes has higher liquidity than government bonds. Based on the method used by the European Banking Authority (EBA), gold has an index value of 0.000018. The closer the value is to 0, the more liquid an asset is. Gold thus clearly beats HQLA (high-quality liquid assets) such as government bonds (0.058) and corporate bonds (0.188).⁵²

Gold vs. Commodities

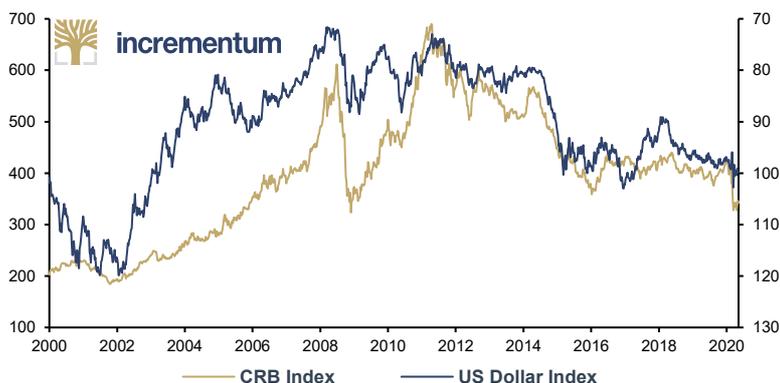
For the commodity sector, the last few months have been as turbulent and unsuccessful as Justin Bieber's latest attempt at a comeback. The CRB commodity index lost 33% this year and is now 72% below its all-time high, while the Bloomberg Commodities Index (BCOM) lost 25% over the same period and is now 65% below its high. It looks like the whole world is upside down and we have gone to "Opposite Land"⁵³, after purchasers of oil have been paid to take it and debtors are paid interest for taking on more debt, thanks to negative interest rates.

A comparison of the development of commodities (the CRB Index) vs. the US Dollar Index (DXY) shows that commodity prices and the US dollar continue to be strongly inversely correlated. To put it crudely, the well-being of commodities is closely linked to the US dollar. **Commodity prices will only receive strong support if the US dollar begins to weaken.**

⁵² The reason for the study was to convince the EBA to exempt gold from the draconian Basel III capital requirements for illiquid assets. See "[London's gold market is more liquid than bonds – LBMA](#)", Reuters, July 11, 2019

⁵³ See Hamlyn, Charlotte Rose: "[Opposite Land](#)"

CRB Index (lhs), and US Dollar Index (inverted, rhs), 01/2000-05/2020



Source: Reuters Eikon, Incrementum AG

The goal shouldn't be to achieve a strong dollar or a weak dollar, but a dependable dollar.

Judy Shelton

The analyses of *Wellenreiter Invest* show that the DXY has clear relative strength compared to its historical average in election years.

The decoupling of the DXY from its overall average typically begins at the opening of the second quarter and ends with the US presidential election in early November. Thereafter, the index tends to weaken and thus trades inversely to the pattern of the previous 10 years at the end of the year. **Donald Trump will not like this statistical side of the US dollar's strength at all; after all, he has often sharply denounced the strength of the US dollar.**⁵⁴



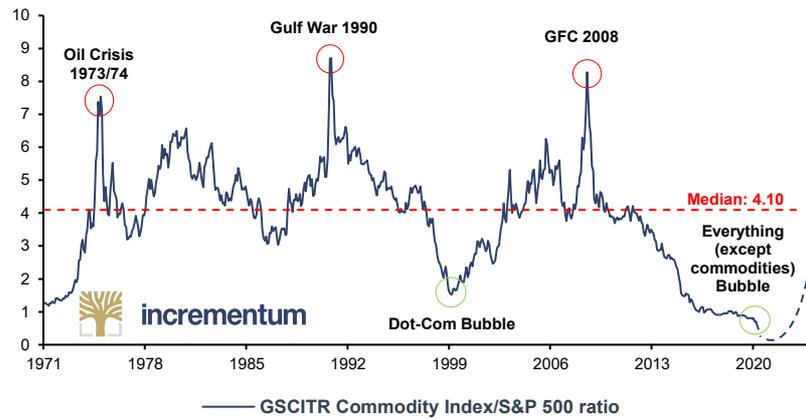
Courtesy of Hedgeye

Let's look now at the development of commodities relative to the equity market. The following chart was by far the most quoted chart in the *In Gold We Trust* reports of recent years.⁵⁵ It shows impressively that the present relative valuation of commodities compared to equities is historically extremely favourable. Compared to the S&P 500, the GSCI Commodity Index (TR) is at its lowest level in 50 years. The ratio is currently at 0.48, well below the long-term median of 4.10 and miles below the highs. In terms of a mean reversion, attractive opportunities should arise for investors with strong nerves, a long string of patience, and a penchant for countercyclical investments.

⁵⁴ See Rethfeld, Robert and Hirsekorn, Alexander: "Wellenreiter Ausblick 2020"

⁵⁵ We would like to take this opportunity to once again thank Prof. Dr. Torsten Dennin, who had the idea for this magnificent chart.

GSCITR Commodity Index/S&P 500 ratio, 01/1971-05/2020



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

Conclusion

The upward trend on the stock markets, which had seemed invulnerable for a long time, came to a brutal end in mid-February 2020. This led to gold – contrary to the general reporting – gaining significantly relative to stock indices everywhere, but now also relative to bonds. Nevertheless, the clear undervaluation of commodities compared to stocks is now even more pronounced than last year. **From our point of view, gold always leads, while silver and commodities then follow in the market cycle.**

Status Quo of Debt Dynamics

“We are experiencing the end game of the great debt super cycle. As the private sector has become increasingly over-levered, the baton is being passed to the public sector where resources are so strained that the printing press has become the last resort.”

Scott MinerD

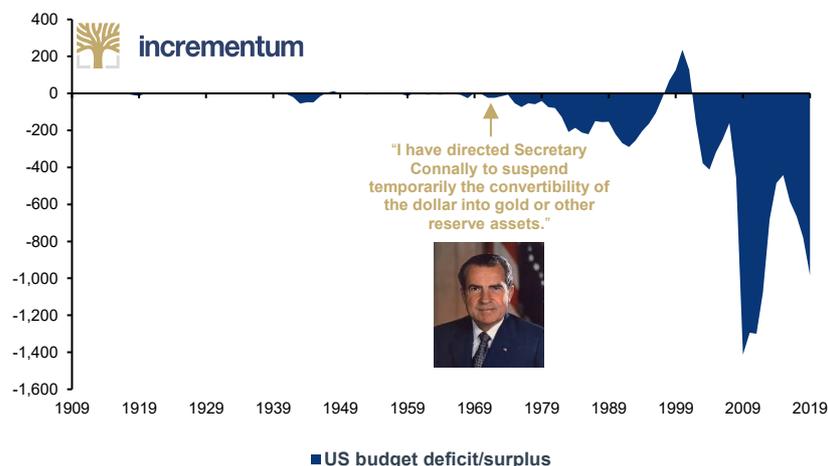
Blessed are the young, for they shall inherit the national debt.

Herbert Hoover

Back in 2012, Mario Draghi famously declared to the world, that he would do “whatever it takes” to keep the economy and the euro alive. Today, 12 years later, he is marshalling his heroic monetary rhetoric for the biggest increase in government debt since WWII: *“We face a war against coronavirus and we must mobilize accordingly.”*⁵⁶ And in fact, the trajectory of the current expansion of public debt resembles more and more the steep increases in debt levels during WW2.

By all means, Covid-19 is a game changer. The federal government of Germany, for example, had reduced its absolute and relative indebtedness since 2014, yet decided in one stroke not just to resume borrowing but to do so to such an extent that the constitutional debt brake had to be suspended. On the other side of the Atlantic, the US forecasts a double-digit budget deficit for the current fiscal year.

US budget deficit/surplus, in USD bn, 1909-2019



Source: Federal Reserve St. Louis, Incrementum AG

This year, maybe more than ever, we therefore find it important to take a closer look at the rapidly increasing overindebtedness in almost all countries around the globe. While this trend has been growing briskly since the GFC in 2008, it has reached totally new dimensions in the face of the

⁵⁶ “Draghi: we face a war against coronavirus and must mobilise accordingly”, Financial Times, March 25, 2020

Reality is that which, when you stop believing in it, doesn't go away.

Philip K. Dick

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

Nassim Taleb

When there's already a lot of red ink, Keynes does not work.

Woody Brock

coronavirus crisis. The IIF estimates that global debt levels will increase by roughly USD 17trn in 2020.⁵⁷ As a result, systemic fragility is increasing.

In the last economic crisis, the GFC 2008, the world economy recovered by transferring bad debts in the private sectors – primarily the banking sector – to the public sector. This strategy was successful insofar as the global economy was kept alive for the past 12 years – thanks to being permanently on drip liquidity infusions by the central banks. As a result, the world today has USD 87trn more in global debt to bear than at the beginning of the GFC. **But despite this, growth levels were the lowest of the last century, a phenomenon which our esteemed colleague Emil Kalinowski refers to as a “silent depression”.**⁵⁸

Most tellingly, since the bankruptcy of Lehman Brothers, being considered by public authorities as “systemically important” and thus “too big to fail” became an important objective of companies.⁵⁹ Those companies just short of the threshold invested significant sums of money to pass muster and be included in the exclusive club of privileged firms. The normal healing process from a recession was thwarted. Instead, the misallocation of capital and the cracks in the system were simply covered over with additional debt. Today, the global economy is more indebted (at 322% of yearly economic output), more fragile, and more unproductive than at any time since WW2, as can be seen on the following table. Once the economy became engaged in this downward spiral of debt increases, its suction became inexorable.

Even before the Covid-19 pandemic, many economies around the globe resembled more and more the Red Queen in *Through the Looking-Glass*, and What Alice Found There. In order to “just stay in one place” and to not contract, they require ever more debt. As the following table shows, the marginal utility of debt diminishes rapidly.

Decade	New public debt in USD bn.	GDP growth in USD bn.	Additional units of public debt to increase GDP by 1 unit
1950 – 1960	33	243	0.14
1960 – 1970	89	496	0.18
1970 – 1980	478	1,610	0.30
1980 – 1990	2,108	3,014	0.70
1990 – 2000	2,823	3,989	0.71
2000 – 2010	6,535	4,818	1.36
2010 – 2020	10,890	6,979	1.56

Source: Reuters Eikon, Incrementum AG

⁵⁷ See “COVID-19 Lights a Fuse”, IIF April 2020 Global Debt Monitor, April 7, 2020; own calculations based on 2019 GDP of USD 86.6trn.

⁵⁸ Kalinowski, Emil: “The Silent Depression: Trundling Is the New Booming”, *Enterprising Investor*, February 11, 2020

⁵⁹ See Brewer Ilm Elijah und Jagtiani, Julapa: “How Much Did Banks pay to Become Too-Big-To-Fail and to Become Systemically Important?”, Federal Reserve Bank of Philadelphia, *Working Paper*, No. 09-34, December 2, 2009

Now, here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!

**Lewis Carroll,
Alice in Wonderland**

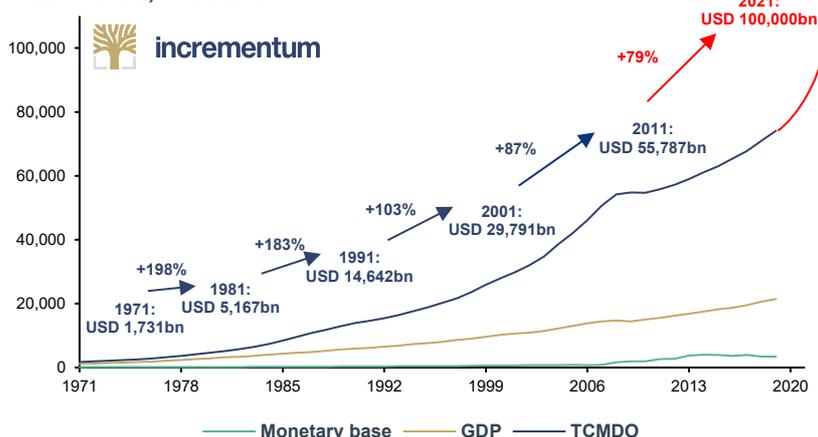
The debt is growing faster than the economy. This is not the time to act upon those concerns.

Jerome Powell

Illustrative of the diminishing marginal return of debt is the jump in the debt-to-GDP ratio from 45% in 2001 to 76% in 2019 for the advanced economies alone. In particular the US stands out, with a great bifurcation between GDP growth and debt growth: Debt has grown at four times the rate of GDP. At the same time, artificially low interest rates have brought debt-servicing costs to their lowest level since 1975: In 2019 advanced economies spent only 1.77% of their combined GDP on interest payments.⁶⁰ Nevertheless, the bulk of new borrowings (pre-Covid-19, projections estimated around USD 12trn for the OECD countries alone) will be for refinancing purposes.⁶¹

Especially in the eurozone, central bankers have repeatedly urged governments to use their fiscal options to promote economic growth. Now that Covid-19 seems to have locked down the entire world population, **debt levels have an excuse to explode even faster. In the past weeks at least USD 8trn has been added to global debt.**⁶² Thus, it is not outrageous to expect debt to soon surpass its record level at the conclusion of WW2.

Monetary base, GDP, and Total credit market debt owed, in USD bn, 1971-2019



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

Debt Levels in Japan, the US, and the EU

In 2020 we will see the largest increase in debt the world has ever experienced in peace times. It will be historic. Even fiscally conservative governments like Germany and Switzerland will witness substantial budget deficits. Monetary rescue by politicians to support the Covid-19 pandemic has eliminated any semblance of fiscal rectitude by the G20 countries, and on top of that emerging markets are asking for debt forgiveness.⁶³ **The tally of new global debt alone could exceed USD 20trn.**

We're gonna need a bigger boat!
Jaws

⁶⁰ See "Falling cost of debt piles pressure on governments to spend more", Financial Times, August 21, 2019
⁶¹ See OECD: [OECD Sovereign Borrowing Outlook](#)
⁶² See "Die Pandemie lässt die Staatsverschuldung hochschnellen" ("The pandemic causes public debt to skyrocket"), NZZ, April 15, 2020; "Global Policy Responses – Developed Markets", IIF, April 24, 2020. KPMG. Government and institution measures in response to COVID-19, as of April 8, 2020, own calculations
⁶³ See "Effectiveness of IMF Lending Programs", IMF, May 2019

When you have money, think of the time when you had none.

Japanese Proverb

We begin our journey around the world of debt with Japan. With a debt level of 238% of GDP, Japan has the highest level of government debt of any country, and it will likely exceed 250% this year.⁶⁴ A milestone on this questionable journey came in 2001, when Japan pioneered what has now become a standard tool of monetary policy, namely quantitative easing. Since then, Japan has expanded this tool further to what is called “quantitative qualitative easing” (QQE).⁶⁵

As the great Jeffrey Snider of Alhambra Investments outlines, the BoJ has implemented a total of 24 rounds of QE/QQE since 2001, except in the period between 2006 to 2010 when the BOJ was exploring other policy measures such as NIRP.⁶⁶

Alt Classification	Category Classification	Date	Program	Description
QE1	QE1	3/19/2001		Purchase of JGB's in order to target current account (quantity)
QE2	QE2	10/11/2002		Increased JGB purchase target to 1.2T per month
QE3	QE3	12/19/2008		Outright JGB's expanded from 1.2T to 1.4T
QE4	QE4	1/22/2009		Purchase 3T CP & ABCP
	**	2/19/2009		QE4 extended to Sept 09 (instead of March) and <u>IT Corp Bonds</u>
		3/18/2009		QE3 expanded to 1.8T from 1.4T
		7/15/2009		Extends QE3 & QE4 to end of 2009
QE5	QE5	12/1/2009	FRO	10T 3M loans against eligible collateral at O/N call rate
QE6		3/17/2010	FRO	Expanded to 20T
QE7	QE6	5/21/2010	GSFF	3T 1Y loans to private fin'ls
QE8		8/30/2010	FRO	Expanded to include 10T 6M loans
QE9	QE7	10/5/2010	APP	5T in assets (3.5 JGB and bills, 1.0 CP, 0.5 ETFs J-REITs)
QE10		3/14/2011	APP	Expanded to add 1T (0.5 JGB, 1.0 bills, 1.5 CP, 0.45 ETFs, 0.05 J-REITs)
QE11		6/14/2011	GSFF	Expanded 0.5T
QE12		8/4/2011	APP	Expanded 5T in assets (2.0 JGBs, 1.5 bills, 0.1 CP, 0.9 Corp Bonds, 0.5 ETFs)
			FRO	Extend 6M 5T
QE13		10/27/2011	APP	Expand 5T JGBs
QE14		2/14/2012	APP	Expand 10T JGBs
QE15	QE8	3/13/2012	GSFF	Extend 2T private fin'ls incl. <u>IT US\$</u>
QE16		4/27/2012	APP	Expanded 10T JGBs and small amounts of other
			FRO	<u>Reduced</u> 5T
QE17		9/19/2012	APP	APP expanded 5trln JGB's 5T bills
QE18		10/30/2012	APP	Expanded 5T JGBs, 5T bills and others
QE19	QE9		SBLF	BoJ will fund 100% net increase in lending to nonfins
QE20		12/20/2012	APP	Expanded 5T JGB's, 5T bills
QE21	QE10	4/4/2013	QQE	Expand monetary base by 60-70T annually
QE22		10/31/2014	QQE	Increase to 80T annually
QE23		9/20/2016	QQE	with Yield Curve Control (YCC)

***This might fairly be classified as its own QE5 with the inclusion of Corporate Bonds in addition to CP*

Source: Alhambra Investments, Jeffrey Snider

Interest works night and day; in fair weather and in foul. It gnaws at a man's substance with invisible teeth.

Henry Ward Beecher

Since 2001 Japan has tripled its government debt. With interest rates on JGBs being zero, there is no cost for the government nor the BOJ in increasing the debt level. Considering that, at 35%–40%, government expenditures are the largest component of GDP, the Japanese government has a very simple task to keep the economy out of recession. All it has to do is to increase spending proportionately to raise GDP growth above zero, that is, to continue its gargantuan QE/QQE program.

According to the overwhelming mainstream consensus, this strategic path can and should be followed by the US as well, as evidently balance sheet expansion ad infinitum has not resulted in inflation. This view is, in our eyes, flawed. Following the argument of our dear friend Luke Gromen,

⁶⁴ Trading Economics: [Japan General Government Gross Debt to GDP](#)

⁶⁵ See ["Timeline: Key policy changes by major central banks"](#), Reuters, August 14, 2019

⁶⁶ See ["The Forced Exile Of Bond Vigilantes"](#), Alhambra Investments, April 8, 2019

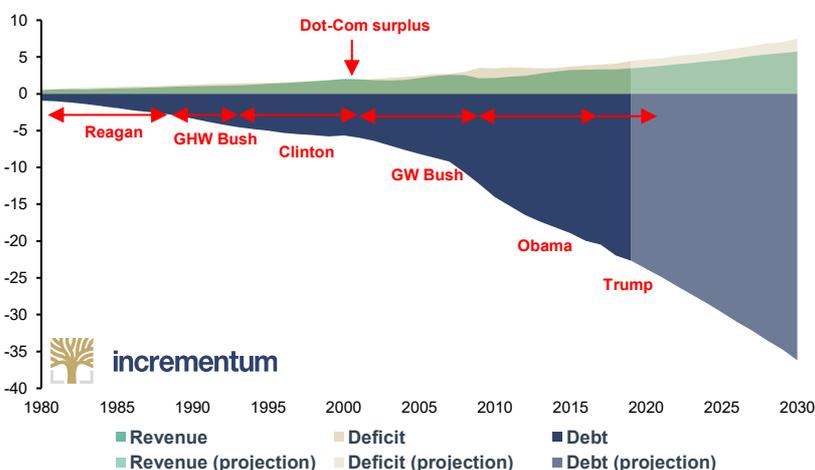
there are vast systemic differences between Japan and the US, preventing the successful application of the Japanese playbook to the US economy.⁶⁷ The most obvious differences are that the funding for the Japanese government debt is held domestically, and that Japan is a net saver with an annual capital surplus account. The US by contrast is a net borrower, and a large fraction of government debt is held by foreign investors. Thus, compared to the US, Japan has more collateral capacity to increase its debt inflation levels and also has more friendly and flexible creditors. Even in an emergency situation, Japan's net international investment position (NIIP) of +63% of GDP versus the US's -50% of GDP provides Japan with significant savings to repatriate and pay down debt. And lastly, Japan can lower defense spending and rely upon its alliance with the US, whereas the US cannot rely upon Japan for military security. **Given those fundamental differences, it is unlikely that the US can follow the Japanese playbook of massive debt levels, without consequences.**

*The truth may be stretched thin,
but it never breaks, and it
always surfaces above lies, as oil
floats on water.*

**Miguel de Cervantes
Don Quixote**

At the start of 2020, US federal government debt stood at USD 23trn, or approximately 107% of GDP. At the beginning of the year, the budget deficit was forecast to be around USD 1trn or 4.6% of GDP for the current fiscal year, already at record peacetime levels. Now, due to the Covid-19 crisis, the budget deficit is expected to triple to at least a staggering USD 4.5trn or 19% of GDP, excluding an additional USD 484bn to support hospitals and small businesses.⁶⁸ Echoing Mario Draghi's wartime exhortation, Treasury Secretary Steve Mnuchin stated, *"We need to spend what it takes to win the war!"*⁶⁹

Debt, revenues & deficit of the USA, in USD tn, 1980-2030



A budget deficit exceeding 20% of GDP would bring the federal debt level to a minimum of 125% of GDP. Until now such levels have only been recorded in the war years 1943-1945.

⁶⁷ See "Japan vs. Rest of World", Luke Gromen, FFTT

⁶⁸ See "New Projections: Debt Will Exceed the Size of the Economy This Year", CRFB, April 13, 2020

⁶⁹ "Mnuchin Says 'We Need to Spend What It Takes' to Overcome Coronavirus Crisis", Wall Street Journal, April 22, 2020

I am the king of debt.
Donald J. Trump

The good news is interest rates are very low, so the cost of carrying the debt to the American taxpayer is quite low.
Steve Mnuchin

Never believe anything in politics until it has been officially denied.
Otto von Bismarck

Neither a borrower nor a lender be; / For loan oft loses both itself and friend.
William Shakespeare, Hamlet

Yet, the approval rates for higher indebtedness are staggering. In the vote for the first massive stimulus spending bill, only one politician, Kentucky Republican Thomas Massie, out of 535 Congressional Representatives opposed the new borrowing.⁷⁰ Under a president describing himself as the “King of Debt”, not much political resistance to even higher debt levels should be expected.

But unlike a real king, Donald Trump has to run for the presidency again this year. Given the severity of the Covid-19-induced recession and the threatening implosion of the shale oil industry because of the collapse of the oil price, Donald Trump sees his chances of getting re-elected dwindling. “It’s the economy, stupid” does also hold true in the 2020s. To boost his chances Trump will goose federal spending in an attempt to soften the meltdown of the economy. This is another reason why chances are high that the federal deficit will in the end turn out to be even higher.

On the other side of the big pond, the UK in April gave up the illusion of central bank independence. Whereas in the past the Treasury would issue new debt to a primary dealer, and later the BoE would soak up the debt in the secondary market, so as to keep interest rates low, today the Treasury simply asks for some sterling, and the BoE wires the money to the Treasury:

“As a temporary measure, this will provide a short-term source of additional liquidity to the government if needed to smooth its cashflows and support the orderly functioning of markets, through the period of disruption from COVID-19.”⁷¹

This ploy allows the British government to draw the money directly from their overdraft with the BoE instead of financing it through the markets.⁷² **The smoke and mirrors are no longer necessary politically.**

Thus, within a few weeks of its March 11 budget, the UK government has quadrupled the amount of gilt issuances to GBP 180bn for the second quarter, while the BoE has pledged to buy up to GBP 200bn under its latest QE program. Analysts are estimating the total budget deficit to reach GBP 260bn, topping the previous annual record from the GFC, when the British government raised GBP to 227.6bn.

Let us now cross the Channel, where the European Commission on behalf of the EU issues bonds, too, with the purpose of financing loans to member countries. Currently, they have EUR 52bn in outstanding debt instruments under the EMTN program.⁷³ Under European law they are not allowed to issue bonds for financing their own budget.⁷⁴ As recently as April this year, a proposal was made for an additional EU loan program with a ceiling of EUR 100bn, called “Support to Mitigate Unemployment Risk in an Emergency” (SURE). This funding program, if approved, is to complement the three existing loan programs in place, namely the

⁷⁰ See “Thomas Massie, House’s ‘Mr. No.’ Tries to Force Vote on Coronavirus Aid Bill”, New York Times, March 27, 2020

⁷¹ See “Bank of England to finance UK government if markets turn sour”, Reuters, April 9, 2020

⁷² “UK Treasury to quadruple borrowing to £180bn over next quarter”, Financial Times, April 23, 2020

⁷³ See EU and Euratom: [Continuously Offered Euro Medium Term Note Programme](#)

⁷⁴ See European Commission: [EU borrowing rules](#)

There is a war raging in Europe. It is a war over who controls the money printing press. It is a war fought in courtrooms and behind closed doors, in the corridors of Brussels, Berlin or Paris.

Russell Napier

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

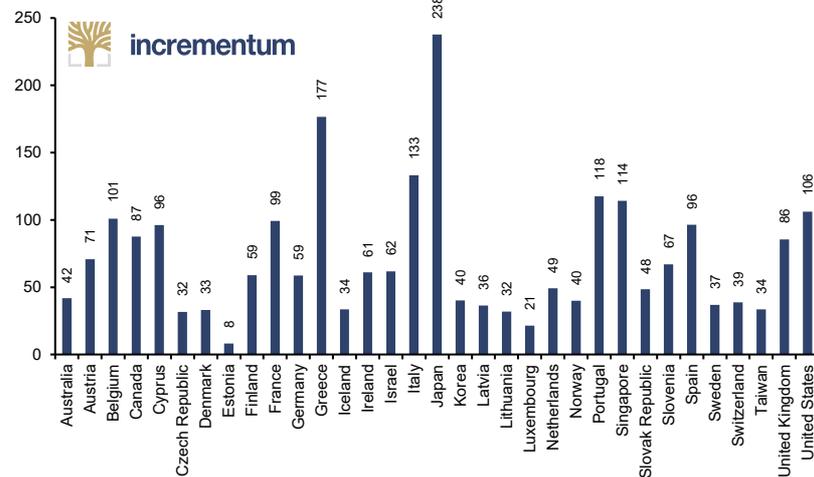
Grant Williams

European Financial Stabilization Mechanism (EFSM), Balance of Payments (BoP) assistance, and Macro-Financial Assistance (MFA).⁷⁵

Early this year, the discussions re-emerged regarding the issuance of mutual liability Coronabonds – previously, in 2012, this idea was discussed under the name Eurobonds.⁷⁶ Again this time, the topic has politically fractured the participants, as this would tie German and Dutch taxpayers even closer to the fiscal plights of Spain and Italy. Although Germany and the Netherlands approved increases in their own debt levels and will run significant government deficits this year, the idea of adding Southern European debt to their balance sheets is unacceptable.

So far in 2020, the EU has agreed to temporarily suspend its fiscal rules. This forbearance signals a large increase in government debt, but not an unlimited one. The debt dam has not been breached in the EU; it is still contained in a spillway. However, the political appetite for more debt is growing; and now that Christine Lagarde – a politician – heads the ECB, new monetary policy instruments could be used to flood the Eurozone if the fiscal side shows restraint. Lagarde has frequently expressed her desire for trillions of euros in new debt. Recently, ideas have surfaced for the issuance of so-called recovery bonds for the financing of the EU’s recovery fund, aiming at a volume of EUR 2trn.⁷⁷ Other possibilities such as expanding the competences under the European Stability Mechanism are also under consideration.

General government gross debt in % of GDP, 2019



Source: Reuters Eikon, Incrementum AG

In the *In Gold We Trust* report 2019 we asked the question, “**Who will finance these government deficits and, above all, at what price?**” In 2020, we now know the answer: Central bankers will finance any new issuance of debt; and

⁷⁵ See European Commission: [Investor Presentation](#), April 2020

⁷⁶ See “[European finance ministers ponder coronabonds](#)”, *The Economist*, April 9, 2020

⁷⁷ See “[Billionen für den Wiederaufbau](#)”, (“Trillions for reconstruction”), *Frankfurter Allgemeine Zeitung*, April 24, 2020

given the ZIRP or even NIRP policies around the world, costs for servicing ever higher debt levels could even sink in absolute terms.

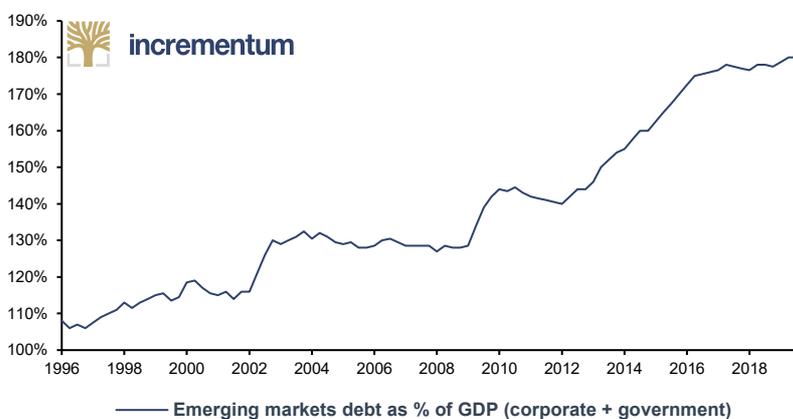
Emerging Markets

This accelerated increase of debt levels is also an omnipresent phenomenon in emerging market economies. In 2019 alone, these countries added over USD 3.4trn to the global debt mount, thereby taking total emerging market debt to more than USD 73trn – a 168% rise over the past 10 years.⁷⁸ Justifiably, this number rang alarm bells for many economists.⁷⁹ So, instead of reducing their indebtedness after the severe recession of 2009, the emerging markets have significantly increased their indebtedness again since 2012. And unlike before the GFC in 2008, risks in those countries are no longer only concentrated in the private sector (banking) but also in the public sector.

The borrower is servant to the lender.

The Bible

Emerging markets debt as % of GDP (corporate + government)



Source: IIF, Incrementum AG

This massive increase in emerging market indebtedness was caused by low interest rate levels all around the world, reducing the spreads between high-quality and riskier bonds as investors were driven into riskier yields. Without any significant increase in their intrinsic creditworthiness, those countries were given the opportunity to borrow more money at very little cost. As the numbers show, they made full use of this opportunity, probably without carefully considering the risk associated with borrowing.

Furthermore, given the low interest rates, even fiscally strong countries with large exposure to the oil and commodity markets like, for example, the Gulf Cooperation Council countries (GCC) have started issuing debt in the last year.⁸⁰ This is noteworthy, because in the past those countries have avoided incurring too much debt.

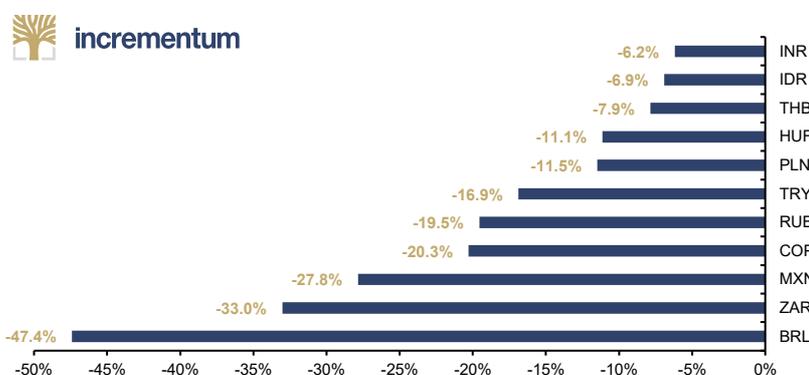
Importantly, a significant share of this debt is denominated in US dollars. At the end of 2018 emerging market debt denominated in US dollars amounted to USD 7.8trn. Issuing debt denominated in US dollars rather than in

⁷⁸ See "April 2020 Global Debt Monitor: COVID-19 Lights a Fuse", IIF, April 7, 2020; "Don't fret about the big build-up in emerging market debt", Financial Times, February 26, 2020
⁷⁹ See "JPMorgan warns of rise in emerging market sovereign distressed debt", Reuters, December 9, 2019
⁸⁰ See IMF: Global Financial Stability Report, April 20, 2020

the local currency is cheaper because of lower interest rates and is thus attractive. However, the flip side of US dollar denominated bonds is the exchange rate risk, especially in case of a sudden and sharp depreciation of the local currency. The chart below reveals how strongly emerging market currencies have been hit in the present crisis, losing up to 47% of their value against the US dollar year to date.

Two more features have changed significantly over the last 12 years and made the emerging market debt market still less resilient. First, the share of foreign investors has increased significantly. Clearly, this external funding provided a welcomed financial liquidity injection, yet on the downside a sensitive dependency relationship was established. As a result, those countries are today far more integrated in the global financial network and therefore more vulnerable to its shocks and dynamics. And second, emerging market debt issuers have weaker ratings today than before the GFC.⁸¹

Emerging markets currency performance versus USD, 2020ytd



Source: Guggenheim Investment, Reuters Eikon (as of May 14, 2020), Incrementum AG

Overall, this high leverage constitutes an Achille’s heel for the emerging market economies. With less-resilient economies, emerging markets will be hit particularly hard by the coronavirus crisis. While the number of confirmed Covid-19 cases in those countries is still low, this is likely mostly due to a lack of testing. Estimates by the World Health Organization expect 10 million infections for Africa within the next three to six months alone.⁸²

A man who pays his bills on time is soon forgotten.

Oscar Wilde

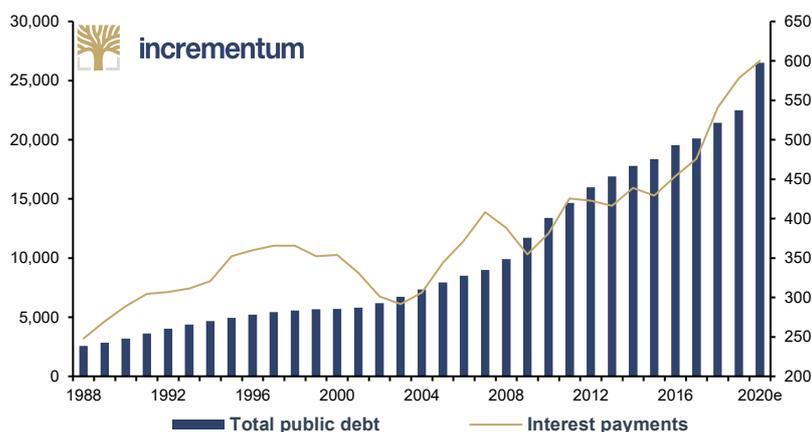
Beyond the humanitarian crisis, the sudden stop of most economic activity under severe lockdown measures will pose an enormous if not insurmountable challenge for those countries. Every day of economic standstill will plunge those economies further into the abyss. With drastically curtailed economic output, these already more vulnerable economies will suffer dramatically, most visibly in their depreciating currencies.

⁸¹ See IMF: [Global Financial Stability Report](#), April 20, 2020

⁸² See “[Coronavirus: Africa could be next epicentre, WHO warns](#)”, BBC, April 17, 2020

Due to the unavoidable global recession, emerging market debt levels are expected to soar further. Most emerging market economies will be unable to service their debt without restructuring or financial aid from the IMF. Through the end of 2020, over USD 3trn of emerging market bonds and syndicated loans are coming due, with a third denominated in US dollars.⁸³

Total public debt (lhs), in USD bn, and interest payments (rhs), in USD bn, 1988-2020e



Source: Moody's, Reuters Eikon, Incrementum AG

Already, the Covid-19 crisis in combination with the vertiginous drop in oil prices has caused a severe interruption in capital flows to emerging markets, resulting in an outflow of USD 83bn in March alone.⁸⁴ Furthermore, the World Bank estimates that remittances could fall 20% as nationals from poor countries working abroad face unemployment.⁸⁵

Perhaps most tellingly for the severity of the emerging market crisis is that the G20 countries in collaboration with the IMF and the World Bank have now called time out on debt service payments for the poorest countries.⁸⁶ Furthermore, already more than 100 countries – that is half the world – have now applied for IMF emergency financing. For now, global lenders have still room before exhausting their total lending capacity of USD 1trn. A severe economic downturn triggered by Covid-19 could empty this coffer.⁸⁷

Corporate Debt: The Anticipated BBB Drama Is Playing Out

In last year's *In Gold We Trust* report we were warning that the BBB corporate debt market was a domino ready to fall, and we repeatedly questioned how these bonds could be refinanced in 2020.⁸⁸ Since the GFC companies have accumulated record levels of debt. The entire US corporate debt market has increased from USD 2tn in 2009 to more than USD 6trn in 2018, while US BBB bonds have almost

Creditors have better memories than debtors.

Benjamin Franklin

⁸³ See "Emerging market debt soars to record \$69.1 trln in Q1 on falling interest rates -IIF", Reuters, July 15, 2019
⁸⁴ See "Capital Flows Report Sudden Stop in Emerging Markets", IIF, April 9, 2020
⁸⁵ See "Coronavirus: How Covid-19 is affecting remittances to Africa", BBC, April 29, 2020
⁸⁶ See "G20 Calls Time Out on Debt Service", IIF Weekly Insight, April 16, 2020
⁸⁷ See "The Emerging Emerging-Markets Crisis", Guggenheim Investment, April 13, 2020
⁸⁸ See "The Status Quo of Gold", *In Gold We Trust* report 2019

Before you'll change, something important must be at risk.

Richard Bach

The collapse is fundamentally due to the unstable position; the instantaneous cause of the crash is secondary.

Didier Sornette

tripled, to more than USD 3trn in 2019.⁸⁹ Both in Europe and the US, their share of the corporate bond market surged from about 23% in 2008 to over 50% in 2019.

Companies have gorged on cheap debt and leveraged their balance sheets to the maximum, while still maintaining the minimum level of investment-grade (IG) ratings. In other words, the volume of the corporate debt has vastly increased while the average rating of the issuers has deteriorated. S&P has made 125 upgrades and 1,270 downgrades so far this year. That is more than a 10:1 ratio.

In last year's *In Gold We Trust* report we were warning: **"The downgrading of BBB debt by one notch to 'junk' level would trigger a domino effect, as refinancing costs would rise significantly."**⁹⁰ This problem is exactly what we witnessed in March 2020. The spread on the BBB market exploded from 150bp to 500bp in only a few days, with companies unable to refinance their debt. But before the downgrades and bankruptcies could even occur, the Federal Reserve intervened with over USD 500bn and mopped up all the BBB bonds and fallen angels, i.e. bonds below investment-grade, in a desperate move to halt automatic panic sales by institutional investors, especially ETFs and other passive investment vehicles that are allowed to invest only in investment-grade bonds.

ICE BofA BBB US Corporate Index Spread, 01/2015-05/2020



The Federal Reserve has strict rules against such corporate bond purchases, yet the Federal Reserve went even further and purchased high-yield ETFs. The Federal Reserve action in March 2020 is clear evidence that they will not allow yields or credit spreads to return to market-clearing levels. **In fact, it now seems increasingly likely that there will not be any BBB bond defaults in the future.** Forestalling all corporate bonds – even high-yield – will drive credit spreads down so the debt can be refinanced at lower rates. The corporate bond market has effectively been nationalized in the US, and price discovery has effectively been abolished going forward. When central banks buy corporate bonds, the debt does not disappear. Rather it is transferred from the private to the public sector and will further fuel inflationary tendencies.

⁸⁹ See "US BBB-Rated Bonds", BlackRock, August 2019

⁹⁰ "The Status Quo of Gold", *In Gold We Trust* report 2019, p. 52

But if the government invests funds unsuccessfully and no surplus results, or if it spends the money for current expenditure, the capital borrowed shrinks or disappears entirely, and no source is opened from which interest and principal could be paid. Then taxing the people is the only method available for complying with the articles of the credit contract.

Ludwig von Mises

Zombie companies haunting the corporate sector

The zombification of companies is another exorcism of the low-interest-rate environment.⁹¹ Those companies would go bankrupt if interest rates were not artificially suppressed through continuous central bank interventions.

Without financial accountability for performance, not even by means of interest rates, value destruction in the corporate world is being encouraged. If a company cannot service its debt from its EBIT (earnings before interest and tax), it does not create value but only consumes resources – the definition of a zombie company. According to FactSet, 17% of the world’s 45,000 public companies have not generated enough cash to cover interest costs for at least the past three years.⁹² Debt has been used to finance more debt in a Ponzi fashion. **Facilitating survival in such a zombie-like existence renders the healthy innovation of capitalist creative destruction moribund. Vigorous start-up companies are denied opportunities to compete against incumbent corporations.**

The year 2019 had the lowest recorded number of bankruptcies in the last 50 years.⁹³ At the same time, the formation of new companies was also at a 50-year low, as shown by the declining number of public companies on the stock exchanges.

Number of companies listed on the US stock exchange



Source: theglobaleconomy.com, Incrementum AG

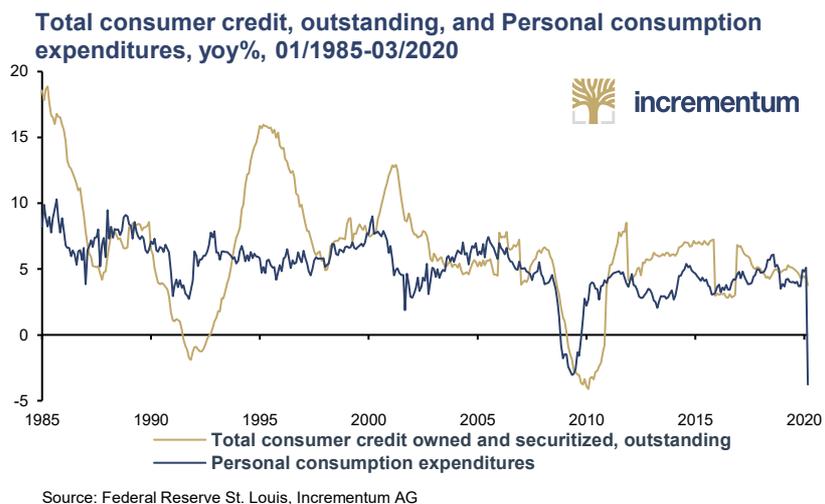
Debts can never erase debts. Debts erase wealth, or wealth erases debts.

Keith Weiner

Household Debt – Rising and Threatened by Unemployment

Global household debt has reached a record high of USD 47trn, or the equivalent of 60% of global GDP. This represents an increase of USD 12trn from the beginning of the GFC.⁹⁴ While sovereign and corporate debt levels have increased more dramatically, at USD 31trn and USD 34trn respectively, this surge in private indebtedness might soon expose the weakest point in the complex economic system.

⁹¹ See Hochreiter, Gregor, Stoeferle Ronald, and Taghizadegan, Rahim: *The Zero Interest Trap*, 2019
⁹² See "Zombie companies are hiding an uncomfortable truth about the global economy", Yahoo!Finance, March 9, 2020
⁹³ Trading economics: [United States Bankruptcies](#)
⁹⁴ See "COVID-19 exacerbates household debt burdens", IIF, March 26, 2020



*Annual income, twenty pounds;
annual expenditure, nineteen
pounds; result, happiness.*

*Annual income, twenty pounds;
annual expenditure, twenty-one
pounds; result, misery.*

Charles Dickens

Household debt is exceeding the historic highs set in the GFC, yet it has not expanded at nearly the same pace as government and corporate debt in the US. In the US, household debt balances have been continuously rising for the past five years now, topping USD 14.15trn, some USD 600bn higher than in the previous year.⁹⁵ In aggregate, this exceeds the previous record reached during the financial crisis by USD 1.5tn.⁹⁶ While almost three quarters of this debt falls upon mortgage balances, the remaining USD 4tn of non-housing debt has seen its largest increases in the form of student loans and car loans.⁹⁷ Notable was the rise in delinquencies for credit cards, auto debt, and student loans that was already seen in the fourth quarter of last year.⁹⁸ On average, US households are leveraged to almost 100% of their annual income.⁹⁹

Private household debt in the European Union amounted to 50% of the combined GDP in 2019.¹⁰⁰ Remarkable, however, is the large variability in household indebtedness amongst the individual member countries. While households in Spain hold on average debt equal to their annual flow of net disposable income, Germany, Austria and Italy fall below this ratio with 95.3%, 90.3% and 86.8% respectively. Leading this list are Denmark and the Netherlands with household leverage of 281.3% and 240.5%.

⁹⁵ See "U.S. household debt tops \$14 trillion and reaches new record", Reuters, February 11, 2020

⁹⁶ See "Household Debt and Credit Report", Federal Reserve Bank of New York, Q4/2019

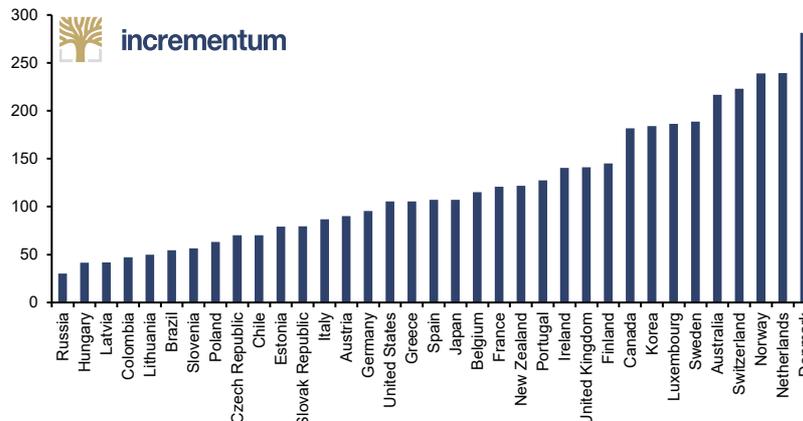
⁹⁷ See "Household Debt and Credit Report", Federal Reserve Bank of New York, Q4/2019

⁹⁸ See "U.S. household debt tops \$14 trillion and reaches new record", Reuters, February 11, 2020

⁹⁹ See Ahn, Michael, Batty, Mike, and Meisenzahl, Ralf R.: "Household Debt-to-Income Ratios in the Enhanced Financial Accounts", *Feds Notes*, January 11, 2018

¹⁰⁰ CEIC: [European Union Household Debt: % of GDP](#)

Household debt as % of net disposable income, OECD countries, 2018 or latest available



Source: OECD, Incrementum AG

However, the accelerating pace of household debt increases is not usually what makes leverage so risky, but rather the lower credit quality of households compared to corporations. With the economy under lockdown, households are most likely to be impaired by the Covid-19 crisis, with unemployment rates already rising into double-digit territory – in the last weeks a stunning 36,4mn US-employees have applied for unemployment benefits already.¹⁰¹ In Europe an estimated 59mn jobs are at risk, not counting reductions in pay and cutbacks in working hours.¹⁰² Pilots for Lufthansa, Germany’s flag carrier, offered for example to accept a wage cut of up to 45% for two years, in order to stave off the bankruptcy of the second largest airline in Europe.¹⁰³

There are three kinds of people: the haves, the have-nots, and the have-not-paid-for-what-they-haves.

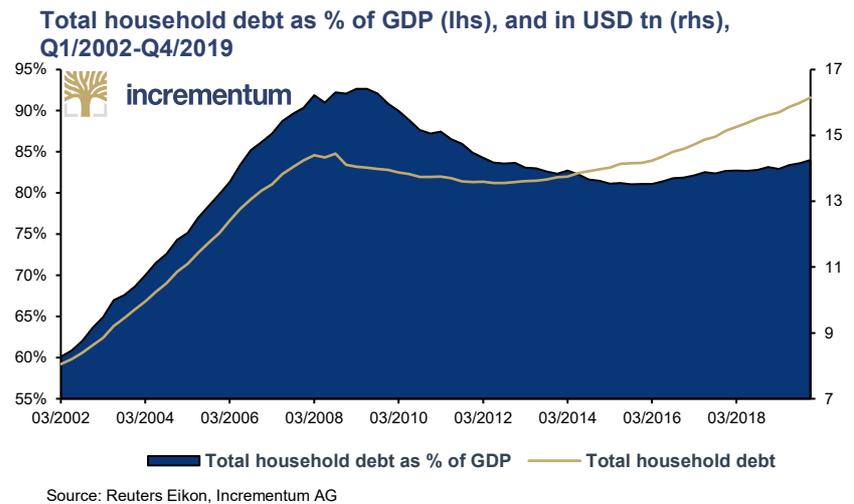
Earl Wilson

Many households are going to be unable to pay their debts in 2020, no matter what the degree of leverage is. Without income or even with “just” drastically lower income, debts will not be serviced. Consequently, the credit quality of the average household will crater, and default rates will soar to historic levels. Financial aid on the household level is thus certainly on the agenda of the politicians, but they are confounded by an inability to spread this fiscal stimulus evenly and fairly. Not only is the household sector orders of magnitude larger than the corporate one, but it is also much more fractured, with a significant number of people living “outside” the banking system. Debt forgiveness for households might be the only feasible solution to attempt, but this would again constitute a transfer of private debt to the public debt. **The tidal wave of defaults is coming, and it is a reasonable speculation that the government will (have to) bail out banks and lenders, which carry these household loans in one way or another.**

¹⁰¹ See “Week 8 of the Collapse of the U.S. Labor Market: Nearing a Previously Unthinkably Deep Bottom?”, Wolfstreet, May 14, 2020

¹⁰² See “McKinsey predicts near doubling of unemployment in Europe”, Reuters, April 20, 2020

¹⁰³ See “Lufthansa-Piloten bieten erheblichen Gehaltsverzicht an” (“Lufthansa pilots offer substantial salary waiver”), Frankfurter Allgemeine Zeitung, April 30, 2020



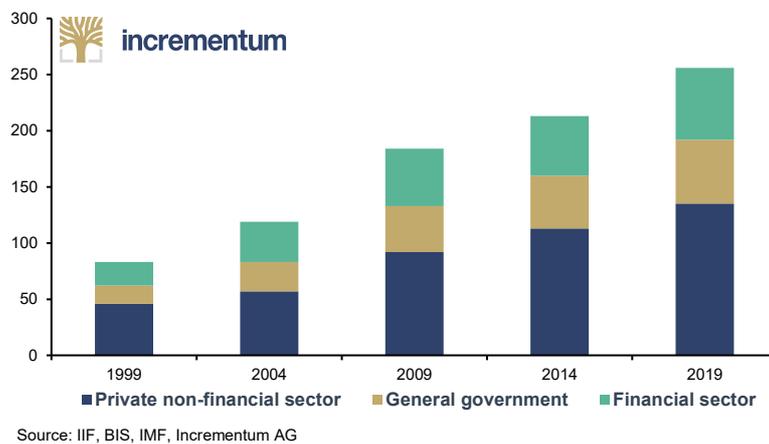
Giving money and power to government is like giving whiskey and car keys to teenage boys.

PJ O'Rourke

Conclusion

The global debt level of USD 255trn is truly a gargantuan number and gets the headlines.¹⁰⁴ But the USD 255trn number, the equivalent of 322% of global GDP, is actually a symptom of a much more ominous situation, a fragile global economic order. With each passing year more debt must be issued for decreasing amounts of productivity in the world economy. Undeniably, we are approaching the end of the long-term debt supercycle. This USD 255trn in debt will need to be reckoned with. One way or another, the debt will have to be repaid.

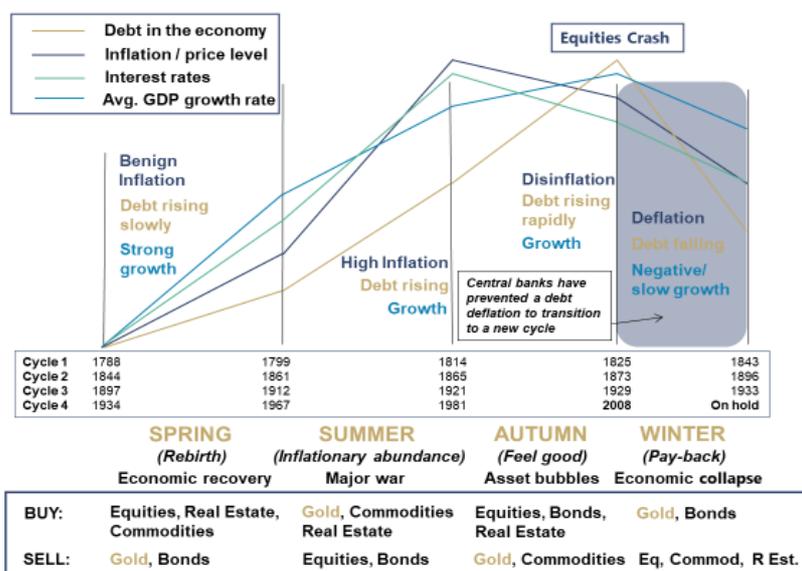
Global debt by sector, in USD tn, 1999-2019



As the next chart illustrates, the economy historically goes through stages of growth. While there are short-term cyclical movements, commonly referred to as the business cycle, long-term debt cycle dynamics often extend over generations. The current crisis is not another business-cycle downturn, rather, the economy is entering the later stages of the debt supercycle.

¹⁰⁴ See "COVID-19 Lights a Fuse", IIF April 2020 Global Debt Monitor, April 7, 2020

CLASSIC DEBT CYCLE: DEBT, INFLATION, INTEREST RATES & GDP GROWTH RATE



Source: Hardman & Co Research, Paul Mylchreest

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

A casual stroll through the lunatic asylum shows that faith does not prove anything.

Friedrich Nietzsche

In the early part of a debt supercycle, debt can productively transfer future spending to the present. But in the late stages of the cycle, debt is usually a medicinal remedy to keep zombie companies alive and postpone difficult restructurings. In 2020, our global financial system is on life support. Global government debt is expected to reach 100% of global GDP, from 83% last year.¹⁰⁵ There is so little resilience today that when a distressed financial asset price appears, it is replaced immediately by an alphabet soup of actions by the central banks, and mopped up with public debt.

The central banks refuse to allow a single bankruptcy, and certainly not another Lehman Brothers, or an “improper price” in a derivative marketplace, or a low price for equity shares. The central banks are scared of the domino effect from even a single bankruptcy. They are acting like a desperate doctor, keeping their old and fragile patient alive. It is a valiant effort, but the patient will eventually succumb. **Yet in the end, excessive debt is like morphine; it helps with the pain but does not cure either sickness or age.**

¹⁰⁵ See “Die Pandemie lässt die Staatsverschuldung hochschnellen”, (“The pandemic causes public debt to skyrocket”), NZZ, April 15, 2020

Status Quo of Inflation Dynamics

“No one is ready for inflation, but I believe it’s coming. Maybe not today or next week, but there is a powder keg of monetary supply just waiting to be unleashed by governments who think that inflation can never happen again.

At first, markets will cheer a bit of inflation – then they’ll panic. The markets often do whatever the fewest people are positioned for.

Who’s positioned for inflation? That’s about as contrarian as buying Argentine sovereign debt.”

Harris Kupperman



Now we want to address one of the central themes of our investment strategies¹⁰⁶ and also one of the most important factors influencing the gold price: inflation.

Last year, it seemed that predicting rising inflation rates was the most extreme and abstruse contrarian position one could take, akin to Denmark’s becoming European football champions in 1992.¹⁰⁷ In its April 2019 issue, Bloomberg Business Week asked “*Is Inflation Dead?*” and in October 2019 the Economist asked “*The end of inflation?*” **In our view, these eulogies on inflation seemed more than premature.**



The coronavirus crash in February and March 2020 was – like every stock market collapse – a deflationary event. The central banks’ measures, some of which appeared panicky, attempted to combat this deflationary pressure with brute force. Reason enough for us to take another close look at inflation trends.

But let’s first take a step back and ask ourselves why the fear of deflation – i.e. the real appreciation of purchasing power – is actually so deeply rooted in the psyche of central bankers, economists and politicians, just as other people are afraid of a root canal treatment without anesthesia or of stepping on the scale after a couple months of lockdown.

¹⁰⁶ You can find more information about our investment solutions at www.incrementum.li

¹⁰⁷ Yugoslavia were withdrawn from the tournament due to the Balkan conflict, despite having previously qualified successfully, and were replaced only ten days before the start of the tournament by the runner-up in the qualifying group, Denmark. Denmark sensationally won the final against reigning world champions Germany. <https://www.youtube.com/watch?v=pDe2N9yKR6A>

US inflation expectations, in %, 01/2008-05/2020



Source: Federal Reserve St. Louis, Incrementum AG

The idea that when people see prices falling they will stop buying those cheaper goods or cheaper food does not make much sense. And aiming for 2 percent inflation every year means that after a decade prices are more than 25 percent higher and the price level doubles every generation. That is not price stability, yet they call it price stability. I just do not understand central banks wanting a little inflation.

Paul Volcker

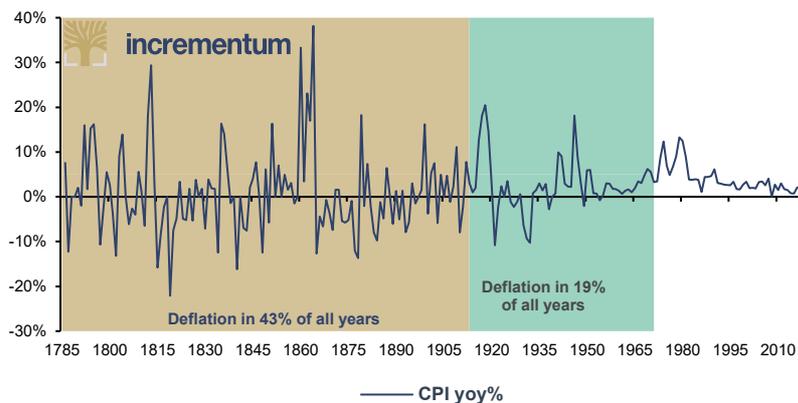
The fear of deflation seems unfounded. That there is no empirical connection between periods of deflation and depression, with the exception of the Great Depression, was confirmed by a comprehensive historical study by the Federal Reserve, the central finding of which is the following:

“Our main finding is that the only episode in which we find evidence of a link between deflation and depression is the Great Depression (1929-34). We find virtually no evidence of such a link in any other period. ... What is striking is that nearly 90% of the episodes with deflation did not have depression. In a broad historical context, beyond the Great Depression, the notion that deflation and depression are linked virtually disappears.”¹⁰⁸

The next chart shows that deflationary and inflationary phases alternated until the establishment of the Federal Reserve. Between 1785 and 1913, 43% of all years saw falling prices. Since 1913, however, and especially since the end of the Bretton Woods Agreement, this picture has changed radically. Between 1913 and 1971, only 19% of all years saw price deflation on an annual comparison basis. Since the disengagement from gold in 1971, there have been only brief *monthly* phases of a general decline in the price level. Those were experienced particularly in the wake of the 2008 financial crisis.

¹⁰⁸ Atkeson, Andrew and Kehoe, Patrick: “Deflation and Depression: Is There an Empirical Link?”, NBER Working Paper 10268, January 2004. The paper analyzes data from 17 nations over 100 years.

CPI yoy%, USA, 1786-2019



Source: Nick Laird, goldchartsrus.com, Incrementum AG

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

Kyle Bass

What is the reason for this paradigm shift? As we have shown in the previous chapter on global debt development, debt levels have been rising faster than ever since 2008. Since the beginning of the Covid-19 crisis, the already high pace of debt growth has increased even further. In today's highly leveraged fractional reserve debt system, severe credit deflation would have shocking political and real economic consequences. From a systemic perspective, deflation must therefore be avoided, *whatever it takes*, for the following reasons:

- **Deleveraging leads to consumer price and asset price deflation.** While low inflation systematically increases the tax burden through effects such as bracket creep, this process is reversed in the case of deflation and leads to falling tax revenues. Falling asset prices also mean dwindling revenues for the finance minister.
- **Falling prices lead to a real appreciation of nominal debt.** This makes it more difficult to service current debts and leads to more bankruptcies among companies and private individuals.
- In an overindebted world, **debt reduction and price deflation have fatal consequences for large parts of the banking system, because the low equity base of commercial banks rapidly diminishes through write-offs of defaulted receivables.**

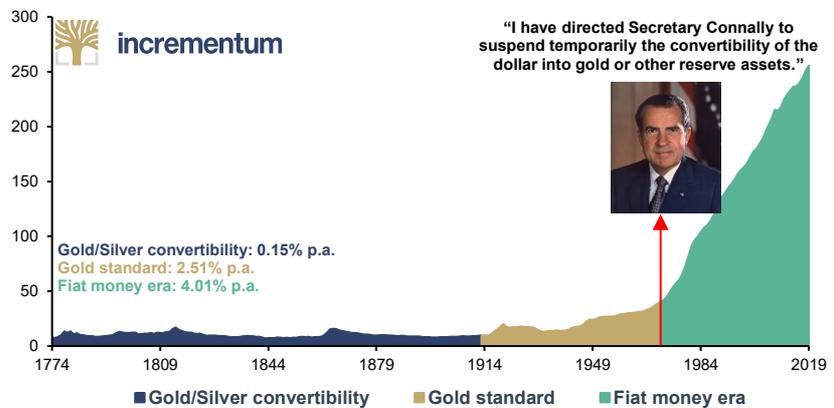
In addition to maintaining price stability, which is usually defined as positive annual inflation of around 2%, central banks also have the mandate to guarantee “financial stability” and to ensure that “it”¹⁰⁹ does not happen.

That is the real reason why deflation is the nemesis of every central banker today. The goal of every organism, every person, and every bureaucracy is to maximize its chances of survival. In this respect, deflation is an existential threat to the current monetary system that must be fought with all means. In order to conceal the inherent instability of the credit system, any sign of credit deflation will therefore continue to be compensated, or rather overcompensated, by extremely expansive central bank policies. **If we look at the CPI, we see that**

¹⁰⁹ See “Ben S Bernanke: Deflation – making sure ‘it’ doesn’t happen here”, bis.org, November 21, 2002

the fear of deflation is exclusively a function of the dominant monetary system.

CPI across monetary regimes, 1774-2019



Source: Measuringworth, Reuters Eikon, Incrementum AG

Monetary policy does not work like a scalpel but more like a sledgehammer.

Liaquat Ahamed

Having a little inflation is like being a little pregnant.

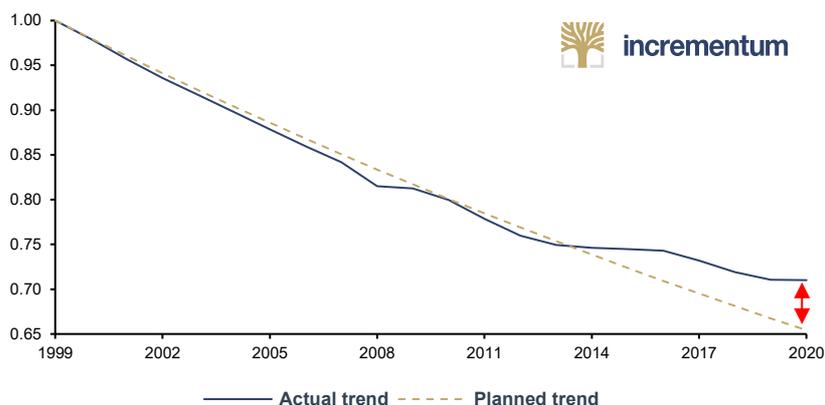
Leon Henderson

Faithful readers know that our definition of inflation differs from the mainstream view.¹¹⁰ Contrary to the popular opinion that industrialized economies are characterized by too-low inflation, enormous monetary inflation has in fact already taken place. In the last cycle, however, this was reflected especially in skyrocketing asset prices. It is incomprehensible why rising food prices are seen as critical, while soaring real estate prices are often seen as a blessing. In both cases there is a reduction in purchasing power.

Let's examine the primary objective of the ECB – and of many other central banks – that is, “price stability”. By price stability, the ECB understands an increase in a basket of goods “*in the medium term of close to but below 2%*”. This is an idiosyncratic interpretation of “stability”, because if goods prices rise by 2% a year, this corresponds to a loss of purchasing power of 18% in 10 years and 33% after 20 years. The next chart shows that the ECB has missed this target in recent years, i.e. the inflation rate was too low.

¹¹⁰ See “[Inflation ≠ rising prices: confusing terminology with grave consequences](#)”, In *Gold We Trust* report 2012; “[Excursion: Monetary Tectonics – Inflation versus Deflation](#)”, In *Gold We Trust* report 2013; “[Gold and Inflation](#)”, In *Gold We Trust* report 2014; “[Gold and Inflation](#)”, In *Gold We Trust* report 2015; “[Inflation and the Investment](#)”, In *Gold We Trust* report 2016; “[Where Things Stand](#)”, In *Gold We Trust* report 2017; “[Quo Vadis, Aurum?: Systemic Overindebtedness and Inflation](#)” and “[Inflation vs. Deflation – The Big Showdown?](#)”, In *Gold We Trust* report 2018; “[Hyperinflation: Much Talked About, Little Understood](#)”, In *Gold We Trust* report 2019

Euro purchasing power loss, 1999-2020

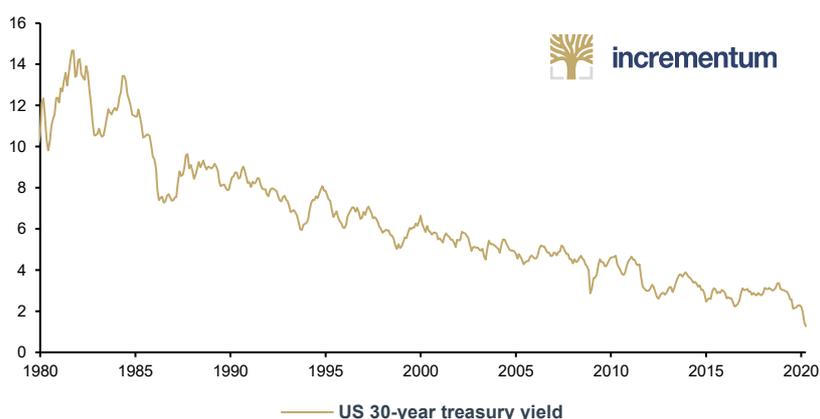


Source: Reuters Eikon, Degussa, Dr. Thorsten Polleit, Incrementum AG

Even before the crisis, the Federal Reserve was considering introducing a rule that would allow the inflation rate to overshoot its 2 percent target. This would be a significant change to the definition of the monetary policy target. This adjustment is intended to prevent latent low inflation in the USA from becoming entrenched. This new policy presupposes “*that it is acceptable that for an average of 2 percent, one cannot have observations that are below 2 percent*”,¹¹¹ said Eric Rosengren, President of the Federal Reserve Bank of Boston, in an interview with the Financial Times.

A one-year review of the Federal Reserve’s monetary policy instruments is expected to be completed before the end of 2020 and could lead to the implementation of this concept of “makeup inflation”. **In our opinion, this turnaround in monetary policy would have considerable consequences for capital markets, especially the bond market.**

US 30-year treasury yield, in %, 01/1980-04/2020



Source: Reuters Eikon, Incrementum AG

The ECB has also started a strategy review. With its own portal – “ECB Listens Portal”¹¹² – it is trying to involve a broader cross-section of the population in this process. As a result of the coronavirus crisis, the strategy review has already

¹¹¹ “US Federal Reserve considers letting inflation run above target”, Financial Times, December 1, 2019

¹¹² ECB: [ECB Listens Portal](#)

Inflation is as violent as a mugger, as frightening as an armed robber and as deadly as a hit man.

Ronald Reagan

The nation must either destroy the state credit or the state credit destroys the nation.

David Hume

been extended to 2021. The change in the definition of price stability is formally relatively easy to implement. A simple majority in the Governing Council is sufficient for this purpose, provided that at least two-thirds of the members entitled to vote under the rotation system participate in the vote.

The chronology of hyperinflation¹¹³

The first phase of the fight against the dramatic consequences of the lockdown decreed to combat the coronavirus pandemic resulted in a sharp increase in the money supply in many countries of the world. In the United States, M2 money supply increased by 21.6% yoy in recent days. This is clearly a short-term snapshot, but the current monetary developments are a good reason to present two explanatory models for the occurrence and dynamics of high inflation rates and hyperinflation in the following section. **Firstly, we want to introduce you to the thoughts of Peter Bernholz in *Monetary Regimes and Inflation*, and secondly those of Murray Rothbard in *The Mystery of Banking*.**

The Swiss economist Peter Bernholz is one of the most renowned inflation researchers. With his book *Monetary Regimes and Inflation*, he penned a standard work in the analysis of historical

(hyper)inflation. According to Bernholz, all hyperinflations have occurred in the wake of discretionary paper money standards. Gold or bimetallic standards, on the other hand, show no or significantly lower inflationary tendencies.

As a rule, exorbitant budget deficits trigger the excessive money creation that is a prerequisite for hyperinflation.

There have only rarely been situations in which an aggressive expansion of the central bank money supply has not led to inflation. Bernholz's research has shown that budget deficits amounting to 40% of government spending are a sure path to hyperinflation. In 8 out of 12 cases a deficit of 20% already caused hyperinflation.

A few months ago, such deficits were practically impossible in the OECD countries. However, this has changed abruptly in the wake of the Covid-19 crisis. With an OECD government spending ratio of 50%, the 40% and 20% thresholds identified by Bernholz translate to budget deficits of 20% and 10% respectively as a percentage of GDP. At a government spending ratio of 35%, the US figure for 2018, the corresponding deficit ratios are 14% and 7% respectively. **Current forecasts for the US are already well above the higher figure.**

The expanded budget deficits are slowly but surely being papered over with freshly printed money. However, this form of budget financing is only possible if the price level rises more strongly than the money supply. Due to Tanzi's law, however, real budget deficits are rising more rapidly. Tanzi's law states that if inflation rates rise, tax revenues grow more slowly than the inflation rate, which is why the budget deficit gradually increases. Since there may be a considerable

¹¹³ See "Monetary policy playing with fire – why inflationary momentum cannot be controlled", In *Gold We Trust* report 2015; "Efficiency-driven price deflation vs. politically induced monetary inflation: a brutal slugfest", In *Gold We Trust* report 2018

period of time between budgetary expenditures and tax payments, the real effectiveness of tax payments falls considerably when inflation rates are high.¹¹⁴

Once a turning point is reached, inflation tends to accelerate.¹¹⁵ In this phase currency substitution sets in. Gresham's law, according to which legally overvalued "bad" money displaces legally undervalued "good" money, thus works only in the early phases of inflation, for example when an attempt is made to defend the fixed parity of a bimetallic standard.

Inflation, however, can only continue as long as there is the opinion that it will cease in the foreseeable future. Once the conviction is established that inflation will not stop, panic breaks out.

Ludwig von Mises

During this phase, the population usually takes refuge in real assets such as real estate (i.e. concrete gold) or real gold. This flight into good money is called Thiers' law or Gresham's law in reverse.¹¹⁶ It states that, as a result of the increasingly rapid devaluation, the acceptance of the currency drops abruptly. The lack of a stable means of payment causes increasing chaos in trade and production and leads to foreign currencies being used for payments. As a result of Thiers' law, the velocity of circulation increases, some market participants subsequently return to barter transactions, and the real stock of inflationary money supply is rapidly reduced. As a consequence, people choose the money they expect to be most stable in the long run. Concrete examples of the substitution of the domestic, highly inflationary currency by a more stable currency include "dollarization", i.e. the increased use of the US dollar, and the takeover of the German mark after the collapse of Yugoslavia, for example in Montenegro and Kosovo.¹¹⁷

Hyperinflation has nothing to do with quantity, it has everything to do with quality of money.

Antal Fekete

Bernholz also recognizes an inflationary bias in the current political system. This means that stimuli and election promises are the basic prerequisite for money supply expansion, according to the "free beer principle". According to Bernholz, many central bankers underestimate the psychological pressure they are under when they want to end a stimulus and reduce the monetary base. Although the reduction of the money supply is technically possible without problems, it is politically difficult to implement. Market participants are getting used to the monetary free beer, which flows continuously and apparently without negative consequences. As soon as the stimulus is reduced, the risks of recession increase, which in turn triggers political pressure.

Inflation is like toothpaste. Once it's out, you can hardly get it back in again.

Karl Otto Pohl

Murray Rothbard's underrated work *The Mystery of Banking* also contains essential thoughts on the individual phases of inflation and, ultimately, the emergence of hyperinflation. Rothbard sees the root of most hyperinflation in the fierce fight against deflation and the subsequent start-up of the printing press. The sharp decline in the "demand to hold money" is a major

¹¹⁴ See Lee, Duck Ho: "Die Umwandlung von sozialistischen zu kapitalistischen Gesellschaften in den postkommunistischen Ländern und die koreanische Einheit" ("The Transformation of Socialist to Capitalist Societies in Post-Communist Countries and Korean Unity"), dissertation Freie Universität Berlin; "Hyperinflation: Much Talked About, Little Understood", *In Gold We Trust report* 2019

¹¹⁵ Vgl. Nannestad, Peter and Paldam, Martin: "The VP-function: A survey of the literature on vote and popularity functions after 25 years", *Public Choice*, Vol. 79 (3-4), 1994, p. 213-245

¹¹⁶ Wikipedia entry: [Gresham's law](#) "The reverse of Gresham's Law, that good money drives out bad money whenever the bad money becomes nearly worthless, has been named *Thiers' law* by economist Peter Bernholz in honor of French politician and historian Adolphe Thiers. Thiers' Law will only operate later [in the inflation] when the increase of the new flexible exchange rate and of the rate of inflation lower the real demand for the inflating money."

¹¹⁷ See Guidotti, Pablo and Rodríguez, Carlos A.: "Dollarization in Latin America: Gresham's Law in Reverse", *IMF Staff Papers*, No 39, November 1, 1991, pp. 518-544

factor in this process, which in many places is at best underestimated in the economic mainstream, but mostly simply ignored.

Rothbard identified three phases of the inflation process:

- **In the first phase the money supply is increased, but prices hardly rise at all.** Since people assume that this is only a temporary expansion of the money supply, they still prefer to save money rather than spend it. This phase is a land of milk and honey for politicians because deficits can (supposedly) be financed without consequences and election sugar distributed without generating price inflation.
- **In the second phase,** the public begins to anticipate slowly rising prices. Rothbard writes: *“The public’s deflationary expectations will be replaced by inflationary ones (...) Instead of hoarding money, the public will spend its money faster to buy before price increases. In phase 2 of inflation (...) a falling demand for money (holding money) will intensify inflation.”*¹¹⁸

At this very moment, politics is facing a fork in the road: Either one can allow natural deflation, painfully reduce the excesses and approve a recession, or one can continue along the path of cheap money and thus risk phase 3.

- **Phase 3 is commonly referred to as the “crack-up boom” or “hyperinflation”.** The public perceives that the inflation dynamic cannot be stopped and is gradually accelerating. People are leaving the monetary system and choosing alternative currencies. Rothbard described this phase as follows: *“A frantic rush ensues to get rid of money at all costs and to buy anything else. In [Weimar Germany circa 1923], this was called a ‘flight into real values’. The demand for money falls precipitously almost to zero, and prices skyrocket upward virtually to infinity.”*¹¹⁹

Worth mentioning regarding this dynamic and the central bankers’ dilemma is also a passage from the fantastic book *Lords of Finance* by Liaquat Ahamed:

*“Von Havenstein faced a real dilemma. Were he to refuse to print the money necessary to finance the deficit, he risked causing a sharp rise in interest rates as the government scrambled to borrow from every source. The mass unemployment that would ensue, he believed, would bring on a domestic economic and political crisis, which in Germany’s current fragile state might precipitate a real political convulsion. As the prominent Hamburg banker Max Warburg, a member of the Reichsbank’s board of directors, put it, **the dilemma was ‘whether one wished to stop the inflation and trigger the revolution’, or continue to print money.** Loyal servant of the state*

¹¹⁸ Rothbard, N. Murray: *The Mystery of Banking*, 1983, p. 67

¹¹⁹ Rothbard, N. Murray: *The Mystery of Banking*, 1983, p. 72

that he was, von Havenstein had no wish to destroy the last vestiges of the old order.”¹²⁰

In our opinion, it is quite possible that, according to Rothbard’s classification, we are currently at the transition from phase 2 to phase 3. Rothbard says, however, that it is not possible to predict the exact turning point:

“There is no scientific way to predict at what point in any inflation expectations will reverse from deflationary to inflationary. The answer will differ from one country to another, and from one epoch to another, and will depend on many subtle cultural factors, such as trust in government, speed of communication, and many others.”¹²¹

However, not only economists but also influential financial market participants such as Ray Dalio have recently been thinking aloud about hyperinflation:

*“Hyperinflation comes from investors who are holding money and credit assets (e.g. bonds) wanting to sell those and move their money to other assets, either in the same country or in other countries. As they do this selling, **the central bank is put into the position of having to choose between having interest rates go up (which is undesirable because it weakens the economy) or printing money and buying those financial assets (which can devalue money and debt).** When they need to do this a lot, it causes a monetary inflation which can become a hyperinflation.”¹²²*

Hyperinflation, but also galloping inflation, is certainly announced in advance for the attentive observer, but the broad masses do not recognize the problem. However, when the population begins to dispose of the money that is rapidly losing value, it is too late to take precautions. **Attentiveness and a deep understanding of monetary history are therefore essential characteristics for investors – today more than ever.**

Current inflation trend

Anyone who thinks there will be deflation does not understand twenty-first century banking. There may well be a deflationary collapse later, but before that happens the government will print money until the world runs out of trees.

Jim Rogers

After these theoretical and historical thoughts on inflation, we now want to turn our attention to current developments and, above all, to future inflationary trends.

Where are we currently located on the inflation map? The present development corresponds exactly to the textbook description of the ABCT.¹²³ In the course of the inflationary process, asset prices rise first (= asset price inflation) and only then does consumer price inflation (= inflation) set in. The enormous asset price inflation of the last cycle can be seen in many examples. In addition to the substantial increases in the value of bonds, real estate and shares, the prices of antiques, luxury goods, expensive wines, vintage cars, football

¹²⁰ See Liaquat, Ahamed: *The Lords of Finance-The Bankers Who Broke the World*, 2009, p. 125; many thanks to Luke Gromen, who drew this comparison.

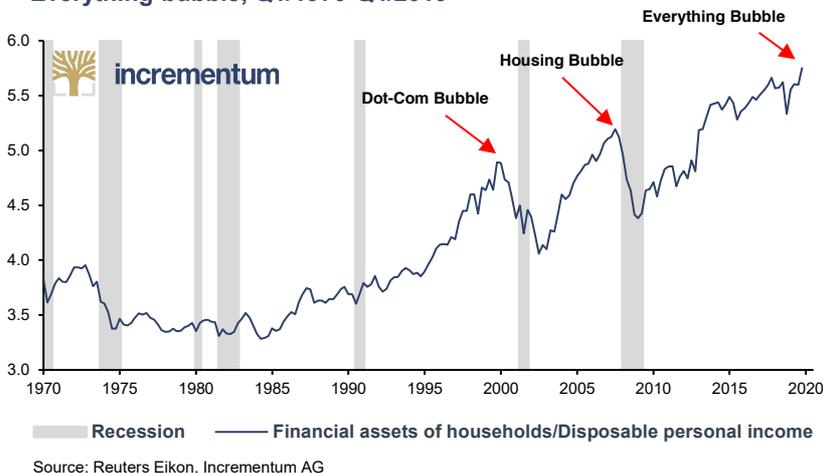
¹²¹ Rothbard, N. Murray: *The Mystery of Banking*, 1983, p. 71

¹²² “Ray T. Dalio – AMA on Reddit”, April 2020

¹²³ See Wikipedia entry: “Austrian Business Cycle Theory”

player transfers, etc. have risen into the stratosphere. **We would accordingly not be surprised if the next phase - rising consumer price inflation - were to begin.**

Everything bubble, Q1/1970-Q4/2019

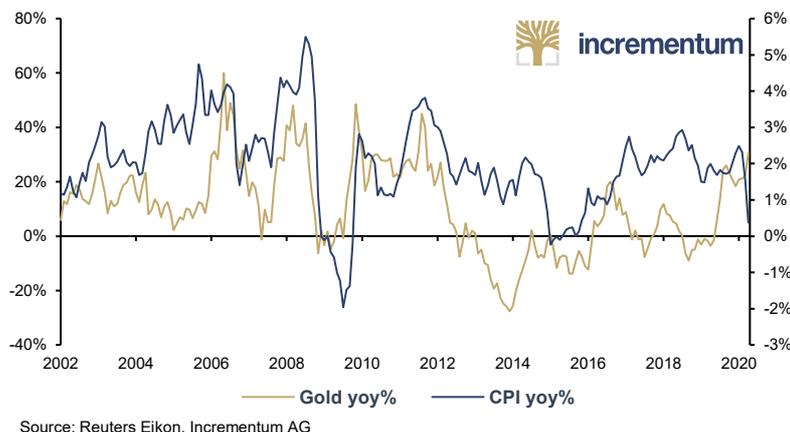


Now we face another deflation shock. However, it is a deflation shock in which we should stop focusing on deflation.

Russell Napier

From the end of 2011 to the beginning of 2015, the inflationary trend in the USA was clearly downward. One can see that this disinflationary environment also created headwinds for the gold price. The CPI then rose to an interim high in July 2018 and has been falling ever since. The gold price was able to emancipate itself from the inflationary trend, which is primarily due to falling real interest rates.

Gold yoy% (lhs), and CPI yoy% (rhs), 01/2002-04/2020



Yields on inflation-linked bonds show an extremely high correlation with the gold price. If we compare the gold price with the real yield of 5-year inflation-linked US government bonds (TIPS), we can see that the outbreak of the gold price at the beginning of 2016 was accompanied by the pricing in of rising inflation expectations. Since the beginning of 2019, TIPS have been on a downward path again, although the spike in March could also mean a trend reversal. Volatility was enormous, with the real yield falling to -0.61% on 5 March and rising again to 0.63% within two weeks. Such a rapid rebound of 124 basis points had never been seen before.

Gold (lhs), in USD, and 5y TIPS (inverted, rhs), in %, 01/2012-05/2020



Source: Reuters Eikon, Incrementum AG

Since the low in TIPS of 0.14% on 19 March, inflation concerns have risen slightly again, according to the break-even rates.¹²⁴ Currently, the 5-year break-even inflation rate is at 0.76%. This means that investors expect the inflation rate to average 0.76% over the next five years. **A deflationary development as in 2008/09 is not expected so far.** In November 2008, the break-even inflation rate recorded a negative value of -2.23%.

US 5-year breakeven rate (lhs), in %, and Gold (rhs), in USD, 01/2015-05/2020



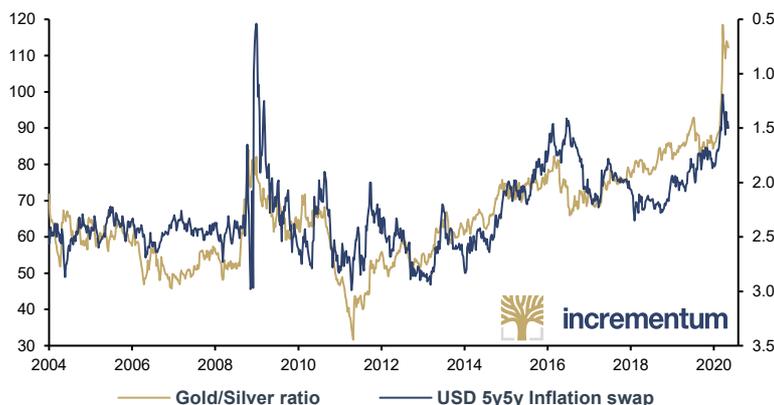
Source: Reuters Eikon, Incrementum AG

The 5Y5Y inflation swaps¹²⁵ plunged nearly to their all-time low in March (they were at 0.43% in December 2008 at) but recovered rapidly in recent weeks. The last cycle had already showed how extremely sensitive inflation swaps are to oil prices and especially to the equity market. It is also interesting to see how inflation swaps are correlated with the Gold/Silver ratio.

¹²⁴ The break-even inflation rate describes the yield differential between 5-year US government bonds and 5-year inflation-linked government bonds (TIPS). It is a very reliable leading indicator of the US inflation rate.

¹²⁵ This is the market expectation of the average inflation level in 5 years over a 5-year period. It is very important for central bankers, as it tells them how the market views the long-term impact of their policies on inflation.

Gold/Silver ratio (lhs), and USD 5y5y Inflation swap (inverted, rhs), 01/2004-05/2020



Source: Reuters Eikon, Incrementum AG

... there exists a distinct possibility that the recovery that follows will be much more inflationary than the last.

Dave Rosenberg

According to our statistical evaluation, a sustained rise in the price of gold is unlikely if the gold/silver ratio rises at the same time.¹²⁶ A falling G/S ratio significantly increases the probability of a bull market in gold. We are observing the current situation of the ratio particularly closely because the price has reached an historic extreme and might be on the verge of a reversal. A new downward trend in the ratio would signal a positive outlook for gold on the one hand and a rising inflation dynamic on the other. **Most recently a reversal from 125 to 100 took place, which confirms our bullish outlook for gold, silver and also inflation.**

Will inflation make the biggest comeback since Niki Lauda in Monza?¹²⁷

What could be fundamental forces that structurally fuel the inflationary dynamic?

- The enormous fiscal and monetary stimulus that has been and will be provided worldwide.
- The growing importance of ESG, which will make it increasingly difficult for commodity producers to access capital. There are many indications that alternative sources of energy, which are considered more environmentally friendly, will make the energy mix significantly more expensive.
- A shortage of labor in certain sectors, rising minimum wages, and globally rising unit labor costs.¹²⁸
- The numerous coronavirus-related effects on the supply of goods and services, which lead to a shortage of supply and a decline in productivity. The economy, even after it ramps up, will probably be operating at lower level of capacity than before.

A noteworthy study on the role of various inflation drivers had as a central finding that inflation expectations have a huge impact on actual inflation.¹²⁹ For example, positive shocks to inflation expectations led to higher realized inflation, with retail food prices having a major impact. Because

¹²⁶ See "Technical Analysis", In Gold We Trust report 2018; "The gold-silver ratio as an indicator measuring inflation momentum", In Gold We Trust report 2015

¹²⁷ 42 days after his terrible accident at the Nürburgring, Lauda mounted his Ferrari on the Ferrari home track in Monza and finished fourth despite bleeding wounds.

¹²⁸ See "How Sturdy Are the Zeitgeist's Five Pillars", Gavekal, January 22, 2020, especially the part on inflation

¹²⁹ See "Breakfast with Dave", Rosenberg Research, May 1, 2020

consumption accounts for more than two-thirds of US GDP, which is above average by global standards, consumers' inflation expectations are central. **But how does the consumer shape his inflation expectations?**

Consumers base their inflation expectations on their own memory of prices paid, especially for supermarket products.¹³⁰ Rising (supermarket) prices thus lead to higher inflation expectations, which in turn threaten to become a self-fulfilling prophecy, accelerating inflation. It is therefore crucial for central banks to anchor low and stable inflation expectations and to fulfill these expectations in order to strengthen their own credibility. A central bank that loses credibility is opening the door to higher inflation expectations. The news that grocery store prices saw the sharpest increase in nearly 50 years in April, will therefore cause some headaches for central bankers in the US, even though the general price level was down.¹³¹

If globalism was deflationary, isn't the reverse inflationary?

Harris Kupperman

The return of protectionism and an increase in trade barriers, export bans, punitive tariffs, etc. Supply chains are becoming shorter and more robust, but also more expensive. Such a relapse into protectionism would have considerable negative consequences for global prosperity. The introduction of customs duties or other trade barriers makes products more expensive and leads to lower purchasing power. As a result, citizens can consume less and save less in real terms. Protectionist measures are also often harbingers of cultural and ultimately political alienation, which makes military conflicts more likely. **Our friend, the economist and philosopher Rahim Taghizadegan, makes the following comments:**

“Frédéric Bastiat remarked: ‘If goods cannot cross borders, armies will. Protectionism is often the precursor to war.’ Trade makes strangers familiar with each other, and more and more people have incentives not to put their livelihoods at risk by hostile attitudes.”¹³²

In order to see clearly, it is often sufficient to change the direction of vision.

Antoine de Saint-Exupéry

In any case, there is much to suggest that the Covid-19 crisis has brought many inflationary problems and conflicts that were already smouldering to the boil. It is a trigger that has a reinforcing effect, but almost all the problems and conflicts that kept the economy, nation states, and the world on edge even before the virus struck are still in play. In addition to the political upheavals, the social unrest of the previous year, from Hong Kong to Cairo to Beirut, Paris, and Santiago de Chile, must also be mentioned. There have been many strong signals that resentment is rising as the financial well-being of the global population clearly deteriorates.

¹³⁰ Cavallo, Alberto, Cruces, Guillermo, and Perez-Truglia, Ricardo: “Inflation Expectations, Learning, and Supermarket Prices: Evidence from Survey Experiments”, *American Economic Association Journal*, Vol. 9, July 3, 2017

¹³¹ See “US grocery costs jump the most in 46 years, led by rising prices for meat and eggs”, cnbc, May 12, 2020

¹³² See Taghizadegan, Rahim: *Alles, was Sie über die Österreichische Schule der Nationalökonomie wissen müssen: Eine Einführung* (“All you need to know about the Austrian School of Economics: An Introduction”), 2016

Whether initially deflationary or ultimately inflationary, this profound shift ends the long period of disinflation, but it also creates the necessity for much more aggressive financial repression in the developed world.

Russell Napier

The Incrementum Inflation Signal

If you want to obtain a picture of global inflation trends, it is helpful to look at the price development of inflation-sensitive asset classes such as gold, silver, other commodities (BCOM), or gold mining stocks. These provide forward-looking statements on the inflation trend in the short and medium term, while conventional inflation statistics only ever show past inflation trends, i.e. they look in the “inflation rear-view mirror”. Such statistics are largely insignificant for the investor, who always tries to anticipate future price development. **We have therefore developed a proprietary inflation signal with which we analyse the current inflation trend. The inflation signal thus obtained is a basis for our asset allocation decisions.**

Inflation sensitive assets (lhs), indexed 01/2007 = 100, and Incrementum Inflation Signal (rhs), 01/2007-05/2020



Source: Reuters Eikon, Incrementum AG

As can be seen on the chart above, the following periods of inflation have been observed over the past 13 years:

- Inflationary phase until August 2008
- Disinflationary/deflationary shock in the wake of the major financial crisis, 2007/2008 until March 2009
- Reflation until 2011/2012
- Disinflationary trend until the end of 2015
- Lateral phase since the beginning of 2016
- Short deflationary shock, Q1 2020
- Slightly rising inflation since April 2020

Before the Covid-19 crisis, our inflation signal, in connection with the “risk-off” movement in the fourth quarter of 2018, indicated the last pronounced deflationary market movement. The stock market correction at that time proved to be a harbinger of the increasing economic slowdown, which gradually became more pronounced in 2019.

The decisive factor, however, was that this market movement was the reason for the turnaround in US interest rate policy, as the Federal Reserve had to abandon its much-invoked monetary policy normalization. The turnaround in interest rates not only led to a recovery on the stock markets, it also boosted inflation-sensitive investments. **As already mentioned elsewhere, Q4/2018 ultimately also**

marked the last high in the Dow/gold ratio, which has been falling ever since.

Inflation-sensitive investments such as gold, silver, commodities, and gold mining stocks had a strong 2019 and outperformed the broad equity indices for the first time in a long time. **Our inflation signal indicated the strength early on and prompted us to clearly overweight inflation-sensitive investments in our *Incrementum Inflation Diversifier*.**

In the course of the Covid-19 crisis the inflation signal has weakened dramatically. The renewed “risk-off” initially also affected the crisis-resistant commodity, gold. As we have also discussed in detail, the massive deflationary tendencies were countered with extreme monetary and fiscal measures.

For investors today, with long-term bond yields at historic lows, it is a reminder that real assets, including stocks, real estate and precious metals can serve an important, although long-redundant role, in protecting a portfolio against the risk of inflation.

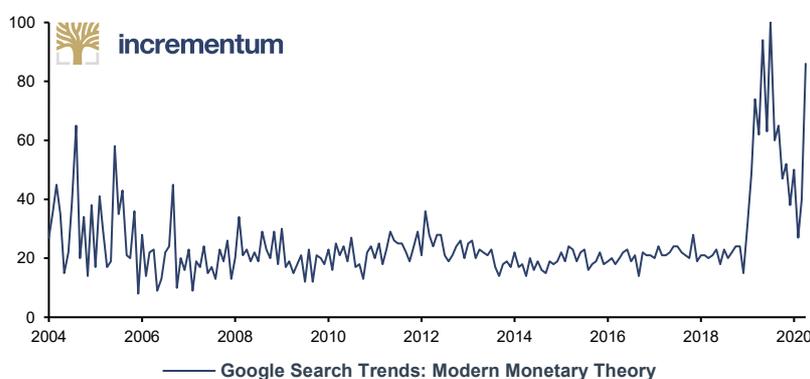
**David Kelly,
JPMorgan Funds**

However, it is remarkable that the broad commodity market has clearly underperformed within the inflation-sensitive investments, both before and since the Covid-19 crisis. This is also consistent with our assessment of a weakening global economy. We interpret the outperformance of gold and gold mining stocks as harbingers of significantly higher inflation in the medium term. Silver has been a relative underperformer until recently. With the onset of stronger inflationary tendencies, we would also expect silver to outperform and the broad commodity indices to turn around. The inflation signal currently indicates a slight upward trend. **The currently falling gold/silver ratio and stabilizing commodity prices might give the inflation signal its full signal strength in due course.**

Does Covid-19 finally open the gates for Modern Monetary Theory?

Last year, we dealt extensively with Modern Monetary Theory (MMT), the inflationists’ new favorite.¹³³ The likelihood of such an economic and monetary policy paradigm shift has increased noticeably due to the fact that the discussion about financing the gaping budget holes is only just beginning. This can be clearly seen from the recent explosion in the number of Google searches for *Modern Monetary Theory* or *MMT*.

Google Search Trends: Modern Monetary Theory, 01/2004-04/2020



Source: Google Trends, Incrementum AG

¹³³ See “The Status Quo of Gold”, *In Gold We Trust* report 2019

A policy initially disastrous for just savers, proved impossible to stop and soon it had taken flight again to finance the “public purpose” of the subjugation of the peoples of Asia to Japanese rule.

Russell Napier

The once sacred separation between fiscal and monetary policy is now largely a relic of the past.

Goehring & Rozencwajg

The following anecdote from 1930s Japan proves that MMT is by no means a “modern” theory. On February 26, 1936, Viscount Takahashi Korekiyo, former Prime Minister and multiple times Finance Minister of Japan, was assassinated. As Minister of Finance, he had attempted in the first half of the 1930s to alleviate the worst damage caused by the Great Depression, which had also hit Japan hard. Within a year, the yen depreciated by 60% against the US dollar. Initially, Korekiyo deliberately accepted the higher inflation rate. However, he was not murdered by a saver who was angry about the inflation-related reduction in his savings, but because he wanted to *end* the strongly expansive fiscal and monetary policy and land the “money helicopter”.¹³⁴

Before the outbreak of the coronavirus, public debate was dominated by discussions about the human influence on climate change and the financing of the required green transformation of the economy. In the USA, it is above all the Democratic congresswoman Alexandria Ocasio-Cortez (AOC) who is trying to push through a Green New Deal politically. The term *Green New Deal* is a deliberate allusion to Franklin D. Roosevelt’s New Deal from 1933, when the then US president attempted to get the US economy back on track with a massive government investment and regulation program.

On this side of the Atlantic, a European Green Deal plays a central role in the work program of the new EU Commission President, Ursula von der Leyen. The successor to Jean-Claude Juncker has equated the efforts and the envisaged one-trillion-euro investment volume of the European Green Deal with a space program, stating, “[T]his is Europe’s ‘man on the moon’ moment.”¹³⁵

But what are the cornerstones of the MMT which, if fully implemented, would fundamentally change everyday economic policy?

- In monetary theory, the MMT follows the view that the state is the originator of money. The most important mastermind of this monetary theory, called *Chartalism*, is Georg Friedrich Knapp (1842-1926), with his *State Theory of Money*, published in 1923. On the other side of the monetary spectrum is the *Market Theory of money*, according to which money is created spontaneously in the market process. The most important current proponents of this approach, first formulated by Adam Smith, are the representatives of the Austrian School of Economics. Only a commodity, they assert, can become money, whereby gold and silver have best fulfilled the monetary function in the centuries-long process of market selection.
- For the MMT representatives, the demand for money, or more precisely for credit, determines the supply of money. In contrast, monetarists and advocates of a commodity theory of money claim that the money supply to

¹³⁴ See Napier, Russell: “Takahashi’s Lament: Europe’s Rush For The Helicopter”, *The Solid Ground*, February 14, 2020

¹³⁵ See “Press remarks by President von der Leyen on the occasion of the adoption of the European Green Deal Communication”, European Commission, December 11, 2019

the economy is provided either by the central bank or by the supply of the commodity used as money.

The following practical conclusions can be drawn from this:

- The division of responsibilities between fiscal policy and monetary policy is being completely reorganized. In the status quo, monetary policy is responsible for achieving the inflation target it has set itself, usually around 2%. The government's fiscal policy is to support this goal through responsible budgeting. **MMT assigns the task of raising or containing inflation to fiscal policy.** If inflation is too low, the government should increase spending and stimulate inflation by increasing demand. If inflation is too high, it should be reduced by cutting expenditure or raising taxes.
- The level of government debt is irrelevant as long as it is denominated in the domestic currency.
- Because, according to the MMT, the state is the creator of money, taxes do not finance the state, but the expenditure of state money enables the payment of taxes in the first place.
- Since tax policy is mainly used to control inflation, the presently important factor of revenue generation is only of secondary importance.
- **The danger of misusing this approach and generating excessive debt is obvious.** The MMT's postulate that sound finance is important for households, businesses, and local authorities but not for states that are able to print money, will be perceived by politicians as a call to run up debt, in the foreshortening typical of politics. The Pandora's box of debt-making would inevitably be opened, even if MMT representatives wanted to see government spending policies limited to avoid excessive inflation. In real policy terms, spending cuts are much more difficult to implement than additional expenditures, financed by debt.

The only way...you would see us getting to hyperinflation would be if they changed the Federal Reserve Act and allowed the Fed to spend money rather than just buying assets.

Lacy Hunt

A legal hurdle is currently still preventing the application of MMT in the USA. The liabilities of the Federal Reserve would have to be made legal tender. This could be achieved by the Treasury Department selling Treasuries directly to the Federal Reserve. The proceeds would be credited to the Treasury, and the Treasury Department would then issue checks against these deposits. In this case, the Federal Reserve would de facto finance the Treasury Department's expenditures directly.

Conclusion

Last year in our discussion of MMT we concluded: *"We firmly believe that MMT will be 'the next big thing' of inflation advocates. But MMT is a false and above all dangerous promise."* The events of the last few weeks have paved the way for a more *creative* and, above all, more aggressive monetary policy and we do not believe that the MMT issue will disappear from the public eye quickly.

QE is a stagflation machine for market-world, where we've inflated prices for fin'l assets and crushed productive corporate growth. MMT will be a stagflation machine for real-world, where we will inflate prices for goods/services and crush productive private sector growth.

Ben Hunt

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

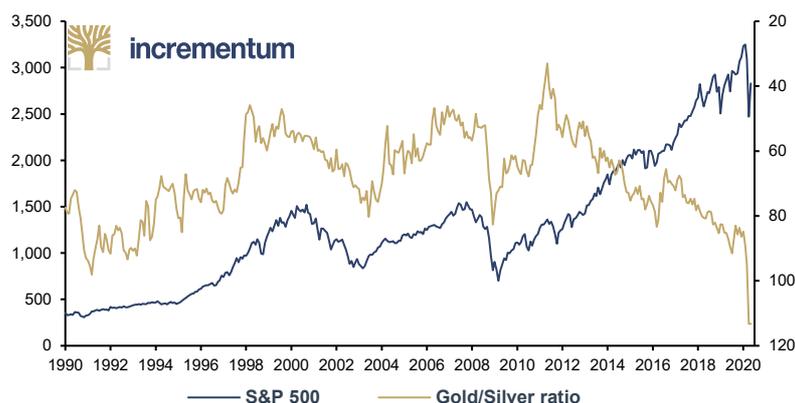
Elias Canetti



Courtesy of Hedgeye

If MMT is implemented, the decades-long bond rally could end abruptly, and higher yields would probably be inevitable. More generally speaking, financial assets would tend to suffer, while real assets, like gold, should benefit from rising inflation. The following chart shows that monetary inflation has so far primarily supported financial assets. The chart compares the development of the S&P 500, which is representative of financial assets, with the gold/silver ratio¹³⁶, which is a representative indicator of the real economy but also of price inflation.

S&P 500 (lhs), and Gold/Silver ratio (rhs, inverted), 01/1990-05/2020



Source: Reuters Eikon, Incrementum AG

Stagflation ante portas?

Since we believe that the probability of a stagflationary scenario has increased, we want to take up the topic again this year.¹³⁷ The reasons for this are obvious. It cannot be stressed often enough that the global economy had already cooled down noticeably before the outbreak of the coronavirus. The Federal Reserve had already lowered interest rates three times by 0.25% each in the second half of 2019, and the ECB resumed its QE program in autumn. **This unpleasant fundamental state of the global economy is now meeting with a unique flood of new money that the central banks have put into circulation in recent weeks.**

The term *stagflation* describes the economic situation in which economic stagnation, i.e. low, below-potential growth and noticeable inflation coincide. This term was coined by the British MP and later Chancellor of the Exchequer Iain Macleod, who first employed it as early as 1965. He revisited the term in the summer of 1970, and since then its use has slowly become commonplace.

The stagflation of the 1970s

The great stagflation of the 1970s may well serve as a lesson for the situation today. At that time, the Western industrialized countries, above all the USA, suffered from chronically high inflation rates, with unemployment doubling at the same

¹³⁶ See "Technical Analysis", In Gold We Trust report 2018
¹³⁷ See "The Status Quo of Gold", In Gold We Trust report 2019

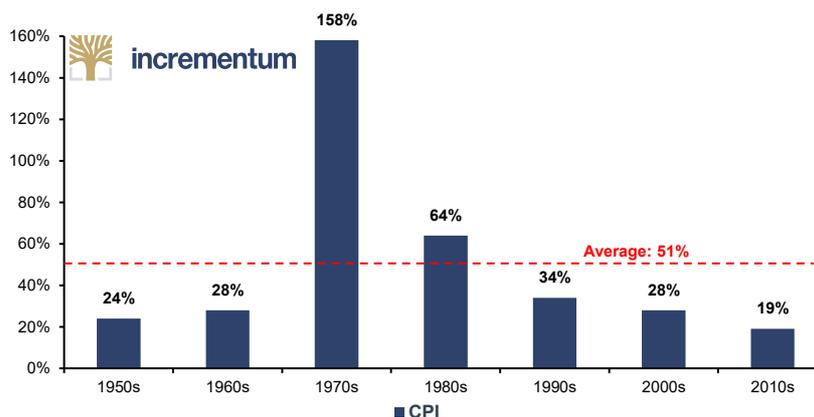
time. According to mainstream economists, this was triggered by the two oil price shocks of 1973/74 and 1979/80, and thus exclusively by exogenous factors.

However, this overlooks the fact that the global inflation wave had been triggered by the depreciation of the US dollar as the global reserve currency against gold and commodities. In September 1971, OPEC announced a new price determination for oil in a communiqué that followed the termination of the Bretton Woods Agreement:

“Our member countries will take all necessary steps and/or conduct negotiations with the oil companies to find ways and means to counteract adverse effects on the real income of member countries resulting from international monetary developments as of August 15, 1971.”¹³⁸

In previous years, representatives of the Austrian School of Economics had warned of the devaluation of the US dollar and the inflationary tendencies that would follow. Among them was, for example, the then-young Harry Browne, who in various media appearances and in his books very impressively anticipated the developments of the 1970s.¹³⁹

CPI by decade



Source: Bloomberg, Incrementum AG

If you impose inflation on stagnation, you get stagflation.
Alan Greenspan

The MMT people aren't really Keynesians. They're a blend of Keynesian and Marxist.
Cullen Roche

Of course, the framework conditions today are not exactly the same as in the 1970s, when the Western world was confronted with pronounced stagflation. **Nevertheless, considerable currency devaluations and, as a consequence, stagflationary tendencies are currently to be expected again.**

We are firmly convinced that we are at a fork in the road. If it is difficult to stimulate economic activity through increased lending, central banks and governments will have to improvise and resort to a bag of tricks, such as putting academic mind games like MMT and helicopter money to the test.

¹³⁸ "August 1971: Der Beginn des weltweiten Papiergeldsystems" ("August 1971: The Beginning of the Global Paper Money System"), Austria Economics Analytics, 1971

¹³⁹ See "Harry Browne – The Coming Devaluation", YouTube, December 5, 2011

It gradually led to a widespread (crazy) belief that inflation is an historical artifact, not a modern possibility.

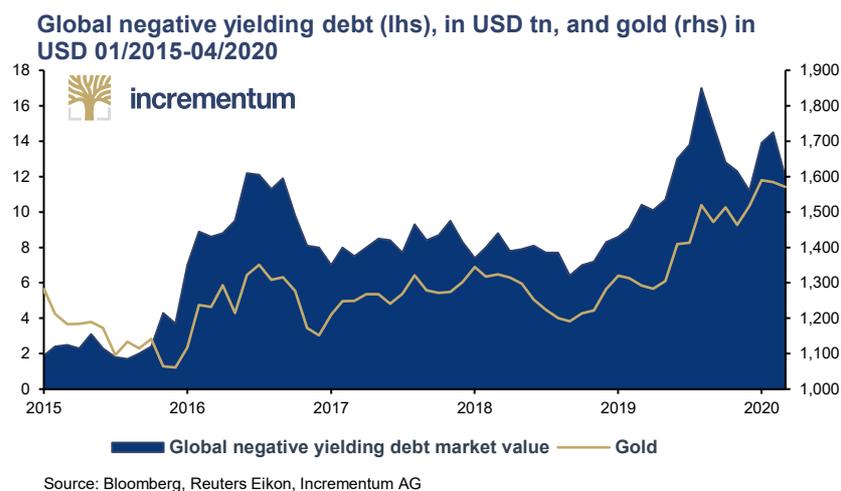
Paul Singer

In our opinion, a paradigm shift in the markets – towards rising inflationary tendencies – will take place in the coming years. It seems that we have come a significant step closer to this scenario. **We are currently in the midst of the biggest economic crisis since the 1930s, and the inflation trend will turn in the medium term. We believe it is quite possible that we at some point be facing a pronounced phase of stagflation in the decade ahead.**

Conclusion

We are concerned witnesses of one of the biggest money experiments in human history. It seems that we have reached the end of the monetary banner and that we must now resort to unconventional and even more brutal measures to push through rising price inflation and economic growth.

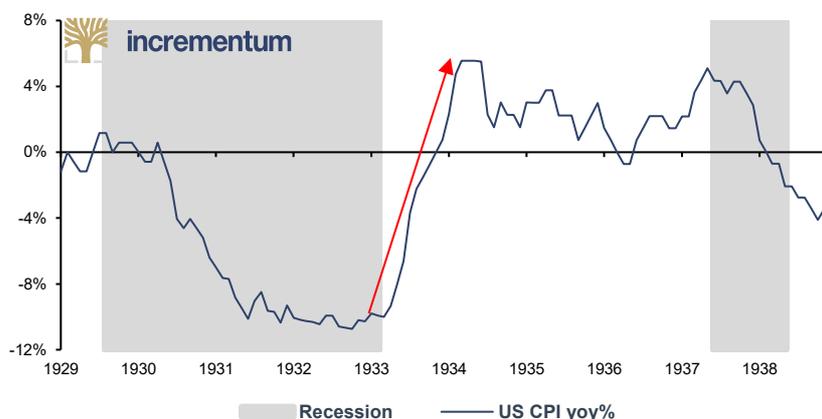
Fears of rising price inflation continue to appear as folly or the constant siren-like warnings of doomsday prophets. Currently, however, government bonds in the amount of USD 12 trn are trading with negative interest rates, an amount almost equivalent to the GDP of the entire EU excluding Germany. Inflation could thus become the *pain trade* of the decade.



The signs for a turnaround in the inflation trend have changed fundamentally, partly because commodities – especially oil – are now at a much lower price level, and the base effect will be reflected in inflation rates even if commodity prices stagnate.

A humble look at our monetary past teaches us that neither the mainstream economy nor central bankers can control the specifics of inflation dynamics. The pitifully failed attempts to regulate the level of inflation like one does a thermostat bear witness to our hubris and ignorance in the course of (monetary) history. **Waves of inflation occur unexpectedly and within relatively quickly. In our opinion, however, many of the factors mentioned in this chapter will only really take effect in the next upswing phase of the cycle, similarly to the Great Depression.**

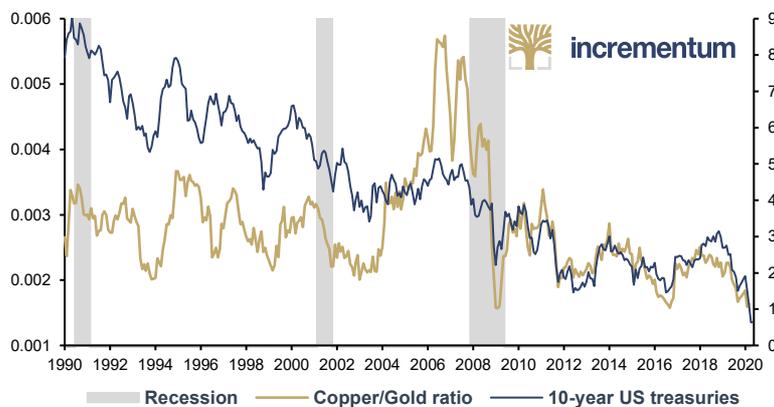
US CPI yoy%, 01/1929-12/1938



Source: Nick Laird, goldchartsrus.com, Incrementum AG

What signals should one look for in order to detect a reversal of the inflation trend at an early stage? In addition to our inflation signal and the gold/silver ratio, we consider the copper/gold ratio, which shows an astonishing correlation with US Treasuries, to be an exciting inflation indicator.¹⁴⁰ **Should the copper/gold ratio reverse its trend, a reversal of the inflation trend may be imminent.**

Copper/Gold ratio (lhs), and US T10Y (rhs), in %, 01/1990-05/2020



Source: Reuters Eikon, Incrementum AG

While liquidity worries and the fear that *too little* money would be printed still dominated in 2008, the coronavirus recession/depression is likely to lead to a contrary market assessment. This would particularly be the case if confidence in the Federal Reserve’s ability to stimulate the economy with further impetus measures were to be lost – the so-called “*The Emperor has no clothes*”-moment.

¹⁴⁰ See Mayberry, Jeffrey M.: “The Power of Copper-Gold: A Leading Indicator for the 10-Year Treasury Yield”, DoubleLine Funds

A firefighter has never been criticized for using too much water.

Stephen Poloz
Bank of Canada Governor

As soon as rising price inflation is seriously considered by market participants, the general market sentiment could change fundamentally. **The current, still omnipresent expectation that, in case of doubt, there will be further stimulus measures by the central banks until they finally take effect, will be increasingly questioned in the event of rising inflation expectations.**

In the last couple of years, consumer prices have shown only a cautious upward trend, by which the central banks justify the continuation of their zero interest rate policy and all additional unconventional measures. Rising price inflation coupled with a fading post-coronavirus economy is the “perfect storm” for gold. However, the majority of market participants do not have this scenario on their books at the moment. **But as Wilhelm Busch once put it so aptly: “First of all, things will turn out differently, secondly, faster than one thinks.”**

Some people think football is a matter of life and death. I don't like that attitude. I can assure them it is much more serious than that.

Bill Shankly

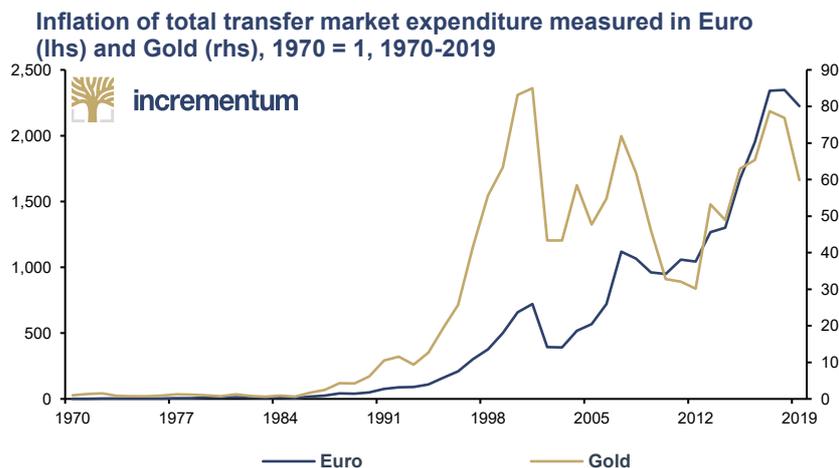
We must have had 99 percent of the game. It was the other three percent that cost us the match.

Ruud Gullit

In Gold We Trust-Extra : The golden road to the Champions League title

Loyal readers of the *In Gold We Trust report* know about our penchant for highlighting the outstanding portfolio characteristics of gold with a wink. Our classic is the gold/Wiesnbier ratio, which we will of course present in the further course of this *In Gold We Trust* report. This year, we also want to link gold, the most important investment instrument, with another of the world's most important trivialities, king football, just as football also seeks this connection with the award of the Ballon d'Or (Golden Ball) to the world footballer of the year.¹⁴¹

What do such illustrious names as Johan Cruyff, Franz Beckenbauer, Roberto Baggio, Zinedine Zidane, Cristiano Ronaldo, Neymar, and Walter "Schoko" Schachner have in common? Each of them was once the most expensive transfer of a calendar year. What distinguishes them are the transfer fees that had to be paid for their transfer. And total transfer fees have increased hugely in recent decades, both in euros and in gold, as the following chart shows.



Source: Nick Laird, goldchartsrus.com, transfermarkt.de, Incrementum AG

Expressed in paper money, transfer expenditures have increased almost 2,500-fold. Expressed in gold, the increase was much more moderate, at 60-fold. The largest amount of gold was turned over in 2001. 249,187 ounces of gold, or almost 77.5 tonnes of gold, changed hands that year in exchange for players. This was 85 times more than total transfer expenditures in 1970, and it's a figure that has not been reached since then on a gold basis. At an average annual price of EUR 311 per ounce, this corresponds to around EUR 77.5mn in paper money.

In his life, a man can change wives, political parties or religions but he cannot change his favorite soccer team.

Eduardo Hughes Galeano

The sharp increase in transfer turnover in the second half of the 1990s is probably due to the Bosman ruling in 1995, which fundamentally changed the world of football. Since a limit on the number of foreign players and transfer fees were declared invalid, the player market changed completely. The transfer fees that were previously due at the end of a player's contract period were included in the redemption sums for players with current contracts and in the players' salaries.

¹⁴¹ We thank Transfermarkt.com for providing the data.

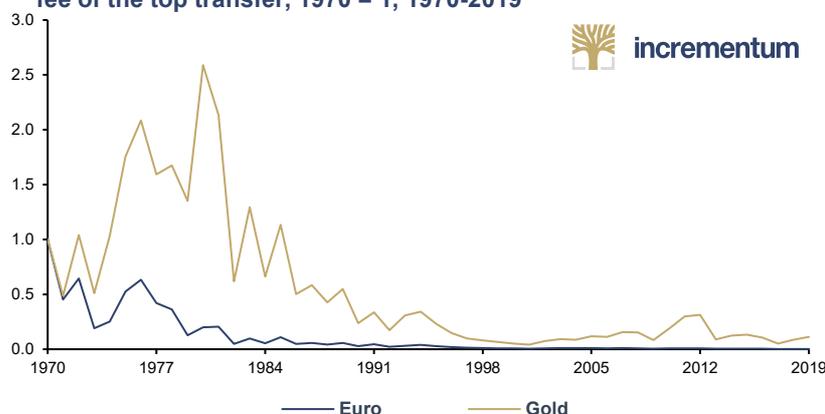
However, this increase in expenditures was still excessive, both in gold and in (the predecessor currencies of the) euro, as the marked correction following the bursting of the dotcom bubble shows. The situation changed completely again in 2006. **Since then, prices in euros have completely decoupled from prices in gold.**

Football is the ballet of the masses.

Dmitri Shostakovich

The development of top transfers is naturally more erratic. Exceptional cases such as Roberto Baggio's 1990 transfer to Juventus Turin, Cristiano Ronaldo's 2009 transfer to Real Madrid, and the transfer of Neymar in 2017 to Paris Saint-Germain, broke all nominal records. With the addition of Walter "Schoko" Schachner (1983), even an Austrian can be found in this illustrious list.

Purchasing power of the Euro and Gold measured by the transfer fee of the top transfer, 1970 = 1, 1970-2019



Source: Nick Laird, goldchartsrus.com, tranfermarkt.de, Incrementum AG

There is also a high correlation with developments on the capital markets. The bursting of the dotcom bubble in March 2000 and the Great Financial Crisis and subsequent sharp recession in 2008/2009 are clearly visible in the above chart. Neymar's transfer in 2017 from FC Barcelona to Paris SG was an outlier on the upside at EUR 222mn, as was Roberto Baggio's 1990 transfer from AC Fiorentina to Juventus Turin for the equivalent of the then unimaginable sum of EUR 12.9mn. For transfer fees paid in gold, one would have received significantly more year after year, especially since 2005, than for payments in the drastically declining euro.

We didn't underestimate them. They were just a lot better than we thought.

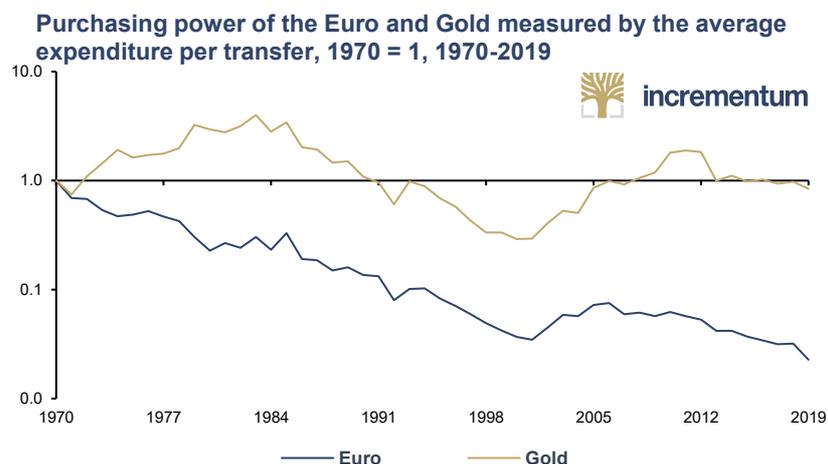
Bobby Robson

Finally, let's look at the purchasing power of the euro and gold as measured by the average expenditure per transfer. Despite some ups and downs, the purchasing power of gold has held up very well over the past 50 years. The fact that today a club has to pay an average of around 18% more in gold per transfer reflects to a large extent the increased real importance of football, which is also reflected in the better marketing of TV rights, merchandising, and the expansion of football clubs into Asia and the USA. Another factor that reduces purchasing power is the increase in the quantity of gold paid per transfer during this period. In paper euros, however, you only get 1/44 of a footballer's value in gold on the transfer market.

Everything I know about morality and the obligations of men, I owe it to football.

Albert Camus

Anyone who has been invested in gold in recent years would win the Champions League year after year by a wide margin. On the other hand, those who have benefited significantly from the inflationary monetary policy of the central banks have dominated. For example, transfer rights for Cristiano Ronaldo were offered as collateral for an ECB loan.¹⁴²



But the coronavirus could also reshuffle the cards in football. One thing is certain. The sometimes absurdly high transfer fees are history for the time being. How much transfer revenues will collapse depends largely on the duration of the restrictions. The CIES Football Observatory has made a rough first estimate, which shows that **even if matches in all major leagues in Europe were to resume by the end of June, transfers could still collapse by 28%**.¹⁴³

“Money scores goals” – that’s what they say. After our brief groundhopping tour, this true statement calls for an important expansion: “But gold scores even more goals!”.

¹⁴² See [“Ronaldo unterm Rettungsschirm”](#) (“Ronaldo under a rescue parachute”), Süddeutsche Zeitung, July 26, 2011

¹⁴³ [“Pandemic: 28% loss on players’ transfer value”](#), Football Observatory, *Weekly Post No. 289*, March 30, 2020

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Status Quo of Gold Demand

“Only buy something that you’d be perfectly happy to hold if the market shut down for 10 years.”

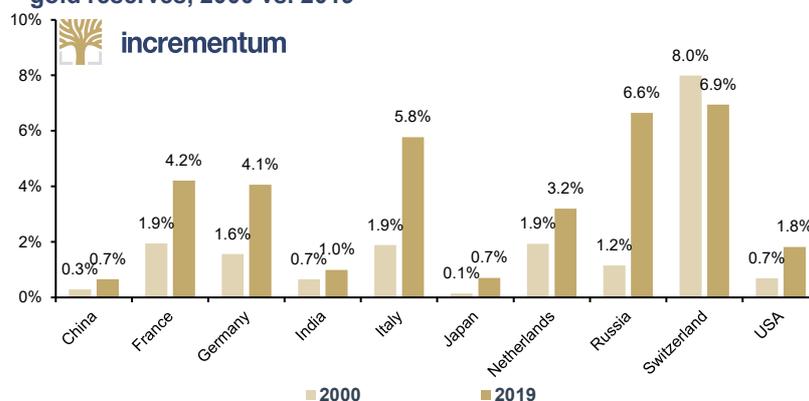
Warren Buffett

We will now turn to the most important developments on the demand side. The focus will clearly be on central bank demand for gold and investor demand.¹⁴⁴

Central banks’ demand for gold

According to the World Gold Council, central bank purchases for the whole of 2019 amounted to 650 tonnes, which is only slightly less than in the record year of the past 50 years, 2018, with 656.2 tonnes. **This concludes a golden decade for central banks.** From 1989 to 2008 they were net sellers of gold and, with an average sales volume of 400 tonnes per year, they represented an important part of the global gold supply, now they are an important driver on the physical demand side of the equation.

Value of gold reserves in % of GDP in top 10 countries with largest gold reserves, 2000 vs. 2019

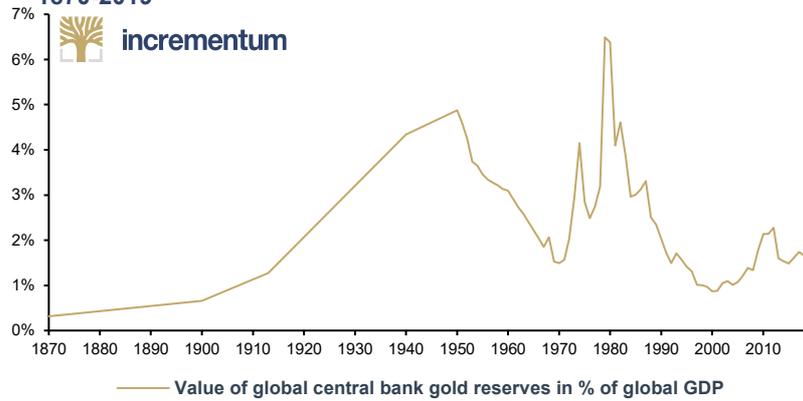


Source: IMF, World Gold Council, Incrementum AG

The Great Financial Crisis of 2008/2009 was the turning point for central banks in their access to gold, and the banks have now become a stable factor on the demand side. During the post-crisis period, increasing economic and geopolitical uncertainty have been the two driving forces that have led central banks, especially those in emerging markets, to build up their holdings. In the meantime, reported official gold reserves are only 10% below the all-time high of 38,491 tonnes in 1966.

¹⁴⁴ While in the 1970s and 1980s the demand for gold was mainly limited to the industrialized countries, emerging markets account for almost two-thirds of demand today. Due to their central importance, we are devoting a separate chapter to Asian gold demand this year, titled “From West to East: Gold’s Flow into the ‘Strong Hands’ of Asia”.

Value of global central bank gold reserves in % of global GDP, 1870-2019

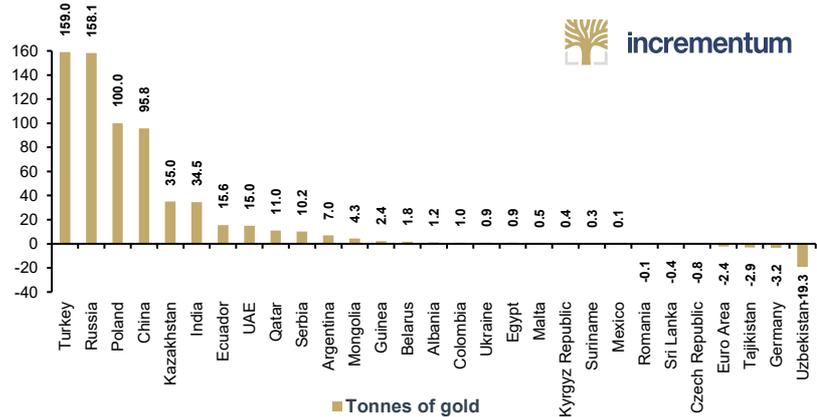


Source: Nick Laird, goldchartsrus.com, World Gold Council, ourworldindata.org, IMF, Incrementum AG

The main developments in 2019 were:

- The largest buyer was Turkey with 159 tonnes, followed by Russia (158 tonnes), Poland (100 tonnes) and China (95.8 tonnes).
- Official gold reserves now stand at 34,700 tonnes, 5,000 tonnes higher than at the end of 2009.
- Demand for gold, especially from the central banks of emerging and developing countries, is likely to remain high. 11% of the total of 155 EMDE¹⁴⁵ central banks stated in a survey by the World Gold Council in July 2019 that they wanted to increase their gold reserves¹⁴⁶. The central banks cited the expected medium-term changes in the international monetary system as the main reason for this decision, which is likely to make gold more relevant.

Central bank gold purchases, in tonnes, 2019

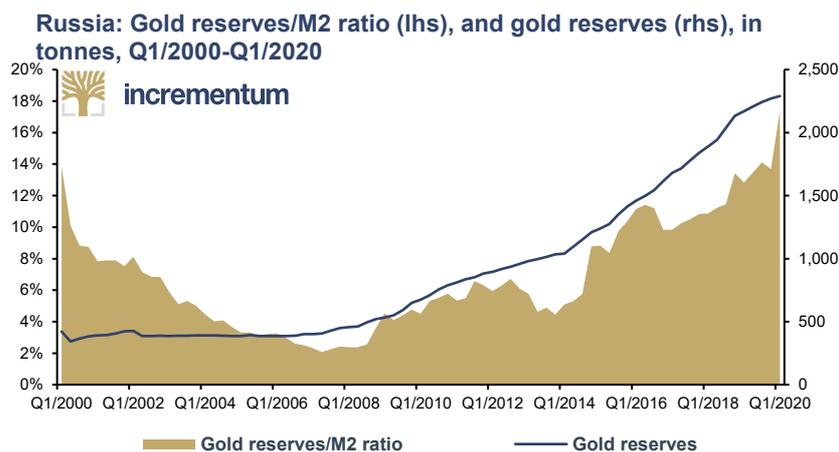


Source: World Gold Council, Incrementum AG

¹⁴⁵ EMDE: emerging markets and developing economies

¹⁴⁶ See "2019 Central Bank Gold Reserve Survey", World Gold Council, July 18, 2019

In recent years, Russia has spent almost USD 40bn to increase its gold reserves. On April 1 (a Putinian April Fool’s joke?), the Bank of Russia temporarily stopped buying gold on the domestic gold market. Future decisions on gold purchases will “*depend on the state of the financial markets*”, their statement said.¹⁴⁷ At the moment, Russian gold stocks amount to 2,290 tonnes, or almost USD 125bn. Gold accounts for about 20% of Russian reserves, which is above average compared to those of many other central banks.¹⁴⁸



*... when the bills come due,
politicians may start looking at
something that rhymes with sold.*
Pimm Fox, Bloomberg

The Central Bank Gold Agreement (CBGA), the pact that had limited the sale of central bank gold since 1999, was not renewed. Gold sales by Italy or France, each of which holds more than 2,400 tonnes, can therefore no longer be ruled out. The demands for such sales have grown louder in the wake of the coronavirus crisis. If and when bond yields soar and central banks eventually lose control of the bond market, it is of course quite possible that Italy will have no choice but to sell its gold. We cannot rule this out by any means, and naturally such news would have a negative impact on the price of gold, at least in the short term.¹⁴⁹ On the other hand, such an environment of “distress selling” is one in which the gold price should benefit, analogous to the Greek sovereign debt crisis, where the gold price in euros reached new all-time highs and European gold demand was even higher than in 2008/2009.

*Gold is... the trust anchor for the
financial system. If the whole
system collapses, the gold stock
provides a collateral to start
over.*

Dutch National Bank

Poland, a neighbor and close political ally of Hungary, caused a stir in 2019 when it announced it had increased its gold reserves by 100 tonnes to a total of 228.6 tonnes. No wonder that precisely Poland and Hungary, two politically very self-confident EU member states, apparently want to create a little more leeway with regard to their currency.

All Polish gold reserves were originally stored at the Bank of England, but 100 tonnes have now been repatriated.¹⁵⁰ **The fact that employees of the National Bank of Poland had carried out an official inspection of the bars in London before repatriation also seems interesting.** Although the wording —

¹⁴⁷ Bank of Russia: “[Bank of Russia suspends gold purchases in domestic market](#)”, March 30, 2020

¹⁴⁸ Vgl. “[Russia, world’s biggest buyer of gold, will stop purchases](#)”, Bloomberg, March 30, 2020

¹⁴⁹ Although such transactions would not be carried out via the market, but OTC, and we could name some larger buyers, e.g. in the Middle Kingdom.

¹⁵⁰ “[Narodowy Bank Polski zwiększył zasoby polskiego złota](#)” (“The National Bank of Poland increased the resources of Polish gold”), National Bank of Poland, July 5, 2019

Gold remains one of the safest instruments in the world, and, even under normal market conditions, provides a stability and confidence-building function.

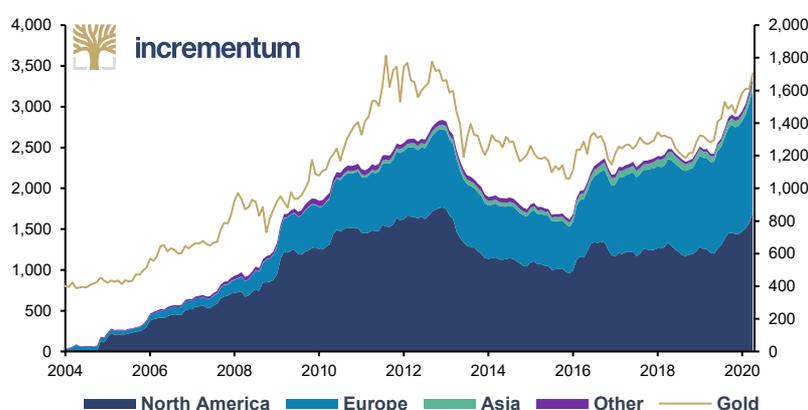
Hungarian National Bank

in the Polish press release is diplomatic, it can be read between the lines that the risks of storing gold abroad were known to the National Bank of Poland.¹⁵¹

Institutional investors' demand for gold

On the investor side, the bull market picked up momentum in June 2019, one month before the Federal Reserve began its cycle of interest rate cuts on 31 July.¹⁵² ETF demand in particular proved to be robust. In our view, this demand preference is representative of Western financial investors, who choose ETFs as their primary instrument for managing their gold exposure. Inflows into gold ETFs follow an extremely pro-cyclical pattern, i.e. rising prices lead to rising allocations and vice versa.

Cumulated ETF holdings by region (lhs), in tonnes, and Gold (rhs), in USD, 01/2004-04/2020



Source: World Gold Council, Incrementum AG

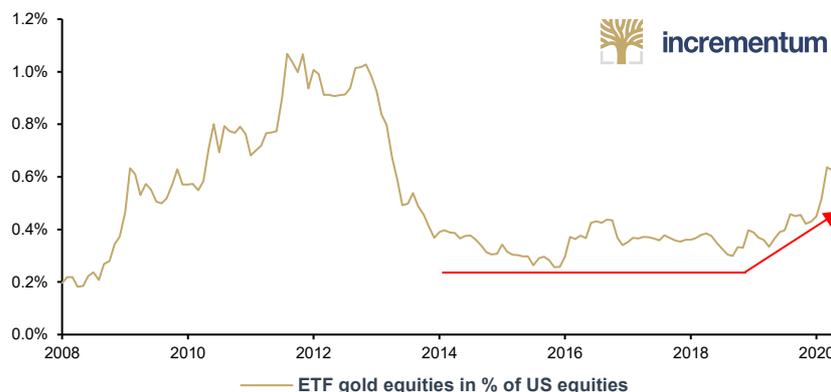
At the end of 2019, ETFs closed at 2,885.5 tonnes, and inflows in 2019 amounted to 401 tonnes, reaching a peak of USD 141bn. Just a few years ago, 2/3 of the ETFs originated from the USA; today half of them come from Europe. Also, in 2020, ETF tonnage growth continued uninterrupted. In Q1/2020, gold ETFs set a new growth record of 298 tonnes, the highest tonnage increase since 2016. In March 2020 alone, inflows amounted to 151 tonnes, again with a large part coming from Europe and Asia.

Despite these record results, the assets invested in gold ETFs are very small compared to the overall US equity market. At the moment, the allocation is 0.6%, a little more than half of what it was in 2011-2012.

¹⁵¹ "Narodowy Bank Polski zwiększył zasoby polskiego złota" ("The National Bank of Poland increased the resources of Polish gold"), National Bank of Poland, July 5, 2019

¹⁵² "Gold Demand Trends Full year and Q4 2019 – Central Banks and other institutions", World Gold Council, January 30, 2020

Gold held in ETFs as % of US equities, 01/2008-04/2020



Source: Atlas Pulse, Reuters Eikon, World Gold Council, Incrementum AG

Retail investors' demand for gold

In the *In Gold We Trust* report 2019 we dealt with demand for gold from retail investors, and as an example we highlighted the situation in Switzerland. We want to do this again this year. The basis for our short analysis is the recently published *Edelmetall-Atlas Schweiz*¹⁵³, which the Research Center for Trade Management of the renowned University of St. Gallen (IRM-HSG) recently published in cooperation with philoro Schweiz AG.

Compared to 2019, gold has gained further ground as the preferred investment form for the Swiss. 50.0% of the respondents prefer to invest their money in gold, only slightly fewer than prefer real estate, at 50.4%. Shares (27%), funds (26%), and current or savings accounts (22%) follow at a considerable distance. For men, gold is an easily the most popular form of investment, at 55%. The proportion of those who consider precious metals a sensible investment opportunity has also risen significantly from 60.5% to 65.2% yoy.

One in four respondents has already invested in precious metals (25.5%), and one in five has even invested in physical gold (21.9%). According to the results of this survey, Swiss private investors own a total of CHF 48bn worth of gold. In 2019 alone, CHF 1.42bn was invested in gold. This corresponds to 11.6% of all savings.

The responses to the questions relating to the coronavirus pandemic are also intriguing. People who feel more threatened by the virus are more likely to buy gold in the next 12 months than those who are more sanguine. Moreover, 27.1% of the first group have already bought gold at least once, while only 22.4% of the second group have done so. The main motive for buying gold is long-term investment (1st place), followed by security considerations (2nd place) and the high stability of gold (3rd place).

Despite significant losses in market share, consumers still prefer to buy precious metals from their house bank (55.3%). Precious metal traders with stationary businesses follow in second place with a slight increase to 19.6%, followed by online precious metal traders (10.0%), who, thanks to a strong increase over the

¹⁵³ [Edelmetall-Atlas 2020 Schweiz](#)

previous year, were able to push the other banks (not the house bank; 8.1%) into fourth place.

Gold as an investment form is firmly anchored in the Swiss population and, in view of the survey results, it can be assumed that the current profound crisis will make the population even more aware of the importance of gold as an investment form.

Conclusion

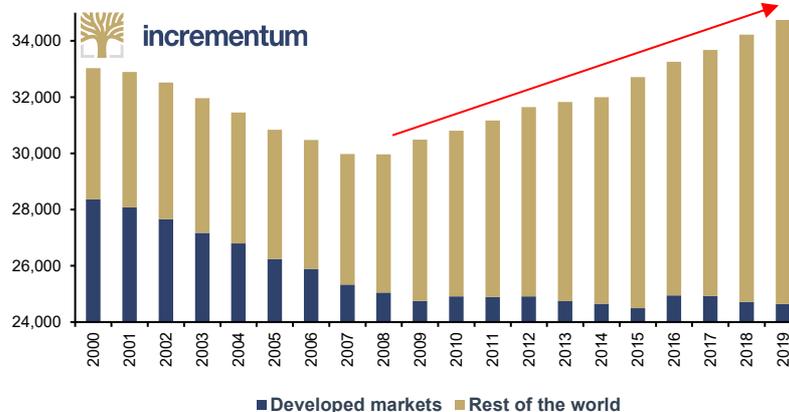
... it is precisely this relationship between central bank assets as a share of GDP and gold assets as a share of GDP that makes gold a very attractive asset at a time like this.

BofA

In our opinion, investment demand will be the main driver of this bull market. Central bank purchases have been an important factor over the last years, but after all, gold as a % of global central bank assets is still on a downward patch, due to the massive balance sheet expansion in recent years.¹⁵⁴

According to the World Gold Council, 76% of central banks view gold's role as a safe haven asset as highly relevant, while 59% cite its effectiveness as a portfolio diversifier. And almost one fifth of central banks signaled their intention to increase gold purchases over the next 12 months. **Therefore, we believe that central bank policy, but also central bank purchases, should continue to be important drivers for the gold price.**

Global central bank gold reserves, Q4/2000-Q4/2019



Source: World Gold Council, Incrementum AG

When it comes to investor demand, we think it is worthwhile to revisit the three different camps that we mentioned last year:

1. *Believers*: People with high confidence in the status quo
2. *Skeptics*: People who had initial doubts about the recovery but who regained trust in the status quo
3. *Critics*: People who question the viability of the status quo

The relative sizes of these three groups is relevant for the development of the gold price. The price of gold is boosted as soon as there is a relative shift

¹⁵⁴ See "The Fed can't print gold", *BofA Global Research*, April 20, 2020

from the groups with comparatively high confidence in the status quo (1+2) to the groups with a comparatively low confidence (2+3). This shift between the groups can be sudden, although not unexpected from the point of view of the third group. **Such a shift would strongly boost investment demand for gold as well as for silver and mining stocks.**

In our opinion, the coronavirus crisis and the numerous measures taken to combat it are causing many market players to rethink their views on gold and the macro picture. That's a rethinking that should certainly not harm the demand for gold, and investment demand will tip the scales for the further development of the gold price.

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

In addition, ZIRP, NIRP, MMT, etc. will create an entirely new environment for investment decisions. As central banks are unlikely to raise interest rates again in the near future, negative real interest rates are likely to be a persistent phenomenon that will have an extremely positive impact on the gold price.¹⁵⁵ **Central banks and institutional investors in particular will generate greater demand for gold. Pension funds and insurance companies, which normally have high bond ratios, will at some point have to fundamentally rethink their investment policies. Gold will play a major role in this process.**

¹⁵⁵ See Hochreiter, Gregor, Stöferle, Ronald, and Taghizadegan, Rahim: [The Zero Interest Trap](#), 2019

The Status Quo: Conclusion

“Gold is not a drug that cures the disease but merely a symbol of the flight from dishonesty – a symbol of independence, honest money and permanence.”

Anthony Deden

Last year we took a clear position and concluded that we were in the early stages of a new gold bull market. This thesis was confirmed with the breakout above the resistance zone at 1,360-1,380 and the subsequent start of the rally. However, this significant price rise should be taken with a grain of salt. **To reach the inflation adjusted all-time high of 1980, gold would still have to rise to 2,215 USD.**



There are more questions than answers.

And the more I find out the less I know.

Johnny Nash



Courtesy of Hedgeye

The background to our hypothesis of last year, that we are at the beginning of a new bull market, was that the economy was already in an increasingly favorable state for gold (even before the outbreak of the coronavirus pandemic): falling real interest rates, (the prospect of) a further easing of monetary and fiscal policy, growing political uncertainty, and clouds of recession looming.

The Covid-19 outbreak was then *only* the straw that broke the camel's back. A very big straw, which dropped onto the markets with a vehemence that probably no one could have imagined in his wildest dreams. **As at the beginning of every crisis, the situation is still very murky.** Deflationary dynamics such as the loss of demand due to revenue shortfalls, a surge in unemployment and looming bankruptcies stand cheek by jowl with inflationary dynamics such as the loss of supply due to official closures and border closures, as well as the incipient rupture of supply chains, not to mention the massive expansion of budget deficits and central bank balance sheets. **In our view, a V-shaped recovery, as initially expected by many economists, can be ruled out.**

One of the central premises of our investment philosophy is the expectation that the interaction between inflation and deflation will become increasingly relevant for investors. We are convinced that we are now close to a fork in the road: Disinflationary pressures will (have to) be broken.

Inflationary forces will prevail. We therefore assume that inflation will be the dominant investment theme in the coming years. This is good news for inflation-sensitive investments such as gold, commodities, and mining stocks. Leaving the current low inflation phase could prove to be a pain trade for the mass of investors, especially if the 40-year party on the bond markets comes to an end. **If we compare different macro and market indicators at the last all-time highs of gold in 1980 and 2011 with today, it is evident that the current valuation of gold is still very appealing.**

Various market and macro numbers at the all-time-high of gold in 1980 and 2011 and currently:

	1980	2011	Current
Gold Price in USD	850	1,900	1,750
Monetary Base (bn. USD)	155	2,637	4,844
M3 (bn. USD)	1,480	9,539	16,103
US Debt Outstanding (bn. USD)	863	14,790	23,201
GDP/capita	30,154	50,660	57,621
S&P 500	110	1,165	2,953
Unemployment rate	6%	9%	15%
US Dollar Index	86	78	99.80

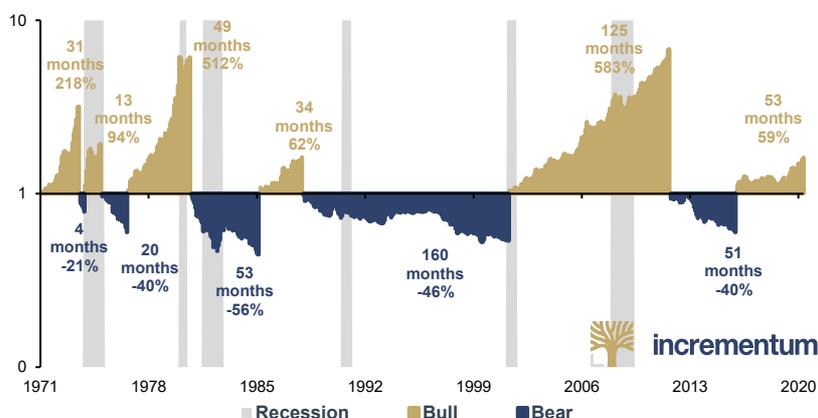
Source: Federal Reserve St. Louis, Incrementum AG, as of May 22, 2020

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

Generally speaking, we see considerable upside potential, especially in commodity markets. They are attractively valued in both absolute and relative terms, especially in comparison with the stock markets. If we look at the bull markets of the last 50 years, it is striking that gold has gained 62% even in its weakest upward period. This allows us to look to the future with optimism.

Gold bull and bear markets, 01/1971-05/2020



Source: Reuters Eikon, Incrementum AG

The good news is that we know what is coming next. The bad news is that we know what is coming next.

Russell Napier

In this detailed assessment of the status quo, we have highlighted various factors that are relevant to the gold price development. One thing is certain: The expansion of the money supply, the negative real interest environment, and the disproportionate growth of debt have further increased the fragility of the global system.

The anti-fragile nature of gold was discussed in detail in the *In Gold We Trust* report 2016.¹⁵⁶ **We had the following thoughts about the degree to which gold is anti-fragile:**

- **The value of gold is based on its trust capital.**
- **Gold has historically been the most stable form of payment in the world.**
- **Gold is liquid, especially in stress situations.**
- **Gold is reciprocally related to the monetary system.**

A crisis is a productive state. You just have to take away the taste of catastrophe.

Max Frisch

We are therefore more convinced than ever that gold is a multidimensional portfolio component with antifragile properties that will show its full strength in the coming golden decade. The most important characteristic of gold is that it behaves reciprocally to the monetary system and is an effective protection against inflation and crisis. This is especially true for unexpected market distortions whose dynamics cannot be predicted in detail.¹⁵⁷

¹⁵⁶ See "Gold in the Context of Portfolio Diversification", *In Gold We Trust* report 2016

¹⁵⁷ See "Gold in the Context of Portfolio Diversification", *In Gold We Trust* report 2016

Alcohol is like Photoshop for real life.

Will Ferrell

Beer makes you feel the way you ought to feel without beer.

Henry Lawson

I am a firm believer in the people. If given the truth, they can be depended upon to meet any national crisis. The great point is to bring them the real facts, and beer.

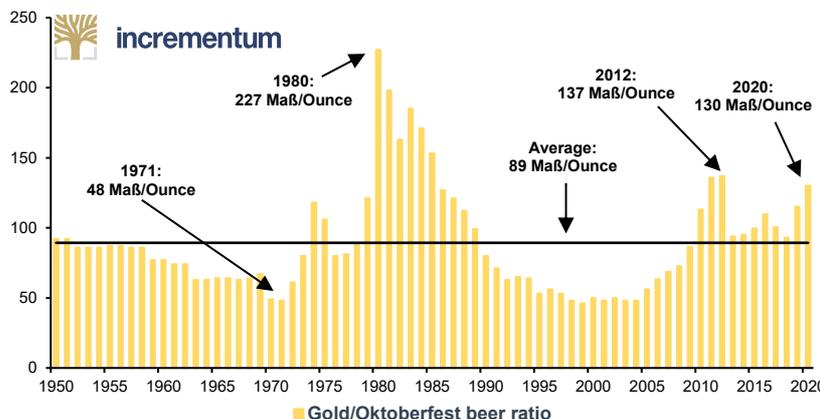
Abraham Lincoln

In Gold We Trust Extra: The Gold/Oktoberfest beer Ratio¹⁵⁸

“My worthy friend, gray are all theories, / And green alone Life’s golden tree.”¹⁵⁹ Hard as it may be, in some years one must be content with theory. 2020 is such a year, because the 187th Munich Oktoberfest has fallen victim to the coronavirus pandemic.¹⁶⁰ But this should not prevent us from continuing one of the most beloved traditions of the *In Gold We Trust* report: the gold/Oktoberfest beer ratio. It is hard to imagine Munich without Oktoberfest, but an *In Gold We Trust* report without an update of the gold/ Oktoberfest beer ratio is unthinkable.

At the last Oktoberfest, the *Maß* already cost up to 11.80 EUR. In 1950 a visitor to the Oktoberfest had to pay only 0.82 EUR. Since 1950 the annual *Oktoberfest beer inflation rate* equals, on average, 3.8%. And how many *Maß* does an ounce of gold currently buy? It will buy you 130 *Maß*! Measured against the historical average of 89 *Maß*, the *beer purchasing power* of gold is now above the average.

Gold/Oktoberfest beer ratio, 1950-2020



Source: Statista, Incrementum AG

Thanks to the recent sharp rise in the gold/ Oktoberfest beer ratio, gold investors who love the Oktoberfest will certainly not sit at home with dry throats at the improvised Oktoberfest. After the strong increase by 22 *Maß* from 93 to 115 *Maß* last year, 2020 will also see a further increase to 130 *Maß*.¹⁶¹ But we are still a long way from the historic high of 227 *Maß* per ounce of gold in 1980. Whether the consumption of such large quantities of alcohol is salubrious, however, is something that every reader must decide for himself.

¹⁵⁸ We take a closer look at the gold/Wiesnbier ratio every autumn in an *In Gold We Trust* special, when the Theresienwiese is the scene of the hustle and bustle. We will keep it that way this year as well, even though the Oktoberfest will only take place virtually. See “O’zapft is! – The gold/Oktoberfest beer ratio 2019”, *In Gold We Trust* special 09/2019

¹⁵⁹ Goethe, Johann Wolfgang von: *Faust, Part 1*

¹⁶⁰ Since its premiere in 1810, the Wiesn has been cancelled a total of 24 times, always because of serious emergencies: wars such as the Napoleonic Wars in 1813, the Prussian-Austrian War in 1866, and during World War I and World War II. Cholera prevented the Oktoberfest in 1854 and 1873, and in 1923 hyperinflation forced the cancellation. In 2020, the Wiesn will not take place for the first time since its resumption in 1949.

¹⁶¹ However, we assumed that the price of beer would not have increased. With an increase of 2.6% as in the previous year, beer consumption falls by just over 3 *Maß*.

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De-Dollarization 2020 – The Endgame Has Begun

“There are no forevers in the global economy, making this era no more permanent than any other.”

The New York Times, February 22, 2019

Key Takeaways

- If it is about currencies on the one hand, then it is almost always about energy on the other, especially oil. After all, the current US dollar system is based on trading the “black gold”.
- We see a slow path to a multipolar world in which US dollar, euro and renminbi play roles as oil and reserve currencies.
- The US dollar may continue to be the undisputed number one on a structural level and on the bottom line, globally. But in addition to the big steps away from the US dollar such as the introduction of a common European currency or a yuan gold & oil price, there have been a lot of small steps.
- The debate around Libra and the nervous reaction of central bankers and politicians have shown well how fragile the system around the key currency, the US dollar, has become.

Once you replace negative thoughts with positive ones, you'll start having positive results.

Willie Nelson

I view gold as the primary global currency. It is the only currency, along with silver, that does not require a counterparty signature.

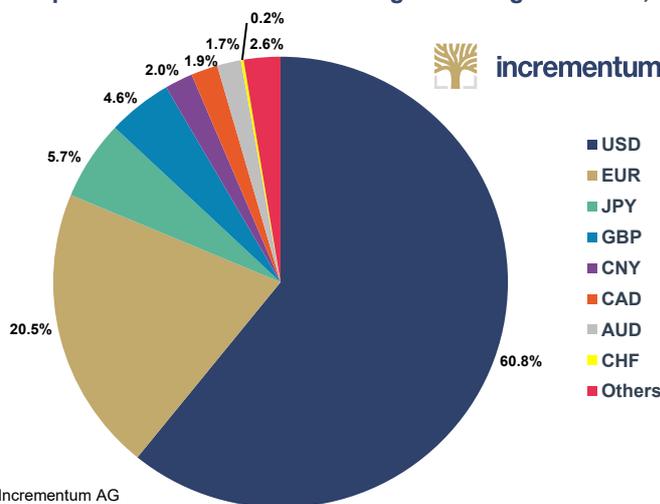
Alan Greenspan

You may find it hard to believe, but there was a world before Covid-19. In this world, Mark Carney, the former governor of the Bank of England, contributed an astounding point of view: The US dollar was too dominant, he said, at the traditional meeting of central bankers at Jackson Hole, Wyoming last August. Carney suggested replacing the US dollar with a “digital alternative”, a synthetic world currency. Such a currency would allow states to activate their US dollar reserves, which they currently hold as “insurance against uncertain times”, he said. Around 60% of global currency reserves are currently held in US dollars.

Of course, this does not include the gold reserves. They are sleeping in the cellars and on the balance sheets of central banks. Until they are needed again. During an upcoming “golden decade” perhaps? In any case, there are many indications that gold does play a prominent role in the considerations of central bankers. As early as 2010 the then president of the World Bank, Robert Zoellick, proposed a new system – with gold at its center:

“The system should also consider employing gold as an international reference point of market expectations about inflation, deflation and future currency values. Although textbooks may view gold as the old money, markets are using gold as an alternative monetary asset today.”¹⁶²

Currency composition of world official foreign exchange reserves, Q4/2019



But back to the recent proposals from Mark Carney. A new, digital world currency could limit “the dominant influence of the US dollar in global trade”, according to Carney. He compared the process of moving to a new world currency to the end of the pound as the reserve currency, which began about 100 years ago and was sealed at Bretton Woods in 1944. Even then, the British were advocating a “neutral” reserve asset. John Maynard Keynes called it “bancor”. Carney argues:

“The dollar’s influence on global financial conditions could similarly decline if a financial architecture developed around the new [digital currency] and it displaced the dollar’s dominance in credit markets. By reducing the influence

¹⁶² See “Zoellick seeks gold standard debate”, *Financial Times*, November 7, 2010

of the US on the global financial cycle, this would help reduce the volatility of capital flows to emerging market economies.”¹⁶³

China has supreme military, financial, and economic power in expanding concentric circles. Russia is carving out its own sphere of economic and military influence. Europeans now use the euro. As American power continues to ebb, the dollar will become increasingly unable to rely on geopolitical support.

Dan Oliver

Now that we are in the middle of a major crisis, Carney’s words need to be reevaluated. He does not want the US dollar to be replaced by another national currency. This is clearly bad news for China’s renminbi. The euro is in a different position, as it is the national currency in 19 different countries. But can we go even more international? Did Carney actually speak of Bitcoin? Of Libra? Of a digital version of the so-called special drawing rights (SDR) of the International Monetary Fund? Did he speak of gold, which played the role of a stateless reserve asset even before Bretton Woods? Or was he talking in general terms – as many central bankers before him have done? Was he just trying to convey once again the fact that the days of the US dollar are numbered – and that alternatives are needed? Was Carney trying to spark a new debate, or has it been going on for decades in central bank circles? **Did he want to signal to the world that something will happen, something has to happen? In any case, his words were unmistakable:**

“Even a passing acquaintance with monetary history suggests that this center won’t hold. Let’s end the malign neglect of the international monetary and financial system and build a system worthy of the diverse, multipolar global economy that is emerging.”¹⁶⁴

The Trump administration is increasingly using the dollar – and access to dollar clearing and funding – as a geopolitical weapon, risking retaliation and perhaps even jeopardizing the future of the dollar-based global monetary system.

William White

Half a year later, we are in a colossal crisis. Suddenly everything happens very, very fast. In the fight against Covid-19, states and central banks mobilize everything they can muster. This could also accelerate the movement towards the “multipolar global economy” that Carney described. Because – and we have known this for decades – at some point it will also be in the interests of the US to sacrifice the international role of the US dollar on the altar of national interest. That day seems to have come now. **The monetary endgame has begun.**

For us this is not really surprising. We have been observing the long-running, creeping process of “de-dollarization.”¹⁶⁵ But we too are amazed at the speed of change since the outbreak of the Covid-19 pandemic. Things are moving at such a rapid pace that even professionals find it difficult to keep track.

*Part of the Game is the End.
 Iron Man, The Avengers*

But what we have said in past years still applies: What we see here is a process. We do not expect the power of the US dollar to be broken in one fell swoop. We see a slow path to a multipolar world in which US dollar, euro and renminbi play roles as oil and reserve currencies.

Also: When observing developments, we must not only look at energy trading but also at debt. Since there is a lot of US dollar-denominated debt even in countries that do not have the US dollar as their national currency, an exit from US dollar

¹⁶³ See “Mark Carney: dollar is too dominant and could be replaced by digital currency”, The Guardian, August 23, 2019

¹⁶⁴ See “Carney Urges Libra-Like Reserve Currency to End Dollar Dominance”, Bloomberg, August 23, 2019

¹⁶⁵ See “De-Dollarization: Good-bye Dollar, Hello Gold?”, In *Gold We Trust* report 2017; “De-Dollarization – From the Dollar to Gold, Via the Yuan and the Euro”, In *Gold We Trust* report 2018; “De-Dollarization: Europe Joins the Party”, In *Gold We Trust* report 2019

reserves is not so easy in practice. In the event of a crisis, a shortage of US dollars can therefore easily occur, as we have seen repeatedly in late March/early April 2020. An important step towards significant de-dollarization would be if international loans were less frequently denominated in US dollars. Currently, change in this regard is very slow.

Russia and China seize the opportunity

In the US, this global dependence on US dollar debt financing is one of the reasons why an unshakable belief in the lack of an alternative to the US dollar as the world’s number one reserve currency continues to prevail. Few doubt this perspective, and for the few who do, the media do not provide a stage.

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

When the US financial channel CNBC started the day on Friday, March 6, 2020, the mood was good. It was true that Saudi Arabia and Russia had not yet reached agreement in the talks on cutting back oil production at the so-called OPEC+ meeting in Vienna. But CNBC did have an interview with the Russian Oil Minister Alexander Novak scheduled for the afternoon. The presenter said, “*And why should he give an interview if an agreement is not already in sight?*”¹⁶⁶ From a US perspective, cuts in subsidies were a done deal. The world economy was hit hard by Covid-19. **Why would the major producers want to lower oil prices?**



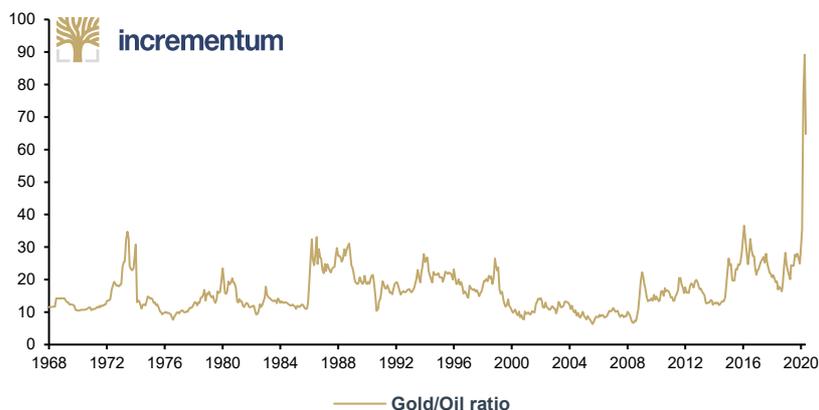
Credit: [news.com.au](https://www.news.com.au)

The rest is history. Russia (officially) surprised the Saudis by not agreeing to any production cuts. Maybe the surprise expressed by the Saudis was just for show – after all, the Arab crown prince and the Russian president seem to be getting along very well. Be that as it may, instead of a cut in production, a free oil market was proclaimed. For the US shale oil sector, with its high production costs, the drop in prices is a catastrophe; but for China, the most important customer of the Saudis and Russians, it is very welcome. The Chinese immediately started to increase their strategic oil reserves.¹⁶⁷ Cheap oil will also help in reconstruction after the virus pandemic. At the same time, it drives the value of gold relative to oil to new heights.

¹⁶⁶ “[CNBC Squawk Box](#)”, CNBC, March 6, 2020

¹⁶⁷ “[China to Start Buying Oil for State Reserves After Crash](#)”, Bloomberg, April 2, 2020

Gold/Oil ratio, 01/1968-05/2020



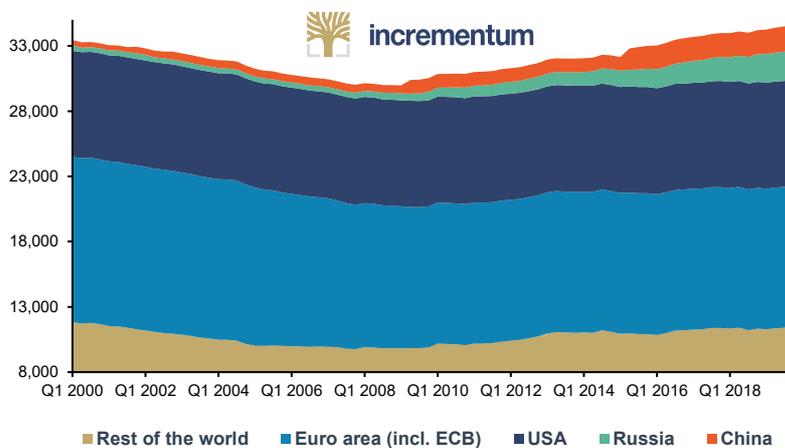
Source: Reuters Eikon, Nick Laird, goldchartsrus.com, Incrementum AG

The castle gates will always open for gold-laden donkeys.

Russian Proverb

Both China and Russia have significantly increased their gold reserves since the 2008 financial crisis. Especially in the case of Russia, this has been at the expense of US dollar reserves. The OPEC+ actions of March 6, 2020, were another attack on the foundations of the current US dollar-dominated monetary system. The petrodollar system was also further weakened. This is a project that China, Russia, and Europe have been working on for decades. And now Saudi Arabia has also been forced to show its colors, it seems.

Gold reserves, in tonnes, Q1/2000-Q4/2019



Source: World Gold Council, Incrementum AG



Courtesy of Hedgeye

What followed were days of chaos. On March 8, 2020, the markets experienced an earthquake. Oil prices plummeted faster than at any time since 1991.¹⁶⁸ Stock markets also plummeted. And because all this happened against the backdrop of the Covid-19 threat, many people were not at all surprised. But US policymakers were very surprised. Even weeks later, US senators complained that their “ally” Saudi Arabia was waging an “economic war”.¹⁶⁹

¹⁶⁸ “Oil plunges 24% for worst day since 1991, hits multi-year low after OPEC deal failure sparks price war”, CNBC, March 8, 2020
¹⁶⁹ “Is the U.S. Also to Blame in the Oil Price War?”, Foreign Policy, March 27, 2020

And they were right. The US shale oil sector cannot survive oil prices below USD 40 for long. Saudi Arabia and Russia are trying to force the US out of the market and striving to take over market share themselves. But that is not the whole story. It's the tip of the iceberg, at best. The US reacted very angrily. In mid-April, it urged Russia and Saudi Arabia to accept new cuts.

That the Saudis seem to be acting rather strategically is shown by the reaction of US Congress Republicans on April 8, 2020:

“Failure to address this energy crisis will jeopardize the joint efforts between our nations to collaborate economically and militarily. If the Kingdom fails to act fairly to reverse this manufactured energy crisis, we would encourage any reciprocal responses that the U.S. government deems appropriate.”¹⁷⁰

In mid-April, the all-clear was sounded: Agreement was finally reached on a “historic” reduction in production volumes. But that alone will not turn back the clock. A 10% reduction in production is a big step, but the structural shifts remain, and demand has collapsed even more.¹⁷¹

Arrogance diminishes wisdom.
Arabian Proverb

The key question this year will be: How is the relationship between Riyadh and Washington developing? What is at stake here is not only an alliance between two nations, but the most important axis of the global monetary system. We have been slowly moving towards a breaking of this axis for decades, and it looks as if it could really happen in 2020, even if there are new cuts in oil production in the medium term. The behavior of the Saudis is key. After all, what is happening is not a spontaneous reaction to the pandemic but a long-planned strategy, not just by the Saudis but also by China, Europe, and Russia. To see this, you only have to look at Russia's gold policy. Our friend Luke Gromen, author of the newsletter “*Forest For the Trees*”, sees the following as the core of this strategy:

*“What Russia has been doing since 2008 (with China's support) by buying gold reserves is basically ‘calling bullsh*t’ on the western paper gold market, and in so doing, re-establishing gold as the global oil market's ‘reference point’, as was the case for 121 years from 1850 till 1971.”¹⁷²*

¹⁷⁰ “House Republicans threaten pushback on Saudi Arabia amid oil market slump”, The Hill, April 8, 2020

¹⁷¹ “The Big Deal to Cut Oil Production May Not Be Big Enough”, The New York Times, April 13, 2020

¹⁷² See “FFIT Newsletter”, March 12, 2020

Annual Russian gold purchases, in tonnes, 2002-Q1/2020



Source: World Gold Council, Incrementum AG

In the past five years Moscow invested around USD 40bn in gold. More than 20% of Russian foreign exchange reserves are held in the form of our favourite metal. This is a high figure by international comparison.

Interestingly, only two weeks after the oil price crash, Russia announced that it will not increase its gold reserves any further. They said they had enough and that Russian gold traders should better serve the private market, where the demand for physical metal has exploded since the crisis.¹⁷³ Many mainstream media outlets have described Russia’s move as negative for gold.¹⁷⁴

Gold, in the end, is not just competition for the dollar; it is competition for bank deposits, stocks and bonds most particularly during times of economic stress – and that is the source of enduring interest among policy-makers.

Paul Volcker

Nations have no permanent friends or allies, they only have permanent interests.

Lord Palmerston

Indeed, since 2010 the purchases by central banks have been an oft-cited argument for a rising gold price. But Russia’s decision also signals that it has now accumulated enough gold to be prepared for certain “changes” in the international monetary system. This alone is not an argument *against* gold. After all, the euro central banks have not bought gold for 20 years – and the price has risen sharply during that time. Is Russia simply assuming that the price will continue to rise? At least relative to oil? And that you do not have to buy more gold because of it? One must understand: Gold can only play a role in the international financial system if all key players are equipped with it. Before a new game can start, the chips have to be distributed. For instance, the phase following the introduction of the euro, in which Asian central banks in particular made euro purchases, can be interpreted as such a distribution of chips.

The famous Washington Agreement on Gold¹⁷⁵ expired in the summer of 2019 and was not renewed for the first time in 20 years. This agreement virtually laid the foundation for the rise in the price of gold since the end of the 1990s. The fact that it has now expired does not mean that the euro states will sell gold again. In fact, the ECB is saying quite clearly that it will not do so.

“Since 1999 the global gold market has developed considerably in terms of maturity, liquidity and investor base. The gold price has increased around

¹⁷³ “Russia, World’s Biggest Buyer of Gold, Will Stop Purchases”, Bloomberg, March 30, 2020

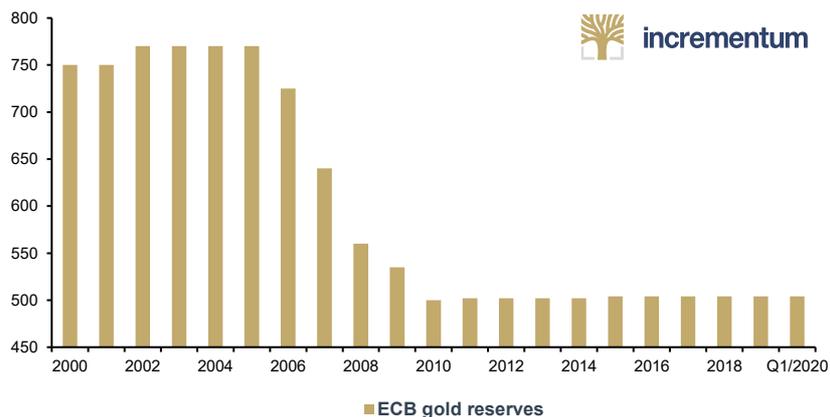
¹⁷⁴ “Don’t Expect a Crisis to Be Good for Gold”, Yahoo Finance, April 1, 2020

¹⁷⁵ See Wikipedia entry: “Washington Agreement on Gold”

five-fold over the same period. The signatories have not sold significant amounts of gold for nearly a decade, and central banks and other official institutions in general have become net buyers of gold.

The signatories confirm that gold remains an important element of global monetary reserves, as it continues to provide asset diversification benefits and none of them currently has plans to sell significant amounts of gold.”¹⁷⁶

ECB gold reserves, in tonnes, 2000-Q1/2020



Source: World Gold Council, Incrementum AG

However: Without an agreement, they can now buy again if they want to. Luke Gromen is one of the few analysts whose outlook is prepared for these developments. Like us, he has been describing the developments on the global gold and oil markets for years as a story of the gradual “de-dollarization” of the world. **With the March 2020 action, Russia and China have presented the USA with a difficult choice:**

- 1) Let the US shale oil and energy sectors go bankrupt, or
- 2) Devalue the US dollar significantly versus gold, so US oil can compete with Russian and Saudi-Arabian oil, or
- 3) Go to economic (or actual) war with Russia and China to stop them.¹⁷⁷

No major institution in the US has so poor a record of performance over so long a period as the Federal Reserve, yet so high a public reputation.
Milton Friedman

In the following weeks, the Federal Reserve launched the largest money printing program ever – officially to combat the consequences of the Covid-19 crisis. Since then, the pace of the monetary printathon has continuously increased – and the government is also doing its best to pump trillions into the market. **It looks as if Washington has decided in favor of option 2: the devaluation of the US dollar.**¹⁷⁸

¹⁷⁶ See “As market matures central banks conclude that a formal gold agreement is no longer necessary”, ECB, July 26, 2019
¹⁷⁷ See “FETT Newsletter”, March 12, 2020
¹⁷⁸ “Fed Unbound: All the U.S. Central Bank’s Corona-Related Moves”, Bloomberg, March 5, 2020

How we ended up here

“The dollar is our currency, but your problem.”

John Connally, US Treasury Secretary, 1971

If the dollar or any other currency would be universally accepted at all times, central banks would see no necessity to hold gold at all. The fact that they do so, shows that such currencies are not a universal replacement for Gold.

Alan Greenspan

A great Empire, like a great Cake, is most easily diminished at the Edges.

Benjamin Franklin

A currency can rise to global significance very quickly. The US dollar's position may look secure for now, but there is no guarantee the US currency will retain its top slot in the longer term.

Will Denyer

Nations do not die from invasion; they die from internal rotteness.

Abraham Lincoln

The resistance against the US dollar-centric currency system in which we live today is as old as the system itself. Back in 1944, when it was introduced at the famous Bretton Woods Conference, some nations were very displeased with it, first and foremost the dethroned British, whose negotiator John Maynard Keynes had proposed a supranational unit of account called the “bancor”. The British knew of the advantages of being master of the world’s reserve currency, but they also knew the disadvantages. The Americans did not care. They saw only the advantages and introduced the Bretton Woods gold exchange standard. In the future, only the US dollar was to be pegged to gold – and all other currencies to the US dollar. The US currency was thus “as good as gold”. But for how long? The clock immediately began ticking.

To supply the world with the world currency, the USA had to run a permanent trade deficit. This is still true today. But under Bretton Woods they were obliged to convert their currency into gold on behalf of foreign central banks and governments at USD 35 an ounce. In 1959, the Belgian-American economist Robert Triffin appeared before the US Congress and warned that there were already more US dollars in circulation abroad than were covered by US gold reserves. His prediction that the national interests of the country printing the reserve currency would eventually conflict with the interests of the international community using the reserve currency is known as the “Triffin Dilemma”.¹⁷⁹ And Robert Triffin was right. So, in 1971, US President Richard Nixon simply suspended the gold convertibility of the US dollar – “temporarily” of course - as he said at the time.

The USA had no desire to part with its last remaining 8,133 tonnes of gold. The anger about Nixon’s move was particularly great in Europe, where it led to the then nearly hopeless plan to finally create an alternative to the US dollar. Europe embarked on a path that reached its first destination in 1999 in the form of the euro. And Robert Triffin helped a lot. After being ignored in the USA, he regained Belgian citizenship in 1977 and helped to build the European Monetary System (EMS), which later became the Eurosystem and the European Central Bank. The euro is a currency that is explicitly international and cannot be controlled by any one nation state.

A currency that is indirectly covered by large gold reserves of more than 11,000 tonnes, but without being tied to gold at a rigid exchange ratio. Instead, the gold reserves are marked to market four times a year according to their free-market value. This leads to a flexible system in which for the first time in history a rising gold price need not be a bad omen for a fiat currency. We explained the implications of this changeover, as well as much of the background

¹⁷⁹ See “[Inflation and Investment](#)”, In *Gold We Trust* report 2016, in particular p. 51; “[History Does \(Not\) Repeat Itself – Plaza Accord 2.0?](#)”, In *Gold We Trust* report 2019

to the deals between Saudi Arabia and Europe on the one hand and the USA and Europe on the other, in our almost 50-page interview with the financial blogger “FOFOA” last year. The document still reads like a nonfiction thriller, in which FOFOA also quotes in detail from the writings of his predecessors.¹⁸⁰ “Another” and “Friend of Another” (FOA) were two obvious insiders who first wrote about this new currency system in a long series of postings on gold forums in the late 1990s.

“The dollar is ruled by one country and one country only. This implies that only one Economy is taken into consideration when policy is discussed, the USA. The management of interest rates, inflation, dollar value and crisis intervention, are therefore politically motivated to benefit one world group, again, Americans. We have seen the news events of how this tramples upon the needs of other geopolitical groups (countries).

On the other hand, the Euro will utilize a totally different structure of consensus management. It will be governed by many nations of obvious conflicting needs. This very weakness, that is so well documented by analysts, is the ‘major’ strength that will contribute to the popularity of the Euro. In time, it will be governed by many cultures, including an ‘open market’ valuation of gold.”¹⁸¹

Many countries in the world began turning away from using the dollar as a reserve currency. They restrict Iran in its dollar settlements. They impose some restrictions on Russia and other countries. This undermines confidence in the dollar. Isn't it clear? They're destroying the dollar with their own hands.

Vladimir Putin

Anyone who looks at the sad state of European cooperation at the moment must see that the continued existence of the euro borders on a miracle. But anyone who understands that the European single currency was designed not only for Europe but also as a US dollar alternative for the world will probably also understand why China stood by the euro in its greatest crisis.¹⁸² And why Russia’s long-term president Vladimir Putin even spoke of Russia “*joining the euro*” in 2010.¹⁸³

Now, of course, the euro is not the only way in which Russia, China and Europe are trying to undermine the dominance of the US dollar. Oil and gold play at least as big a role. The renminbi – from China’s point of view – should also play a role. But it seems the governments have reached an understanding that, after the US dollar, it is not a national currency that should take over the role of world currency, but rather several currencies, of which the US dollar is one. The development of digital currencies and cryptocurrencies gives an additional boost to this idea, as Carney’s comments have also shown.

The head of the Chinese central bank, Zhou Xiaochuan, had already remarked in 2009:

“The desirable goal of reforming the international monetary system, therefore, is to create an international reserve currency that is disconnected from individual nations and is able to remain stable in the long run, thus

¹⁸⁰ See “20 Years later – a Freegold Project: Interview with FOFOA”, In *Gold We Trust* report 2019

¹⁸¹ See “20 Years later – a Freegold Project: Interview with FOFOA”, In *Gold We Trust* report 2019

¹⁸² “Eurozone crisis live: China offers support and urges action – as it happened”, The Guardian, August 30, 2012

¹⁸³ “Putin: Russia will join the euro one day”, The Telegraph, November 26, 2010

removing the inherent deficiencies caused by using credit-based national currencies.

Though the super-sovereign reserve currency has long since been proposed, yet no substantive progress has been achieved to date. Back in the 1940s, Keynes had already proposed to introduce an international currency unit named ‘Bancor’, based on the value of 30 representative commodities. Unfortunately, the proposal was not accepted. The collapse of the Bretton Woods system, which was based on the White approach, indicates that the Keynesian approach may have been more farsighted. [...]

A super-sovereign reserve currency not only eliminates the inherent risks of credit-based sovereign currency, but also makes it possible to manage global liquidity. A super-sovereign reserve currency managed by a global institution could be used to both create and control the global liquidity. And when a country’s currency is no longer used as the yardstick for global trade and as the benchmark for other currencies, the exchange rate policy of the country would be far more effective in adjusting economic imbalances.”¹⁸⁴

It seems that the findings of Robert Triffin – and before him Keynes – have since spread as far as Beijing. But the requirement for an “international reserve currency” that is “independent of individual nations” is also fulfilled by the euro.

Has Europe’s small revolt already been crushed?

Some day, following the example of the United States of America, there will be a United States of Europe.

George Washington

The fact that the European states have been able to create a common currency after decades of hard work borders on a miracle. Perhaps that is why US economists still find it so difficult today to accept as a reality the euro and the independence it has given Europeans. But it must also be said that, unlike Russia and China, which are governed centrally and authoritatively, the EU states are finding it very difficult to organize and adapt their national democracies to the demands of a true political and economic union. That is why in Europe words often come before action. **That was particularly striking at the end of 2018, when outgoing EU Commission President Jean Claude Juncker gave a speech on the occasion of the 20th anniversary of the euro.**

Some highlights:

“The euro must become the face and the instrument of a new, more sovereign Europe.”

“We must do more to allow our single currency to play its full role on the international scene.”

¹⁸⁴ See “Zhou Xiaochuan: Reform the international monetary system”, bis.org, March 23, 2009

Poor old Germany. Too big for Europe, too small for the world.
Henry Kissinger

“It is absurd that Europe pays for 80 percent of its energy import bill – worth 300 billion euros a year – in U.S. dollars when only roughly 2 percent of our energy imports come from the United States.”

“It is absurd that European companies buy European planes in dollars instead of euro.”¹⁸⁵

At this point, we should bear in mind that the continued dominance of the US dollar is not only historically or politically motivated but also structurally embedded. The US has the largest, deepest, and most open financial markets in the world. Although Europe has made enormous progress since the euro debt crisis – think of the European Stability Mechanism ESM – a crucial problem remains. **For investors and foreign central banks there is no instrument that can even remotely compete with US government bonds.**

“The most trusted euro-denominated investment, German government bonds, are in chronically short supply. With a deep cultural aversion to debt, Germany has been reluctant to finance spending by selling bonds. As a result, investors seeking ultrasafe places to stash savings have very few options in the euro currency. By comparison, American savings bonds are in virtually limitless supply.”¹⁸⁶

A plus for Europe should be that the European financial market is at least more open than China’s. And the Covid-19 crisis could bring new impetus to European financial integration. In the EU, for example, so-called “corona bonds” were debated. The new head of the ECB, Christine Lagarde, had appealed to the euro countries to give them a try at least once.¹⁸⁷ But resistance from hard-currency countries such as Germany, the Netherlands, and Austria remained fierce – and prevailed, at least for now. The wealthy North is still afraid of being exploited by the South. A “transfer union” is to be avoided, so eurobonds remain a dream of the future.

The U.S. dollar system was founded at Bretton Woods on three pillars: American military supremacy, American financial hegemony, and American economic prowess. The U.S. is now the world’s largest debtor instead of the world’s largest creditor
Dan Oliver

But even without eurobonds, the Covid-19 crisis has brought a lot of movement to the European financial market. And this applies not only to share prices, which have plummeted like everywhere else in the world. No, we are talking about the Covid-19 rescue package that the German government has put together for its own economy. At the end of March, the total volume was already at EUR 1.35trn, a large part of which is being provided in the form of loan guarantees. It is one of the largest Covid-19 aid packages worldwide and corresponds to about 40% of German economic output. Berlin will not be able to do this without a proper increase in public debt. Germany’s outstanding obligations could rise by EUR 400bn, or a fifth more than the current level. This offers new scope for investors and central banks that want to put money into the “best” euro government bonds.¹⁸⁸

¹⁸⁵ Juncker, Jean-Claude: “[The Hour of European Sovereignty](#)”, State of the Union Address 2018, September 12, 2018

¹⁸⁶ “[The Dollar Is Still King. How \(in the World\) Did That Happen?](#)”, The New York Times, February 22, 2019

¹⁸⁷ “[Exclusive: ECB’s Lagarde asked euro zone ministers to consider one-off ‘coronabonds’ issue - officials](#)”, Reuters, March 25, 2020

¹⁸⁸ “[Das 9,2-Billionen-Euro-Experiment](#)” (“The 9.2 billion euro experiment”), Die Welt, March 26, 2020

Potentially, the most dangerous scenario would be a grand coalition of China, Russia and perhaps Iran, an ‘anti-hegemonic’ coalition united not by ideology but by complementary grievances.

Zbigniew Brzezinski, 1997

Another important step for Europe is the project called INSTEX, which stands for Instrument in Support of Trade Exchanges. This has been online since the end of June 2019 and is intended to handle the processing of transactions between European companies and their Iranian partners – while completely bypassing the US dollar infrastructure. The reason: The USA is increasingly relying on economic sanctions to assert its interests; it is “*using the US dollar as a weapon*”, as former Austrian Federal Reserve Chairman Ewald Nowotny put it. For their part, China and Russia have already developed similar alternatives to the SWIFT industry standard. Although the SWIFT consortium is based in Belgium, it repeatedly bows to US pressure when it comes to sanctions. The INSTEX mechanism is intended to completely replace the role of banks in international trade, so that no bank risks being sanctioned by the USA. For, according to the European Council on Foreign Relations, “[t]he US has set unilateral rules on secondary sanctions that abuse its global financial dominance”.¹⁸⁹

Of course: INSTEX is not a miracle cure, either. Large companies and banks that need access to the US dollar system must also fear specific sanctions and therefore automatically shy away from actions that Washington would punish. But given the fact that France, Germany and – despite Brexit – also the United Kingdom are on board, INSTEX should at least give the USA food for thought. In November 2019 Belgium, Denmark, the Netherlands, Finland, and Sweden also joined. The headquarters of INSTEX is in Paris, and its first boss is the German bank manager Per Fischer.¹⁹⁰

Currently, however, it looks as if the project is already on its way back to the void. After the targeted assassination of Iranian General Qasem Soleimani by the US government in early January 2020, further escalations occurred between Iran and the West. The EU partners, who to this day feel bound by the agreements of the Iranian nuclear deal, activated a conflict resolution mechanism provided for in the treaty. It appears that US President Donald Trump has not only taken out an Iranian general but has also neutralized a harmless and untested but promising weapon of the Europeans in the fight against the US dollar. Or did he not?

Europe activated INSTEX in the middle of the Covid-19 crisis.¹⁹¹ The fact that initially mainly medical products are to be traded via the new system provides the perfect excuse for utilising INSTEX: Iran was hit harder by Covid-19 than many other countries.

¹⁸⁹ See “EU mechanism for trade with Iran ‘now operational’”, DW, June 28, 2019

¹⁹⁰ See Wikipedia entry: “Instrument in Support of Trade Exchange”

¹⁹¹ “EU’s INSTEX mechanism facilitates first transaction with pandemic-hit Iran”, Euractiv, April 1, 2020

The US dollar and oil: an old love rusting

Look back over the past, with its changing empires that rose and fell and you can foresee the future, too.

Marcus Aurelius

With food you control people, with oil you control nations, and with money you control the world.

Henry Kissinger

When an ascending power is about to replace or oust a ruling power, the alarm bells should ring: danger ahead.

Graham Allison

The fact that Iran is of such high strategic importance for both the US and Europe should not surprise anyone. It was no different before the outbreak of Covid-19. If it is about currencies on the one hand, then it is almost always about energy on the other, especially oil. After all, the current US dollar system is based on trading the “black gold”. **The long and short of it: The US made a deal with the Kingdom of Saudi Arabia in the 1970s that oil would only be traded in US dollars.**¹⁹²

This deal of the century, which serves as the basis for the so-called “petrodollar”, has been discussed in detail in our past *In Gold We Trust* reports.¹⁹³ To date there is no official confirmation that Saudi Arabia is now selling oil in other currencies, such as the Chinese renminbi. But the direction seems clear. Not even the US ally in Riyadh will be able to forever escape the wishes of its new large customer in Beijing. **China has been working on various fronts for many years to reduce the influence of the US dollar and to promote the use of the renminbi.**¹⁹⁴ **And oil is at the center of China’s considerations.**

There are enormous strategic advantages for China to be able to handle its energy imports in its own currency. Not least is the fact that China could do so without the accumulation of US government bonds. A decisive step for China was the introduction of a yuan oil fixing in Shanghai, where around 14% of oil trading on major stock exchanges now takes place. The Covid-19 crisis and the oil crash are generally interpreted as an opportunity to for China to drive forward its ambitious plans for the yuan. Bloomberg writes:

“The world’s biggest oil importer has found itself contemplating rock-bottom prices and the opportunity for an unprecedented power play. Russia and Saudi Arabia’s struggle for market share — and the resulting tumble to near \$30 a barrel — has left China in a position to dictate conditions. That may include encouraging the world’s top two exporters to price and sell more of their crude in yuan.”¹⁹⁵

The “national” efforts of China, Russia, and Europe are one side of the coin. Their strong networking is the other. The US dollar may continue to be the undisputed number one on a structural level and on the bottom line, globally. But in addition to the big steps away from the US dollar such as the introduction of a common European currency or a yuan gold & oil price, there have been a lot of small steps. Indeed, there have also been other truly historic steps, such as China’s decision to issue the first eurobond in 15 years. That was in 2019.¹⁹⁶ What else happened?

¹⁹² “The Untold Story Behind Saudi Arabia’s 41-Year U.S. Debt Secret”, Bloomberg, May 30, 2016

¹⁹³ See “Silent farewell to the petrodollar?”, *In Gold We Trust* report 2012; “The De-Dollarization: Good-bye Dollar, Hello Gold?”, *In Gold We Trust* report 2017; “De-Dollarization – From the Dollar to Gold, Via the Yuan and the Euro” and “Inflation vs. Deflation – The Big Showdown?”, *In Gold We Trust* report 2018; “De-Dollarization: Europe Joins the Party”, *In Gold We Trust* report 2019

¹⁹⁴ “China’s Ten-Year Struggle against U.S. Financial Power”, NBR - National Bureau of Asian Research, January 6, 2020

¹⁹⁵ See “Oil War May Revive China’s Yuan Ambitions”, Bloomberg, March 16, 2020

¹⁹⁶ “China sells its first euro bonds in 15 years”, MarketWatch, November 5, 2019

For your convenience, dear reader, we have put together a timeline that is intended to help understand the enormously long-term and laborious process of de-dollarization. **Here is an overview of the most important steps away from the US dollar in the past years and decades:**

Gold & Monetary System

- February 1965: Charles de Gaulle: The next monetary system will be built on gold.¹⁹⁷
- August 1971: President Nixon announces that the one-sided obligation to redeem US dollars in gold has ended.
- January 1976: IMF members are no longer allowed to peg their currencies to gold according to the IMF charter.¹⁹⁸
- September 1999: The first Central Bank Gold Agreement, also known as the Washington Agreement on Gold, is announced.¹⁹⁹
- March 2009: China's central bank chief calls for the US dollar to be replaced as the world's leading currency.²⁰⁰
- October 2009: Arab states start negotiations with Europe, Russia, and China on the replacement of the US dollar.²⁰¹
- November 2010: Putin: Russia will one day join the euro or enter into a monetary union with Europe.²⁰²
- November 2010: World Bank head Robert Zoellick calls for a reform of the monetary system and the inclusion of gold in the new system.²⁰³
- November 2014: Yves Mersch: The ECB could buy gold to boost the economy.²⁰⁴
- January 2016: Libya's Gaddafi is apparently working on an African gold currency that could be used in oil trading.²⁰⁵
- May 2016: Kenneth Rogoff: Emerging markets should buy gold.²⁰⁶
- August 2019: Mark Carney calls for a "global currency" to replace the US dollar.²⁰⁷

Europe

- November 2000: Saddam Hussein's Iraq switches from US dollars to euros in oil transactions.²⁰⁸
- February 2003: Iraq is making profits selling oil for euros instead of US dollars.²⁰⁹
- July 2014: The CEO of Total calls for a greater role of the euro in oil transactions.²¹⁰

¹⁹⁷ "De Gaulle predicted the dollar crisis in 1965 and advocates the gold standard", YouTube, uploaded January 31, 2013

¹⁹⁸ "Articles of Agreement of the International Monetary Fund", IMF, März 2020

¹⁹⁹ See Wikipedia entry: "Washington Agreement on Gold"

²⁰⁰ "China calls for new reserve currency", Financial Times, March 23, 2009

²⁰¹ "Articles of Agreement of the International Monetary Fund", IMF, March 2020

²⁰² "Putin: Russia will join the euro one day", The Telegraph, November 26, 2010

²⁰³ See "Zoellick seeks gold standard debate", Financial Times, November 7, 2010

²⁰⁴ "ECB could buy gold to revive economy", The Telegraph, November 17, 2014

²⁰⁵ "Hillary Emails Reveal True Motive for Libya Intervention", Financial Policy Journal, January 6, 2016

²⁰⁶ "Kenneth Rogoff: Emerging economies should buy gold", World Economic Forum, May 4, 2016

²⁰⁷ "Mark Carney calls for global monetary system to replace the dollar", Financial Times, August 23, 2019

²⁰⁸ "Iraq: Baghdad Moves To Euro", RadioFree Europe RadioLiberty, November 1, 2000

²⁰⁹ "Iraq nets handsome profit by dumping dollar for euro", The Guardian, February 16, 2003

²¹⁰ "Total CEO calls for bigger euro role in oil payments", Reuters, July 5, 2014

- February to July 2019: The EU Commission conducts a “consultation” on the role of the euro in international energy trading and how it could be strengthened.²¹¹
- October 2019: Russia’s Rosneft is converting its trade completely to euros.²¹²
- November 2019: Russia is reducing the share of US dollars in its national wealth fund.²¹³

Saudi Arabia

- August 2019: Chinese state banks apply for a role in the IPO of Saudi oil giant Aramco.²¹⁴
- August 2019: Saudi Arabia is deepening its relations with China – despite its alliance with the USA.²¹⁵
- October 2019: Putin visits Saudi Arabia for the first time in 12 years and signs 14 new deals.²¹⁶
- November 2019: Saudi Arabia becomes China’s largest oil supplier.²¹⁷

India

- January 2019: Indian oil refineries pay for Iranian oil in rupees.²¹⁸

Iran

- Japan’s Prime Minister Abe visits Iran for talks on oil and US influence (June 2019).²¹⁹
- September 2019: China and Iran conclude a strategic 25-year deal.²²⁰

China & Europe

- October 2019: China plans first eurobond since 2004.²²¹
- October 2019: ECB and PBoC extend their currency swap deal for another three years.²²²
- November 2019: Macron in China: New contracts worth USD 15 billion²²³

China & the World

- November 2013: China announces that it does not want to accumulate US government bonds anymore.²²⁴
- September 2014: China starts a gold fixing in yuan.²²⁵
- June 2015: Russia begins to sell oil in yuan.²²⁶

²¹¹ “Commission launches consultation on strengthening the global role of the euro in the field of energy”, European Commission, February 19, 2019

²¹² “UPDATE 1-Russia’s Rosneft seeks euros for all new export deals -documents”, Reuters, October 3, 2019

²¹³ “Russia to cut dollar share of its \$125bn sovereign wealth fund”, Financial Times, November 13, 2019

²¹⁴ “Chinese State Banks to Compete for Role on Aramco’s IPO”, Bloomberg, August 23, 2019

²¹⁵ “Saudi Arabia’s Pivot to Asia”, U.S. News, August 23, 2019

²¹⁶ “Putin on first visit to Saudi Arabia in 12 years”, Big News Network, October 15, 2019

²¹⁷ “Aramco closes China’s biggest oil purchase, toppling Russia”, Gulf News, November 21, 2019

²¹⁸ “Exclusive: Indian refiners pay for Iranian oil in rupees - UCO Bank executive”, Reuters, January 8, 2019

²¹⁹ “Japan’s Abe heads to Iran with oil and the US on the agenda”, CNBC, June 13, 2019

²²⁰ “China and Iran flesh out strategic partnership”, *Petroleum Economist*, September 3, 2019

²²¹ “China Plans First Euro Bond Sale Since 2004 as Costs Slump”, Bloomberg, October 23, 2019

²²² “ECB and People’s Bank of China extend bilateral currency swap arrangement”, ECB, October 25, 2019

²²³ “Macron in China: Xi hails \$15 billion trade contracts as ‘strong signal of free trade’”, DW, November 6, 2019

²²⁴ “Mark Carney calls for global monetary system to replace the dollar”, Financial Times, August 28, 2019

²²⁵ “Shanghai Gold Exchange Launches International Board”, The Wall Street Journal, September 17, 2014

²²⁶ “Gazprom Neft sells oil to China in renminbi rather than dollars”, Financial Times, June 1, 2015

- September 2017: Venezuela publishes oil price in yuan.²²⁷
- March 2018: China is taking its first steps towards an oil price and oil trade in yuan.²²⁸
- March 2018: China starts oil futures in yuan.²²⁹
- October 2019: Mining giant Rio Tinto sells metal for yuan for the first time.²³⁰

The US Dollar Storyline is coming to an end

“[T]he dollar is very important to us as a tool, a tool of American power and also a tool of American values. So we would much prefer to put sanctions on a country than send our soldiers there. [...] So when something threatens the dollar, we get very nervous. [...] Do you understand all that fairly?”

US Congressman Juan Vargas to Mark Zuckerberg²³¹

The debate around Libra and the nervous reaction of central bankers and politicians have shown well how fragile the system around the key currency, the US dollar, has become. Washington and New York are also very concerned about the Chinese government’s moves to create a digital yuan. Mark Zuckerberg cited China’s efforts as the reason for his initiative. In his view, an alternative to the free market is needed for the communist digital challenge from Asia. And he is not the only one. *Foreign Policy* magazine writes:

“While Washington focuses on whether to allow digital currency in the U.S. financial system, in other words, China is moving ahead in earnest. The prospect of the Chinese Communist Party (CCP) dominating this emerging financial technology should be alarming.

Since the end of World War II, the United States has enjoyed significant advantages related to the U.S. dollar’s role as the world’s reserve currency. So great are those benefits that a former French president characterized them as an ‘exorbitant privilege’. For example, when it comes time for Washington to finance its profligate fiscal irresponsibility, it can do so more cheaply because all of the world relies on the dollar. Meanwhile, the U.S. military would likely be the first to suffer from a more austere fiscal balance sheet if the cost of borrowing rose significantly.”²³²

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²²⁷ [“Venezuela publishes oil prices in Chinese currency to shun U.S. dollar”](#), Reuters, September 15, 2017

²²⁸ [“Exclusive: China taking first steps to pay for oil in yuan this year - sources”](#), Reuters, March 29, 2018

²²⁹ [“China Tries to Lift Yuan’s Profile With Oil Futures”](#), The Wall Street Journal, March 26, 2018

²³⁰ [“Rio Tinto signs its first Renminbi portside trading contract”](#), Reuters, October 11, 2019

²³¹ [“Mark Zuckerberg Testimony Transcript: Zuckerberg Testifies on Facebook Cryptocurrency Libra”](#), Rev, October 23, 2019

²³² [“The Greenback Needs a Digital Makeover”](#), Foreign Policy, January 24, 2020

I think our dollar is getting too strong, and partially that's my fault because people have confidence in me. But that's hurting – that will hurt ultimately... Look, there's some very good things about a strong dollar, but usually speaking the best thing about it is that it sounds good... It's very, very hard to compete when you have a strong dollar and other countries are devaluating their currency.

Donald Trump
April 12, 2017

In the USA, too, the state rather than the market will probably find a “solution” to this problem. How the USA will deal with the challenge from Europe, China, Russia, and other countries is the big unanswered question of this historical unfolding.

One thing we can say for sure: The US is as aware of the advantages of its “exorbitant privilege”, as it is aware of the disadvantages.²³³ And under President Donald Trump many steps have been taken towards a world in which the US dollar may no longer play the dominant role that we are used to. In any case, his sanctions and trade wars are extremely damaging to the international role of the US dollar.

Is it possible that Trump is taking such brutal advantage of this “exorbitant privilege” because he knows that the USA will not be able to abuse it forever? The realization is not new, but it is now even to be found in the mainstream media, as the following comment by a Fitch analyst shows:

“Even exorbitant privileges can be lost, and there are a number of factors suggesting that, over time, the US dollar may be at risk of surrendering its lead, if not its role, as the world’s preeminent reserve currency. [...]”

The most obvious U.S. policy contributions to a diminished role for the dollar are from economic sanctions and protectionist trade initiatives. All else equal, protectionist policies divert trade away from the U.S., and may induce new trade partners to settle in currencies other than the dollar.”

Sanctions do the same, and since they may effectively preclude dollar settlement, the implications for the dollar are more acute. In addition to the Treasury Department’s list of 6,300 Specially Designated Nationals and more than 20 countries against which some type of sanctions are in place, the extraterritoriality of certain sanctions to affect persons and entities in other jurisdictions extends their reach further.”²³⁴

Surprisingly, the author, James MacCormack, even takes a look at international gold policy. This is quite remarkable. It is true that gold is historically extremely significant. But still – or perhaps because of that fact? – it plays almost no role in the US debate. That is changing now. MacCormack continues:

“IMF data reveal the dollar share of foreign reserves fell from a high of 73% in 2001 to 62% at the end of last year. Similarly, the World Gold Council confirms that central banks bought more gold in 2018 than at any other time since the gold standard ended in 1971, extending a string of large net purchases that began after the global financial crisis.

²³³ “75 Years Ago The U.S. Dollar Became The World’s Currency. Will That Last?”, NPR, June 30, 2019

²³⁴ See McCormack, James: “The risks are rising that the dollar could lose its special global standing”, CNBC, June 9, 2019

“If the trends continue of switching from dollars to other currencies, and from currencies collectively to gold, the dollar’s reserve currency status will continue to give ground, but only gradually. Global market preferences for the dollar as the currency of choice and for U.S. Treasuries as the favored risk-free asset show no signs of meaningful past or pending dramatic change.”²³⁵

The fate of reserve currencies is to decline over time.

Martin Murenbeeld

Build your opponent a golden bridge to retreat across.

Sun Tzu

It seems to me that our American partners are making a colossal strategic mistake (as they) undermine the credibility of the dollar as a universal and the only reserve currency today. They are undermining faith in it... They really are taking a saw to the branch they are sitting on.

Vladimir Putin

At this point we should remember that next year will mark the 50th anniversary of the unilateral closure of the Gold Window by US

President Richard Nixon. That was on 15 August 1971, and since then not one ounce of the more than 8,000 tonnes of US currency gold has left the country. Unlike in the Eurozone, Russia, or China, gold has hardly any significance in the Federal Reserve’s balance sheet, because the last Bretton Woods price of 42.222 dollars per ounce is still recorded there.

Of course, nobody believes that the Bretton Woods system will simply be rebooted. It is obvious to everyone today, from Mark Carney to the architects of the euro and the Chinese, that a single national currency is not suitable as a world currency and that a viable alternative is needed.

But there is at least one new trend that we can identify. In line with Mark Carney’s thinking, the debate on a “new world currency” will continue to be conducted under the banner of the “digital challenge”. The debate on “digital central bank currencies” (CBDC) provides an arena for the free exchange of ideas between central bankers that might otherwise not take place. In this world of secrecy, things are seldom directly addressed – especially not the question of the US dollar succession. But the Covid-19 crisis has changed a lot. The Bank for International Settlements (BIS) has already noted that, given the threat to cash that a virus pandemic poses, the development of CBDCs should be promoted.²³⁶ **In extreme times like these, things can suddenly move very quickly – from oil price shocks to massive government investment packages to highly inflationary monetary policies.** We can see all of this live in 2020.

Already in November 2019, Vladimir Putin delivered the first funeral eulogy on the US dollar, in which he also named guilty party in the ongoing decline of the dollar:

“The dollar enjoyed great trust around the world. It was almost the only universal currency in the world. For some reason, the US began to use dollar settlements as a tool for political struggle. Imposing restrictions on the use of dollars. They began to bite the hand that feeds them. They’ll collapse soon.

Many countries in the world began turning away from using the dollar as a reserve currency. They restrict Iran in its dollar settlements. They impose some restrictions on Russia and other countries. This undermines confidence

²³⁵ See McCormack, James: “[The risks are rising that the dollar could lose its special global standing](#)”, CNBC, June 9, 2019

²³⁶ Auer, Raphael, Cornelli, Guilio and Frost, John: “[Covid-19, cash, and the future of payments](#)”, BIS Bulletin, No. 3, April 3, 2020

*in the dollar. Isn't it clear? They're destroying the dollar with their own hands.*²³⁷

Chinese US treasury holdings (lhs), in USD bn, and Russian US treasury holdings (rhs), in USD bn, 01/2007-02/2020



Source: Reuters Eikon, Incrementum AG

This inability to rally may reflect threats to the US dollar's role as a reserve currency—runaway budget deficits threaten it at home, while China's attempt to “de-dollarize” trade in Asia and commodities is a threat internationally. If China is even a little bit successful in shifting the global commodity trade from dollars to renminbi, demand for the US currency could fall sharply.

Gavekal

I did not attend the funeral, but I sent a nice letter saying I approved of it.

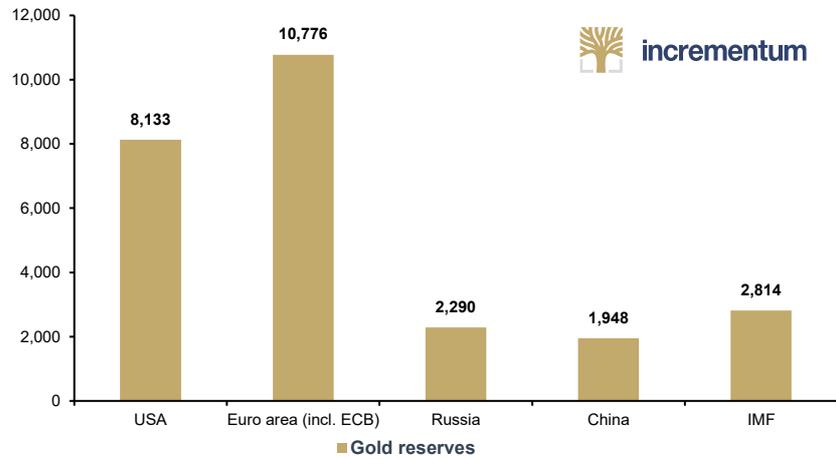
Mark Twain

Covid-19 was the needle that popped the debt bubble. Since then, things have been happening at breathtaking speed. We do not know exactly where the path will take us. But thanks to the preparations of the past decades, we have an idea. There is broad global agreement that the US dollar system, which was born in 1944 in Bretton Woods, has reached the end of its lifespan. We know from Robert Triffin that at some point even the world currency country itself will have to realize this.²³⁸ This point seems to have been reached, and the “America First” policy of President Trump is proof of this, because it aims at rebuilding American industry and infrastructure after decades of decay and deindustrialization brought about by the “exorbitant privilege” of paying for Chinese and European exports with printed paper. We also know that an alternative system has been under development since the 1960s – and that the euro is likely to play a role in this that goes beyond its function as a European currency. The architects of the euro have also found a clever way to bring gold back into the system by the way of the market: as a “reference point”.

The euro countries sit on more than 11,000 tonnes of gold. Russia and China have massively increased their gold reserves in recent years. The same applies to smaller countries in Asia and Eastern Europe. At the same time, Europe, Russia, China, Iran and India, together with many other countries, are working on using their national currencies in energy trading to circumvent the US dollar. There are now several payment systems that allow international trade without US control. And Saudi Arabia is the crucial US ally that is now wobbling. In our view, it is inconceivable that the Saudis will be able to permanently evade China's desire to trade oil in yuan. And the US, for its part, is already threatening to end its alliance with Saudi Arabia.

²³⁷ Interview with Russian President Vladimir Putin, who was taking part in Russian Energy Week in October 2019 in Moscow; the tweet was posted by Ben Rickert, Twitter, November 15, 2019
²³⁸ See “Inflation and Investment”, In Gold We Trust report 2016

Gold reserves of USA, Euro area (incl. ECB), Russia, China & IMF, in tonnes, 03/2020



Source: World Gold Council, Incrementum AG

If the world were perfect, it wouldn't be.

Yogi Berra

All the preparations have been made for a truly epochal, golden decade in which the cards in the economic and monetary system will be reshuffled. The ultimate goal for all concerned must be that no warlike conflict breaks out – no one would benefit from that. This principle has always been adhered to over the past decades. Let us hope that it will also succeed on the home stretch.

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Exclusive Interview with Luke Gromen: A Deep Dive into the Geopolitics of Oil, Gold, and Money



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.

Nikolaus Jilch conducted the interview with Luke Gromen on April 20, 2020 via Zoom.

Nikolaus Jilch: We’re doing this interview on April 20, 2020, the price of oil just completely collapsed. What are your thoughts these days?

In plain English, the longer this crisis goes on, the more of the total domestic US debt outstanding and of the eurodollar system the Federal Reserve is going to have to effectively bail out.

Luke Gromen: I spend a lot of time looking at the dynamic created by this forced economic collapse. We had this external shock, we responded, now GDP is doing what it is doing. I have come to the conclusion that if the Federal Reserve wishes to stave off an economic collapse, then the longer the Covid-19 crisis lasts, the more the Federal Reserve’s balance sheet is likely going to have to rise toward fully reserving for not just the US-debt-outstanding, but also possibly reserving for the whole eurodollar system. **In plain English, the longer this crisis goes on, the more of the total domestic US debt outstanding and of the eurodollar system the Federal Reserve is going to have to effectively bail out.** To frame up how big that implies the Federal Reserve’s balance sheet could conceivably get depending on how long this crisis lasts, **total domestic US debt is around USD 47trn, while the offshore eurodollar system is effectively infinitely-levered, with US dollar liabilities estimated at somewhere between USD 13trn (by the BIS) and USD 57trn (by Rabobank recently).** So in theory, the longer this crisis lasts with the economy shut down, etc., the more the Federal Reserve’s balance sheet will have to move toward as much as USD 104trn (USD 47trn domestic + USD 57trn eurodollar) to stave off economic collapse. **To be blunt: The system was just never designed to withstand this type of shock (a pandemic of this nature and the response.)**

Nikolaus Jilch: Can you explain the eurodollar system?

Luke Gromen: The eurodollar system refers to basically every US dollar that has been created outside the US. Offshore banks can create offshore US dollar loans and derivatives. This creates US dollar-liabilities, but these offshore banks don’t have the ability to create base money US dollars; only the Federal Reserve has that ability. **So the eurodollar system creates a mismatch of US dollar**

liabilities versus US dollars over time. It leads to an explosive US dollar shortage and a short squeeze every time the global economy goes into recession.

Nikolaus Jilch: *Where does this lead us?*

Luke Gromen: The longer this process goes on, the most likely set of outcomes we face becomes is more and more binary. Either the Federal Reserve grows its balance sheet fast enough or they don't. If they do, we will likely see more asset price inflation, gold does extremely well, and the Federal Reserve's balance sheet likely goes to a level that drops people's jaws. The second option? The system collapses in a disorderly fashion, which could be very frightening. A disorderly collapse of the system would likely be bad for basically every asset and currency except US dollars and gold. **In our view, gold is likely the only asset that wins with either outcome.**

Nikolaus Jilch: *Printing USD 50trn or USD 100trn would still be a way of collapsing the system, no?*

Unlike the 2008 financial crisis you can't just paper over it and create a refinancing cycle. They can't print ventilators or a vaccine.

Luke Gromen: That is a great point. And you're not wrong. We see this tension among policy makers, this recognition of exactly that. They cannot control this external shock. **Unlike the 2008 financial crisis you can't just paper over it and create a refinancing cycle. They can't print ventilators or a vaccine.** Our view was always that they will have to print whatever they have to print in the next crisis because the system was so levered going into this crisis.

Since fall of 2018 really, we have been able to see this dynamic in the markets where when the Federal Reserve is injecting enough liquidity, risk assets do well. When they don't do enough, we've seen the US dollar rise and yields compress around the world. So we had this binary dynamic going into this crisis.

One thing that caught our attention in the Covid-19 panic, and what I think really got the Federal Reserve's attention in March of this year was when we saw the US Treasury market crash alongside the stock market. The US stock market peaked around February 21, and began to fall, and then just 14 trading days later, on March 9, the TLT ETF (long-dated US Treasury bond ETF) began to crash right alongside equities. This was unprecedented in my 25-year career. What happened here?

... what this suggests is that since the 2008 crisis, the US has financed its recovery by effectively selling its "family silver" if you will to pay for present day consumption.

I think what happened is that the eurodollar offshore US dollar shortage that we talked about began to bite. That was one part. The second part is that the US' Net International Investment Position (NIIP) is unprecedentedly negative. The NIIP tells you how much foreigners own of the US versus how much US owns of foreign assets, and it is -51% of US GDP now. Foreigners own USD 40trn of US dollar denominated assets versus the US owning USD 29trn of foreign assets. By way of comparison, back in the 2008 crisis, it was -8% of GDP. **What this suggests is that since the 2008 crisis, the US has financed its recovery by effectively selling its "family silver" if you will to pay for present day consumption.**

The Federal Reserve's own minutes from March 15 noted that the US Treasury market "had ceased functioning effectively."

... but from the Federal Reserve's aggressive actions, you can strongly infer how cornered the Federal Reserve is.

The problem is: Once the sovereign debt bubble begins to pop, there is no place left to kick it upstairs to – the only release valve you have is the currency, as money is printed to prevent sovereign debt defaults.

So when the global economy contracted sharply in March, this exacerbated the offshore US dollar shortage greatly; foreigners needed US dollars desperately. So what did they do? They start selling their US dollar denominated assets, including their large Treasury holdings – USD 40trn in foreign US dollar assets coming up for sale to try to raise US dollars, and so we saw this unprecedented occurrence where from March 9 to March 18, 2020, the US Treasury market crashed alongside equity markets. **The Federal Reserve's own minutes from March 15 noted that the US Treasury market "had ceased functioning effectively".**

Our view is what happened in the US Treasury market forced the Federal Reserve to act as aggressively as they did, growing their balance sheet at a USD 20trn rate for 6 weeks. This brought Treasury yields back down, **but from the Federal Reserve's aggressive actions, you can strongly infer how cornered the Federal Reserve is.** If it wouldn't have grown its balance sheet as aggressively as they had, yields likely would have continued rising as foreigners sold USD 40trn in US dollar assets to raise US dollars to cover their US dollar short, touching off a deflationary spiral that featured rising Treasury yields. This is the framework I'm relying on these days; I'm asking myself: Is the Federal Reserve printing enough or are they not and where are we in terms of the progression of the crisis? Are we reopening the economy?

Nikolaus Jilch: *When you talk about the system we need to talk about the events not only of today but also of the last decades. What is this system? Everybody thinks we are going crazy because of the virus – but that is not actually what is happening, is it?*

Luke Gromen: That's a great point. **I think it's important to go back in time a bit to establish the context in which we are operating.** In 2000 the tech bubble popped, and policymakers response was to effectively kick the problem upstairs to the banking system by creating a housing bubble. In 2008 we had a housing bubble and a banking crisis. Once again policymakers kicked the problem upstairs, this time creating a sovereign debt bubble. We basically papered over the prior two bubbles. **The problem is: Once the sovereign debt bubble begins to pop, there is no place left to kick it upstairs to – the only release valve you have is the currency, as money is printed to prevent sovereign debt defaults.** We haven't seen this bursting of a global sovereign debt bubble and since after immediately World War 1 really.

The virus is just the snowflake that caused the avalanche, that popped the sovereign debt bubble. In my opinion, it is important to take a step back and see where we have been on the path previous to the crisis. Probably the best spot to step back to is Q3/14, when global central banks stopped buying US Treasury bonds net for the first time in close to 70 years. This forced the global private sector to finance more of the US government's deficit. Instead of the central banks the global private sector, i.e. German and Japanese pension funds, stepped in – looking for yield. Then US banks and money market funds were regulated to buy more Treasuries. From Q3/14 until Q3/16 that stopgap fix worked, but the stronger US dollar and higher LIBOR rates this helped cause drove US deficits as a percentage of GDP to begin rising for the first time since 2009. **Usually when**

this happens the US enters a recession 12 to 24 months later. That was the first crack in what we're now watching play out globally.

... all of this came to a head in September 2019 when the US private sector effectively ran out of balance sheet to finance US government deficits...

In 2017 the US dollar weakened, that bought time. In Q4/18 the FX hedged Treasury yields went negative for the first time in a very long time. This was an important development that forced foreign US Treasury buyers to make choice: Do I buy the Treasuries without hedging against currency risk? Or do I hedge but lock in a negative coupon? Or do I look at other sovereign debt? At that time, euro yields after hedging were actually positive. That lowered the marginal bid for US Treasuries by the global private sector. This meant that more of the deficit fell solely to the US private sector, which began crowding out the US private sector balance sheet in Q4/18. **All of this came to a head in September 2019 when the US private sector effectively ran out of balance sheet to finance US government deficits** (which were being heavily financed in short term T-bill markets), Repo rates spiked and the Federal Reserve was forced to come in and start growing its balance sheet again.

When the Covid-19 crisis started we were already in a regime where global central banks and the global private sector were not financing the US like they did before. The US banking system was also increasingly choking on the deficit. **The Federal Reserve was already on its way to become the lender of last resort to the US government.**

The release valve has to be the currency.

We were already in a sovereign debt bubble and as we noted, there is nowhere to kick a bursting sovereign debt bubble up to. **The release valve has to be the currency.** Covid-19 is not something you can just paper over. But we went into this already with the burden of the biggest sovereign debt bubble the world has ever seen. We haven't seen something like this in at least 100 years since WW1.

Nikolaus Jilch: *Since the Bretton Woods System from 1944 the main question was always: Who buys the US government debt, right?*

Luke Gromen: Yes. **We run deficits and the rest of the world sterilized those deficits by buying US dollars for their reserves.** Once someone stopped sterilizing US deficits, we had to find a new financier. After the euro was launched in 1999 the Europeans stopped buying nearly enough US Treasuries to finance US deficits. Fortuitously, we got China into the WTO in 2001. Over the next 10-12 years China's Treasury holdings went from USD 60bn to USD 1,3trn. But then in late 2013, China announced they would stop growing their FX reserves (aka US Treasury holdings.) This meant the US needed to find a new financier of US deficits, but the problem is that one doesn't exist. **As a result, in 2014, the system that started in 1971 when Nixon closed the gold window, began to collapse.**

Nikolaus Jilch: *Going back to 1944. Keynes came to Bretton Woods with his concept of a super sovereign reserve currency. The US did win the debate, but he already told them then and there that their idea was a bad one. Is there a better system possible that is more balanced and not hinged on the actions of one country?*

The euro was a nod of moving to a more bancor-like-system, considering the way they treat gold at a floating rate.

So we have the Europeans, the Russians and now China – basically a quorum of Eurasia – moving away from the US dollar-centric system to something new that looks a lot like a more bancor-like system.

... whatever the new system is, gold will have a prominent role as a neutral reserve asset that floats in all currencies.

Luke Gromen: This crisis is going to force that change to that system. Keynes' option in Bretton Woods was the bancor, he wanted to prevent the imbalances that we can see now. **The euro was a nod of moving to a more bancor-like-system, considering the way they treat gold at a floating rate. They mark gold to market quarterly.**

Interestingly as it relates to the bancor, in March 2009 the Federal Reserve started a first round of QE and immediately the head of the Chinese central bank came out and cited Bretton Woods, Keynes and the bancor while calling for a new reserve currency. He specifically said that we had this choice in Bretton Woods between the bancor and the US dollar-centric system we went with. The head of the PBoC wrote that the fact that what we went with has since broken down multiple times suggests that maybe the bancor was the right choice.

Understanding that the PBoC wrote this white paper in March 2009, **consider what China is doing: buying commodities in their own currency, effectively opening the gold window with their renminbi fix, and marking their gold reserves to market as well.** By their words and actions they have supported an alternative system, something like the bancor. **So we have the Europeans, the Russians and now China – basically a quorum of Eurasia – moving away from the US dollar-centric system to something new that looks a lot like a more bancor-like system.** And we are 20 years into that move if you look at the start date of the euro in 1999 ... and the planning for the euro began five decades ago. So in my opinion we are much further into this process than many believe.

Nikolaus Jilch: *Ok, we talk about the bancor-like system but this new system that we can see emerging actually uses gold as the neutral reserve asset - not some new sort of basket that the bancor was meant to be, no?*

Luke Gromen: That is what I think is happening, at least in the interim. In my opinion that is the message the central banks are sounding by not buying Treasuries but buying gold on a net basis over the last six years. That tells me that **whatever the new system is, gold will have a prominent role as a neutral reserve asset that floats in all currencies. And this new crisis will accelerate this because we are now in a “print or collapse” scenario.** I do think we will see a new system in our lifetimes and the corona crisis could be the catalyst that forces it.

Nikolaus Jilch: *What does “gold as a reserve” mean in practice? In the current system we need to hold US dollars as reserves for a couple of reasons, for example to buy energy. But we won't buy oil with gold, right?*

Luke Gromen: No. I think the system is moving toward one where the US, China, and Europe can all print their domestic currencies for oil imports. The oil exporters would then be free to either use those US dollars, yuan, or euro to buy goods they need from the US, China, or the EU, with any net surpluses settled in gold. The way I think this system would look was hinted at by Robert Zoellick at the World Bank in 2010. He said we should get the renminbi into the SDR-basket

at the IMF and **we should use gold as a reference point for inflation expectations for all SDR currencies.**

If you have three buyers for your house you have a lot more bargaining power.

If you can print euro, renminbi, and US dollars for oil instead of just using US Dollars it produces a shift in power. Right now oil producers have to balance supply and demand, they need a cartel because all they can sell in is US dollars. It's like trying to sell your house with only one buyer. You don't have a lot of choice and power. **If you have three buyers for your house you have a lot more bargaining power.**

So if oil exporters can sell their oil in different currencies that may better suit their trade and economic patterns, the producers gain a lot more power on a relative basis.

This new system would shift the world back toward the pre-1971 system where the currencies with the best balance of payments and the most gold are the best currencies.

However, this change would also force the currencies to compete on their balance of payments and reserve balances – trade on their underlying fundamentals. Up until 1971 currencies traded on these fundamentals and the question who has the most reserves, generally gold reserves. Since 1971, the nation with the worst balance of payments fundamentals and the lowest FX reserves has had the best currency (the US dollar.) **This new system would shift the world back toward the pre-1971 system where the currencies with the best balance of payments and the most gold are the best currencies.**

Nikolaus Jilch: *That would mean Europe right now.*

US dollars can get them weapons, that is very useful. But oil exporters can only use so many weapons. What else does the US have to offer?

Luke Gromen: Yes it would be Europe and China, depending on what they actually have in gold. The US dollar would actually be the weakest. Oil producers would start to ask themselves what the US dollars oil exporters get for oil can get them in return. **US dollars can get them weapons, that is very useful. But oil exporters can only use so many weapons. What else does the US have to offer?** Boeing aircraft, some technology goods and then the list quickly drops off. Europe has more to offer, so does China. If I'm Saudi and I end up with euro or yuan I can buy goods from Europe and China. The excess I roll into gold or financial assets from Europe and China. So you can see how over time this structural change in the oil market would begin to drive a structural change in currency markets.

The answer is "Either the US private sector or the Federal Reserve printing the money".

These changes in currency markets would be enforced or catalyzed by answering a simple question: Who is going to finance the US' world-leading deficits? **The answer is "Either the US private sector or the Federal Reserve printing the money".** So just by moving oil pricing from a strictly US dollar-based system to a system that uses euro and yuan as well, it completely reorders the currency system – with gold as a reference point at a floating rate. It would get each nation the ability to manage their own current account particularly relative to energy in their interest.

... so the US would want a weak US dollar relative to reference point gold ...

EU and China are big energy importers. They cannot produce much more energy themselves, almost regardless of the price. They would want their currencies to be strong relative to the reference point gold so that they can have the cheap energy

input to support their industry. The US can produce a substantial amount of energy at the right price when the US dollar is weak enough relative to oil. **So the US would want a weak US dollar relative to reference point gold.** By extension, a weak US dollar relative to the euro and yuan. That would be much more a balanced system that Keynes was referring to at Bretton Woods; that China was referring to in 2009; and that it appears that Trump has been trying to work toward for the past four years.

Right now in the US dollar-centric system, if the yuan rises too much and exports fall China still needs the US dollars to import oil. So they could run into a currency crisis. Under the new system their currency could rise against the US dollar because they can import oil paid for with their own currency. **That would also mean that China can build up more of a consumer sector like the US has done with its ability to print US dollars for energy in the past 50 years.**

Nikolaus Jilch: *So what you are saying is that for a number of years now we have been moving to a new system based multicurrency pricing of oil, and by extension, gold. But the one big piece of the puzzle that is still missing is the US and what they are going to do. Will they try to keep the old system running for another 10 to 20 years – somehow. Or if they just “give up” and join the new system. The way you describe it, this new system would not be negative to the US.*

Luke Gromen: It would be great for the US. You would have a resurgence of manufacturing. You would have quite a lot of money spent on infrastructure. But it would be a shift of political interest. In this new system you don't need a trillion US dollar defense budget, you need just a fraction of that.

And if you start talking about taking USD 300bn-500bn away from the military industrial complex, that can get tricky in certain circles, even though there are a lot of people in the military industrial complex that will tell you that the system we have is now a net negative for US national security.

We are the most powerful nation in the world, but we have been left to effectively beg China for face masks.

... so the new system could be very good for the US because it would lead to Americans to consume less and produce more.

We borrow money from China to build weapons to face down China. And the corona crisis shows that. We are the most powerful nation in the world, but we have been left to effectively beg China for face masks. **So the new system could be very good for the US because it would lead to Americans to consume less and produce more.** Europe would have to produce less and consume more and take more charge of their defense priorities. And the Chinese would also have to produce less and consume more on a relative basis. The EU countries spend about USD 300bn a year for energy – in US dollars. If you can print euros to buy oil you can use the reserves for investments in infrastructure and defense for example. **But a switch to this new system would require a one-time devaluation of oil versus the neutral reserve asset (which is likely to be gold), which by extension implies a one-time devaluation of all currencies against gold.**

Nikolaus Jilch: *How are we getting there? Is this where MMT comes into play?*

... we have begun to subjugate the US dollar system to support the middle and working classes.

Now we are just going to print the money, spend it as we see fit and not worry about the currency.

At that point Trump could tell the Treasury to tell the Federal Reserve to write up the Gold and deposit the money in the Treasury's general account.

Luke Gromen: I think so MMT may usher it in, although I wouldn't necessarily ascribe motive. **I think MMT is where the US is going.** Donald Trump recently invoked the National Defense Production act and that in our view basically merged the Federal Reserve and Treasury into a single unit, removing the Federal Reserve's independence. Then we had the CARES-Act, the stimulus package. We think that these two things combined lead to a switch. Under the post-1971 US dollar system, the US subjugated the US middle and working classes to support the US dollar system. In response to the Covid-19 crisis, we have begun to subjugate the US dollar system to support the middle and working classes.

What I mean by that is that since 1971 when we went of the gold standard we have been all about running deficits and sending jobs abroad to support the US dollar system. What the US has done in the last month under the cover of Covid-19, if you will, has been a 180 degree shift in the opposite direction. Now we are just going to print the money, spend it as we see fit and not worry about the currency. It's not lost on me that you can't have Treasuries as the wealth reserve asset for creditor nations around the world when we are treating the US dollar and Treasuries this way. It is clearly a move that will force the rest of the world to move towards some other primary wealth asset. The question to me is: Is this temporary or is this the new way?

Nikolaus Jilch: *It does fit nicely with the whole concept of Donald Trump. Make America great again. Building up US industry. Going back to a time that the boomer generation still remembers. The 1950ies and 1960ies when America was still an industrial powerhouse. Do you see a conference like Bretton Woods? Or is this something we just naturally move towards without putting a label on it?*

Luke Gromen: I don't think we are going to have a single big conference. But in my view there may be agreements like the one we've just seen at a G20 level where they came up with the idea of a debt moratorium for some of the world's poorest nations. The crisis might get to a point where it is in the interest of the US to not increase debt anymore. **At that point Trump could tell the Treasury to tell the Federal Reserve to write up the Gold and deposit the money in the Treasury's general account.** But I don't see how the US and China are sitting down to agree on a new monetary system.

Ultimately this new system can be setup over a weekend anyway. It all depends on the actions of the oil producers if the Saudis and the Russians agree to set a new price of oil in terms of gold. Just to use an extreme example, what if the oil producers value gold at 400 barrels of oil per ounce? That would create the new reference point and neutral reserve asset we talked about with one swift move.

Nikolaus Jilch: *How much would gold rise in currency terms?*

Luke Gromen: **It depends on each nation. If the eurozone wants oil at EUR 20 which would set gold at EUR 8.000 an ounce.** If the US prefers more expensive oil to support their own producers they could say we want oil at USD 50 which would reset gold to USD 20.000 an ounce. Now Europe gets very

cheap energy, but the euro would be very strong versus the US dollar. You wouldn't be selling many German-made Mercedes cars to the US at this rate.

Nikolaus Jilch: *When Austria and Germany repatriated their gold reserves, one of the reasons that was given was: In a crisis scenario we might need gold to pay for energy. Do you think we might see a phase where energy is sold for actual, physical gold only?*

... the repatriations and the fact that the Central Bank Gold Agreement was not renewed after 20 years tells me that the European nations want to have full control of their gold because it is going to be used as a reserve asset at some point.

Luke Gromen: If you go back to 1940 and look at the special relationship between the US and the UK: We didn't take pounds sterling. We wanted US dollars or gold. That is what happens in extreme times. Currently there are people in the US and the EU who like to paint Russia as a threat to America and Europe. But the Europeans seem to know better because otherwise they would not get gold back to Europe that was in London or New York to be safe from Russia. **To me the repatriations and the fact that the Central Bank Gold Agreement was not renewed after 20 years tells me that the European nations want to have full control of their gold because it is going to be used as a reserve asset at some point.** But to directly answer your question – do I think it would only be sold for physical gold? In my opinion, not unless there is another global war as we saw in 1940.

Nikolaus Jilch: *It's also interesting that nations like Italy or even Greece went through crisis but never thought about selling their vast gold reserves. Is it because they know that the gold is worth far more in the next system than in the current system? And what do you think that Saudis and Russians are planning right now? Are they going to force the system?*

It is unlikely that rebuilding will take place anywhere near the current price of USD 1,700 per ounce.

Luke Gromen: Regarding Italy and Greece – yes, I think that's right. I think they know that if or when the system breaks down, as the *Dutch National Bank* said last October, "Gold will be used to rebuild the system." It is unlikely that rebuilding will take place anywhere near the current price of USD 1,700 per ounce.

Regarding your question on Saudi and Russia, back on February 27 which was shortly before they decided surprisingly to not cut production we wrote a report titled: "New sanctions on Rosneft likely the kiss of death for oil, shale and oil related assets." It might have been one of our best calls ever. We said that the odds of Russia cutting production were near zero. Why did we think that?

We have to take a step back and look at the structure of the oil market at the end of February and the beginning of March 2020. China was in trouble. They already had to shut down parts of their economy because of Covid-19. GDP was falling. China is the biggest client of Russia and Saudi Arabia. The US is the biggest competitor of Russia and Saudi. **Then in late February, the US sanctioned Rosneft, the biggest oil firm in Russia that has very close ties to Putin.** Going into the meeting in the first week of March the consensus in Washington and on Wall Street was that the Russians and the Saudis would cut production, keep oil prices higher and thereby hurt their biggest client and help their biggest competitor. And then to try help ensure that outcome, we effectively punched the Russians in the face by sanctioning Rosneft.

... the Saudis arrested one of their princes, a man named Mohammed bin Nayef (MbN), for treason. ... One day later on Saturday the Saudis announced to run oil production at full speed and would slash oil prices massively.

I think Russia played the bad cop and Saudi good cop.

... or was it something more coordinated, a step towards that new monetary system based on multicurrency pricing of oil?

... it hasn't escaped my notice that a quorum of the US establishment has fought Trump very, very hard.

So unsurprisingly (to us), Russia and Saudi didn't cut, and the oil price fell 10%. But that wasn't everything. That Friday night, March 6, the Saudis arrested one of their princes, a man named Mohammed bin Nayef (MbN), for treason. This was reported by the Wall Street Journal but didn't get a lot of attention. One day later on Saturday the Saudis announced to run oil production at full speed and would slash oil prices massively.

Now who is MbN? In 2017 he received a medal for his services from then CIA director Pompeo, who is now Head of the US State

Department. MbN was once referred to in the US press (Politico magazine) as "Washington's favorite Saudi". And so we have this incredible set of coincidences where MbN gets arrested on the same day as Saudis and Russians decide to let the market do its thing and stop all production cuts – helping China and hurting the US in the process.

In the US this was explained as a price war between Saudis and Russians. I don't think that's what it was at all. **I think Russia played the bad cop and Saudi good cop.** We've heard very credible rumblings that a deal was signed earlier this year for China to be able to buy oil from the Saudis in US dollars or yuan, China's choice. We heard that from more than one credible source. So I think there's much more going on here than the accepted western narrative of just a Russia/Saudi price war.

The question is: To what end? Just to teach the US a lesson? To take shale out once and for all? **Or was it something more coordinated, a step towards that new monetary system based on multicurrency pricing of oil?** In that case the incentive structure for oil producers changes from restricting production to maximize US dollars, to maximizing production to maximize oil producers to get as much gold as possible before the gold-oil-ratio rises as it would under a multicurrency energy pricing system where gold is the effective reference point, per our prior comments. Those would be some of the potential options. **The price war narrative between Saudi and Russia doesn't make much sense to me.**

Nikolaus Jilch: *In that case isn't the Trump administration basically doing everything in their power to ensure this outcome: multicurrency pricing of oil?*

Luke Gromen: I don't know. I would say this: If you asked me in 2016 how I would go about ending the US dollars' monopoly on oil by 2020 I would have advocated a lot of similar ideas to what Trump has done since 2016. I just have a hard time ascribing that level of Machiavellianism to this administration. At the same time, it hasn't escaped my notice that a quorum of the US establishment has fought Trump very, very hard.

If we go back to the oil thing, after what amounted to an attack on US shale by Saudi Arabia and Russia, they agreed to actually cut production. Why would they do that if there wasn't some kind of deal done in the background? Yes, Saudi and Russia are feeling pain, but a cursory look at both country's reserves showed that they would not run out of money until way after shale was already gone.

The last time global sovereign debt was a bubble that burst, all global sovereign debt collapsed relative to gold.

... we come to one of two outcomes: It is either print, blow up the balance sheet and devalue the currencies against gold or it is a disorderly collapse of the post-1971 US dollar-centric system.

When I think of it that way, it suggests to me that things are happening which we will only find out the full details long after we've seen the consequences of all of this play out in markets. I haven't fully worked it out myself, but it surely does look like big things are happening. **Sovereign debt crises always work out in one of two ways. Either the debt is restructured or defaulted on, or it's inflated away via financial repression** and as the IMF noted in a 2015 white paper, "a few hyperinflations".

We're there now. The global sovereign debt bubble has burst. We've not seen something like this on a global level since after World War I. How did it play out then? The sovereign debt of Germany and Austria went to zero against gold back then. The debt of the US fell about 75% against gold. What I'm talking about here is the value of the currencies. US and UK devalued, the French as well. The Japanese nearly hyperinflated. **The last time global sovereign debt was a bubble that burst, all global sovereign debt collapsed relative to gold.**

Now we have a global sovereign debt bubble, centered in the Western world and this exogenous crisis that you cannot paper over. This is a very explosive combination. The longer this goes on the closer we come to one of two outcomes: It is either print, blow up the balance sheet and devalue the currencies against gold or it is a disorderly collapse of the post-1971 US dollar-centric system.

To me it seems clear that option one has been chosen. No one in politics or central banking wants a nominal collapse on their watch, so it appears we are going down the route of money printing. **At some point we will either see an agreement or a de facto move to a new system where gold is at some bigger price and serves as a reserve asset once again.**

Nikolaus Jilch: *Thank you for the interview!*

Luke Gromen: It was my pleasure!



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From West to East: Gold's Flow into the “Strong Hands” of Asia

“We have gold because we cannot trust governments.”

Herbert Hoover, 1935

Key Takeaways

- The most important demand factor for physical gold is Asian gold consumption.
- Asian central banks are net buyers on the gold market, especially China and Russia.
- Indian and Chinese private households remain the most important consumers.
- The liberalization of the gold market is continuing to progress in China, while India, Vietnam, and Iran, for example, are still trying to exert state control of the market.
- Asian buyers are price-sensitive, i.e. (significantly) rising prices lead to a reluctance to buy. At the same time, they are among the “strong hands” who do not sell into a correction but see gold as long-term savings and an investment and act countercyclically.

Last year, the *In Gold We Trust* report was published in Chinese for the first time. We dedicated an extensive chapter to the Middle Kingdom, entitled “The Gold and the Dragon – How China Stabilizes Its Rise with Gold”, and also conducted an exclusive interview with investment legend and “China guru” Jim Rogers.²³⁹ **This year we want to broaden the focus and take a closer look at Asia as a whole and address questions such as, who are the important buyers, what are the determining trends, what is the situation of the mining companies, and what is the attitude of Asian governments towards the precious metal?**

Whoever wishes to foresee the future must consult the past; for human events ever resemble those of preceding times. This arises from the fact that they are produced by men who ever have been, and ever will be, animated by the same passions, and thus they necessarily have the same result.

Niccolò Machiavelli

While the West has largely turned away from the “barbaric relic” – with the exception, perhaps, of the German-speaking countries, where the horrors of the hyperinflations of 1923 (Germany) and 1924 (Austria) are still part of the collective memory – in Asia the knowledge that gold is money has been kept alive for over 5,000 years. **The largest continent on our planet is also one of the key factors driving the gold price. For in Asia it is above all the physical metal that counts. “Paper gold” such as gold certificates, ETFs, and derivatives are rarely purchased.**

The reasons for demanding gold in Asia are as diverse as the regions of the continent. Gold is a classic savings vehicle and a traditional wedding gift or dowry. This is why the distinction between investment gold and jewelry gold, which is predominant in the West, is not made in Asia. In quite a few regions, gold dealers also run the traditional banking business, because there may be banks in the next larger city but not in the rural villages. The gold dealers are often also lenders and pawnbrokers.

Classic Indian Wedding Jewelry



Credit: ID 8180766/Pixabay

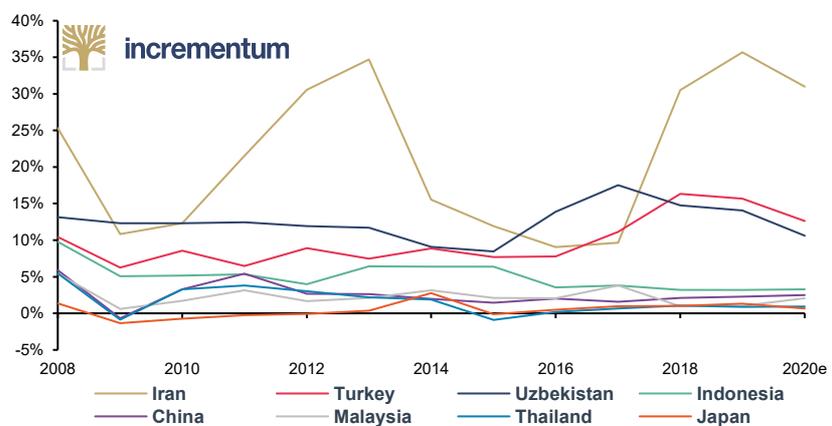
²³⁹ See “Gold and the Dragon – China Stabilizes Its Ascent with Gold”, *In Gold We Trust* report 2019

The desire for gold ist the most universal and deeply rooted commercial instinct of the human race.

Gerald M. Loeb

This structure contributes to the fact that the awareness in Asia of the equation “gold = money” has remained much stronger than in the West. Moreover, the consumer mentality, which is particularly prevalent in the poorer social classes of the West, is far less pronounced in the rural areas of Asia. People buy what is necessary and save money, mostly in the form of gold not only because banks and the corresponding “financial innovations” are largely absent, but also because the population is much more aware of state taxation via inflation. Asia's inflation rates are usually significantly higher than those of the West. In addition, the Asian countries have experienced many more severe economic crises, periods of high inflation, or even hyperinflation over the last 50 years, and most currencies are soft currencies.

Selected inflation rates in asian countries, 2008-2020e



Source: Statista.com, World Bank, IMF, Incrementum AG

Commodities such as gold and silver have a world market that transcends national borders, politics, religions, and race. A person may not like someone else's religion, but he'll accept his gold.

Robert Kiyosaki

Asian state actors do not act uniformly on the gold market. The Chinese central bank, the People's Bank of China (PBoC), and its Russian counterpart, Bank Rossii, are the most important state actors in the gold market. Additionally, almost all Asian countries, large and small, have increased their state gold reserves over the past ten years. Of last year's top five gold buyers, four –Turkey, Russia, China, and Kazakhstan – were in Asia. At the same time, however, there are regions in which massive regulation is intended to curb the people's appetite for gold. India is one of them, but the government of Vietnam is no friend of gold, either. And for countries that are under sanctions from the West, such as Iran, gold offers one of the few possibilities for handling foreign trade by resorting to exchanges in kind.²⁴⁰

²⁴⁰ See Ralph, Rotte: *Das Phänomen Krieg - eine sozialwissenschaftliche Bestandsaufnahme (The Phenomenon of War – A Sociological Reflection)*, 2019, p. 292

China

"True gold fears no fire."

Chinese Proverb

*Heaven is above, earth is below,
and that in between heaven and
earth is called China. Those on
the peripheries are the foreign.
The foreign belong to the outer,
while China belongs to the inner.*

Shi Jie

The Middle Kingdom has long been one of the most important players in the gold market. In 1983, China allowed private gold ownership, but trade was reserved for the PBoC until 2001. Since then, all sectors of the gold industry have been systematically promoted and expanded. Today China is the world's largest gold-producing country, the largest gold consumer, and the largest gold importer. The Shanghai Gold Exchange (SEG) is an important emerging player in the international gold market. The new free-trade zone in Shanghai/Pudong is intended to attract an international audience, because the export of the precious metal from China is still prohibited.

Nanhui New City is part of the China (Shanghai) Pilot Free-Trade Zone



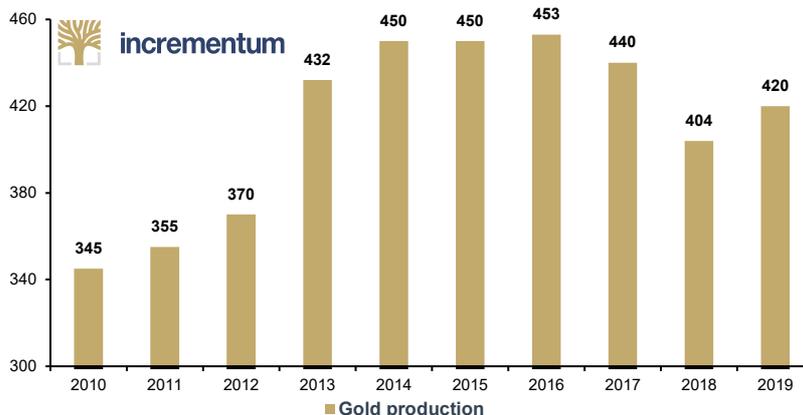
Credit: MNXANL

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

Not a single gram of gold extracted from the earth in China, or imported by China, leaves the country. Since only physically deposited metal is traded at SEG, it is hard to bring the international gold community to Shanghai, especially since capital controls make it difficult to transfer invested capital out of the country. The China (Shanghai) Pilot Free-Trade Zone addresses this problem, as the metal stored there is outside the Chinese customs borders. **And the opening up of the Chinese financial markets as a whole, which has now accelerated considerably, makes Shanghai even more attractive.**

China: Gold production, in tonnes, 2010-2019



Source: World Gold Council, China Gold Association, USGS, Incrementum AG

The difference between owning a paper contract or claim on gold versus holding the metal itself, while seemingly trivial, is a hugely significant one. The idea of owning a paper claim on physical gold, however, is viewed very differently in the West than it is in East.

Grant Williams

Since December 2018, the PBoC has again reported regular gold purchases. Officially the gold stocks amounted to 1,948.3 tonnes per December 31, 2019. However, insiders believe that there are significantly higher stocks hidden in financial companies, trustees, and sovereign wealth funds. Jan Nieuwenhuijs, highly respected gold analyst at the Finnish gold trading house Voima Gold, wrote about this:

“Grasping the exact size of their official gold reserves is unfortunately impossible, [...] but there are many clues signalling they’ve covertly bought hundreds if not thousands of tonnes of gold since 2009.”²⁴¹

The reasons for these regular acquisitions are manifold. The enormous currency reserves of China amount to around USD 3,106bn per December 31, 2019. It seems more than reasonable to hedge these with a relatively small gold position. However, China cannot invest too much of its currency reserves in gold, because otherwise there would be a massive impact on gold prices, as the PBoC itself has recognized:

“Gold has a special risk-return characteristic, and at specific times is not a bad investment [...] But the capacity of the gold market is small compared with China’s foreign exchange reserves; if foreign exchange reserves were used to buy large amounts of gold in a short amount of time, it will easily affect the market.”²⁴²

So, 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

At the same time, China is aware that if the international financial system is to be reorganized, it will need gold if it wants to shape it. Our Advisory Board member Jim Rickards compares the future negotiations on a new global monetary order to a poker game where you want to sit down with as many chips as possible:

“In any monetary reset, countries will come together and sit around the table. One can think of that meeting as a poker game. When you sit down at the

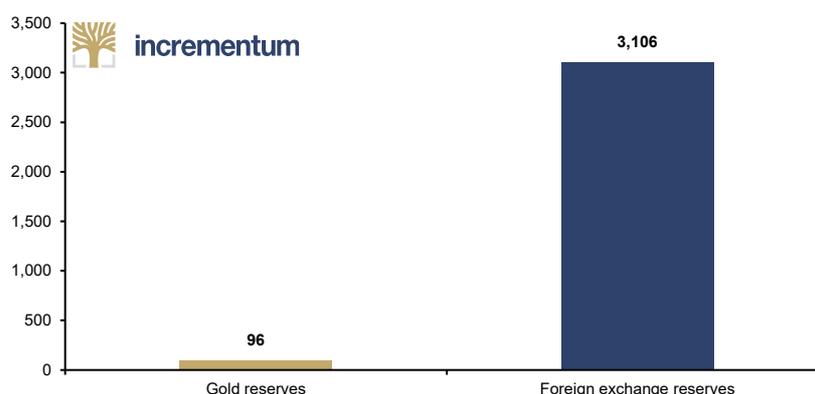
²⁴¹ See [“PBOC Gold Purchases: Separating Facts from Speculation”](#), Bullionstar, July 21, 2017

²⁴² See [“China breaks 6-year silence on gold reserves”](#), Financial Times, July 17, 2015

*poker table, you want a big pile of chips. Gold functions like a pile of poker chips in this context. This doesn't mean that the world automatically goes to a gold standard. It does mean that your voice at the table is going to be a function of the size of your gold hoard.*²⁴³

In addition, China also uses gold to stabilize the yuan and control its exchange rate. Gold purchases are intended to keep the currency within a certain range.²⁴⁴

China: Gold and foreign exchange reserves, in USD bn, 2019



Source: PBoC, World Bank, Incrementum AG

China's renminbi is widely regarded as a potential candidate to supplement the dollar in the international sphere. One can imagine rapid adoption of the renminbi as an international unit of account, means of payment, and store of value, to the point where it quickly comes to be used widely in cross-border transactions, similarly to the rapid adoption of the dollar between 1914 and 1924.

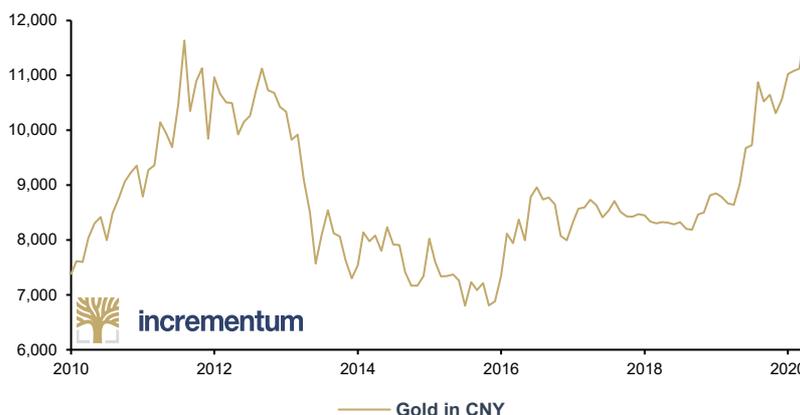
Barry Eichengreen

The Chinese people are also perennial gold buyers. Gold is a traditional wedding gift. In addition, for a long time there were few opportunities for Chinese to invest money. Traditionally, most of their savings flowed first into real estate, then into real estate, and finally into real estate. Classic investment considerations and strategies like those employed in the West are a new phenomenon. **Apart from residential property, gold was one of the few savings vehicles that was opened to all Chinese very early on in the reform process. Traditionally, the stock market has been seen as a genuine investment vehicle to only a limited extent.** Thus the Chinese speak of "playing" with shares – the similarity of investing in shares to playing games of chance, which are particularly popular among the Chinese, is reflected in the phrase.

²⁴³ See "Gold is the pile of poker chips in the next global crisis", MarketWatch, April 5, 2016

²⁴⁴ See "Gold and the Dragon – China Stabilizes Its Ascent with Gold", In Gold We Trust report 2019

Gold in CNY, 01/2010-04/2020



Source: Reuters Eikon, Incrementum AG

Like Liberty, gold never stays where it is undervalued.

John S. Morrill

However, China has been reluctant to import gold in the recent past. In 2019, gold imports fell to a multi-year low: Only about 1,000 tonnes were imported. Once again it has been confirmed that the Asians are essentially anticyclical buyers who react very sensitively to price increases. As is well known, last year was the best year for gold in seven years. At the same time, the Chinese marriage rate has been falling, partly due to the birth rate, which has been falling for decades.²⁴⁵ This has not changed even after the abolition of the one-child policy.²⁴⁶ Moreover, for the wealthy young generation in Shanghai or Shenzhen, buying the latest mobile phones, trendy fashion labels, or fast cars is more prestigious than buying gold. It can be observed that ancestral knowledge tends to be lost when times get too good and prosperity increases too fast.

Covid-19 and the Chinese demand for gold

It is undoubtedly still far too early to draw a final conclusion on the consequences of the Covid-19 outbreak, but major trends are already emerging. The virus has the potential to fundamentally change the structure of globalization.

Coronavirus means that something very big has gone very wrong in a very economically important part of the world.

Luke Gromen

Government pandemic measures, which are likely to extend to the nationalization of companies in key sectors, have a fundamentally inflationary effect.²⁴⁷ In China, prices have already risen significantly for a year, in part due to the virus. On average, food costs around 15% more than in the previous year, and general inflation has also jumped to over 5%. Inflation is already at its highest level since 2011, which should undoubtedly boost demand for inflation-proof assets such as gold.

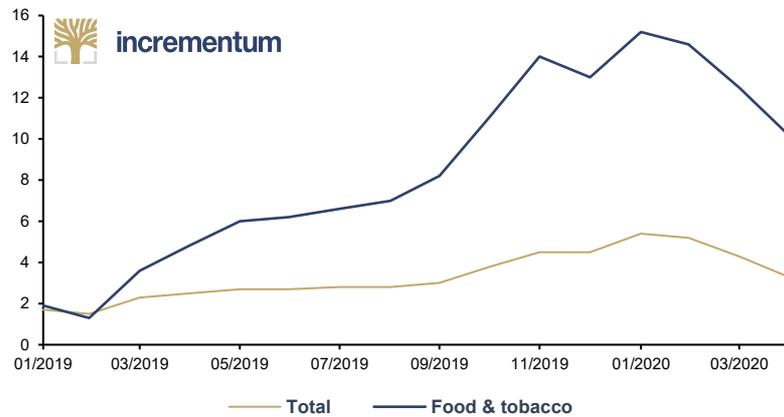
²⁴⁵ See "Marriage rate in China hits lowest on record", China Daily, March 21, 2019

²⁴⁶ See "China's Birthrate Hits Historic Low, in Looming Crisis for Beijing", New York Times, January 16, 2020

²⁴⁷ For example, the conglomerate HNA, which was already in dire straits, was at least kept alive with Beijing's help. See "China's HNA wins government help in bid to stay afloat", Asia Nikkei, March 3, 2020. According to the German Minister for Economic Affairs, Peter Altmaier, Germany is also prepared to nationalize "key" companies.

See "Corona: Verstaatlichung von Unternehmen als letztes Mittel?" ("Corona: Nationalization of companies as the last resort?"), DW, March 19, 2020; The EU Commission also encouraged the EU member states to consider such measures. See "European countries need to protect their companies from Chinese takeovers, says EU Commissioner", Euronews, April 13, 2020

China: Inflation, in %, 01/2019-04/2020



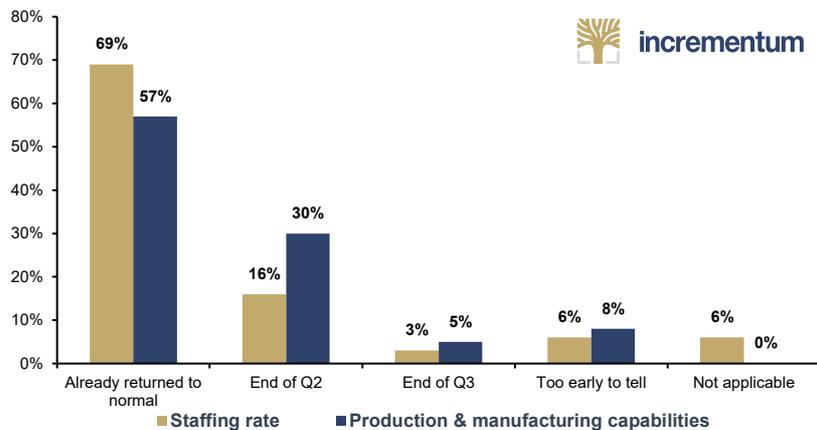
Source: Reuters Eikon, Incrementum AG

China treasures its promises and commitments with a thousand taels of gold.

Xi Jinping

However, this development is countered by a second major trend. The global economy will have to struggle with the consequences of the virus and government measures to counter it for a long time to come. **Even if the Chinese Communist Party claims that the vale of tears has been escaped and that the economy is back on track, there is reason to doubt that assertion. Estimates suggest that China will not be back to 90% of capacity until the end of the second quarter of 2020.**²⁴⁸

China: Production and employment situation, end of March 2020



Source: AHK, German Chamber of Commerce in China, Incrementum AG

China has stood up, grown rich and become strong.

China is set to regain its might and re-ascend to the top of the world.

Xinhua, 19th Party Congress, October 2017

Moreover, we must not forget how interconnected the major economies have become. Even if the economy in China is able to run at full capacity again, this will only be of limited help if Europe and North America sink into a depression at the same time. In that case, there will be a lack of demand from these regions, and there will also be a threat of failures among suppliers who provide the core components of machines assembled in China. The asynchronous development of the pandemic from nation to nation thus leads to the disruption of networked industries. In Korea, for example, which was hardly affected by Covid-19, one of the world's largest automotive plants, in Busan,

²⁴⁸ See "Coronakrise: Situation in China verbessert sich nur langsam" ("Corona crisis: situation in China improving only slowly"), *Produktion*, April 2, 2020

ran out of important assembly parts as early as mid-February 2020 because the Chinese supplier had to stop production.²⁴⁹ It is quite possible that China will have to experience this as well.

In addition, there are good reasons to doubt the official infection and casualty figures as reported from Beijing. For example, the number of mobile phone users in China fell by 21 million in February 2020 as compared to November 2019. The number of landline connections fell by 840,000;²⁵⁰ and although these figures certainly do not correspond to the possible number of Covid-19 victims, they are an indication that there may have been considerably more than the officially reported 4,634 deaths.²⁵¹

Above all, however, these figures reflect a massive economic slump. With the economy still running badly and the cost of living rising, more and more Chinese will simply lack the financial means to buy gold. **Chinese gold consumption had already fallen to a 10-year low in 2019, not least because of the weak economic development. Last year, economic growth in China was at its lowest level for 30 years.**

We will never allow anyone, any organization, or any political party, at any time or in any form, to separate any part of Chinese territory from China.
Xi Jinping

This trend will be reinforced by yet another. In the coming years, the global economy will see a massive diversification of supply chains and the return of important companies to their home regions. Both the USA and the European countries have suddenly realized how vulnerable they are if, for example, 80% of their antibiotics or the corresponding raw materials are manufactured in China.²⁵² Japan has already made headway in this respect. The country pays its companies a premium if they relocate production from China – whether to Japan itself or to another country.²⁵³

It can also be assumed that after the actual crisis is over and the big cleanup begins, the question of who is guilty will be raised. Particularly in the USA and Great Britain, it is already being constantly stressed that the novel coronavirus is a "Chinese virus". The assumption is that the USA in particular is willing to present Beijing with a bill for the Covid-19 disaster in the end. The remarks of US Senator Lindsay Graham, who said "China has to pay big time", point in this direction.²⁵⁴ A Republican congressman from Indiana, Jim Banks, even explicitly demanded reparations from China.²⁵⁵

The question of guilt and reparations will also affect the trend toward inflation. The repatriation of production units – especially to high-wage countries – will necessarily cause prices to rise further. Additionally, international relations will deteriorate, and ongoing

²⁴⁹ See "[Coronavirus stoppt die Produktion bei Hyundai](#)" ("Coronavirus stops production at Hyundai"), Spiegel, February 4, 2020

²⁵⁰ See "[Is China hiding COVID-19 death toll? 21 million cell phones disappeared, why?](#)", International Business Times, March 29, 2020

²⁵¹ Status as of May 9, 2020, [worldometers.info](#)

²⁵² See "[Produktion zurück nach Europa holen](#)" ("Bringing production back to Europe"), Pharmazeutische Zeitung, March 16, 2020

²⁵³ See "[Japan to pay firms to leave China, relocate production elsewhere as part of coronavirus stimulus](#)", South China Morning Post, April 9, 2020

²⁵⁴ See "[China must 'pay big time' for coronavirus response Lindsay Graham says](#)", Independent, April 8, 2020

²⁵⁵ See "[Rep. Jim Banks: China's Communist Party Should Be Forced to Pay Reparations for Coronavirus Coverup](#)", YouTube, March 21, 2020

conflicts will intensify along traditional lines of tension. Even if Washington does not demand direct reparations, it will certainly try to use the pandemic as a lever in the trade dispute with China. In China, in turn, nationalism and xenophobia are already growing at an alarming rate.²⁵⁶ From this perspective, it is reasonable to conclude that in the next few years the real driver of the gold price will be less on the demand side. Rather, it is likely to be the combination of the massive expansion of the global money supply, the renationalization of industries, the general deterioration of the international security situation, and the accelerating loss of confidence of the population in their politicians that will cause the price of gold to rise significantly.

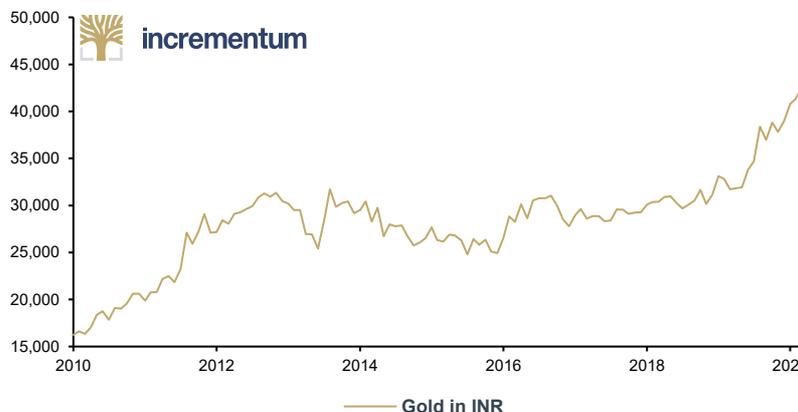
India

Even during the period when Rome lost much of her ancient prestige, an Indian traveler observed that trade all over the world was operated with the aid of Roman gold coins which were accepted and admired everywhere.

Paul Einzig

Two opposing currents are at work in India when it comes to gold. The Indians are an extremely gold-affine people, and the Indian wedding season has long been a determining factor in the gold market. Indians continue to save in gold, as around 75% of Indian savings are invested in gold.²⁵⁷ Gold jewelry is an essential part of the dowry, and in many Hindu temples more gold is hoarded than in many central banks. Indian private households are probably still the largest gold hoarders in the world, with around 24,000 tonnes of gold.

Gold in INR, 01/2020-04/2020



Source: Reuters Eikon, Incrementum AG

However, the Indian government seems to hate gold. Indian President Narendra Modi has set himself the goal of making India the first e-Nation. Among other things, he dreams of settling all payments electronically, in a country where around 25% of the population cannot read or write²⁵⁸ and almost

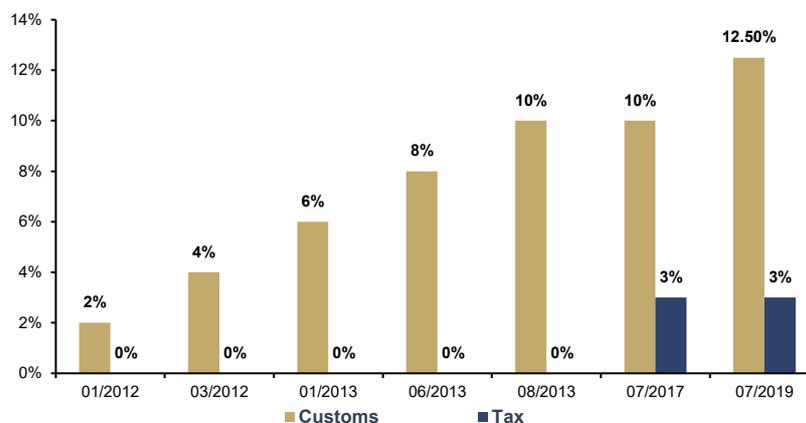
²⁵⁶ Since March 28, 2020, foreigners are no longer allowed to enter China, even if they have a valid visa or a residence in China. Foreigners staying in China are often treated as second-class citizens. Access to restaurants or public buildings is denied, and taxi drivers refuse to transport them. Black people are particularly affected. See "COVID-19 Racism and Xenophobia", Karain Korea, April 13, 2020; and "US warns African-Americans to avoid Guangzhou after reports black people are being targeted in coronavirus clampdown", South China Morning Post, April 11, 2020

²⁵⁷ See "India's gold market", Graphic News, December 14, 2016

²⁵⁸ "India: Literacy rate in 2011, 2015 and 2018", statista.com, December 2019

half of them have to do their necessities outdoors.²⁵⁹ **The Indian government successively increased the import tax and the value-added tax on gold and further regulated the gold trade. In only 7 years, taxes and customs duties on gold imports rose from 2% to 15.5%.** The government also tried to further standardize the market, for example by introducing a general, official stamping for bars and jewelry. This will become compulsory from next year, as only 26,000 of India's 600,000 gold traders currently use the stamping system of the Bureau of Indian Standards (BIS).²⁶⁰ Programs such as the Gold Monetisation Scheme 2015²⁶¹, under which citizens could store their gold at banks for a fixed interest rate over a certain period of time, were essentially a failure. Just 900 kilograms of gold were collected in this way.

India: Tax and customs on gold imports, 2012-2019



Source: Incrementum AG

There is no need to go to India or anywhere else to find peace. You will find that deep place of silence in your room, your garden, or even your bathtub.

Elisabeth Kubler-Ross

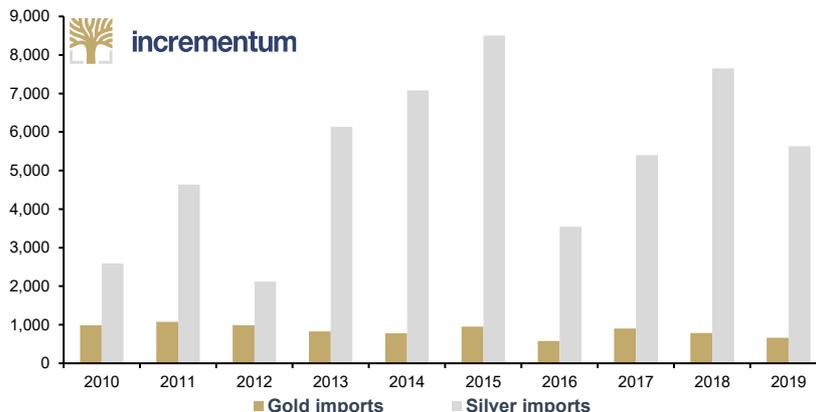
The fact remains that all the efforts of the Indian state to prevent its citizens from buying gold are not really bearing fruit. Although demand slumped significantly at the peak of the attempted cash abolition, it has since recovered somewhat. In terms of volume, demand may have reached a 3-year low in 2019, as imports were 12% lower than in 2018, but in rupee terms the decline was only 2%. This reflects the significant rise in the price of gold last year and once again confirms the general price sensitivity of Asians, who are reluctant to buy when prices rise significantly.

²⁵⁹ See "Wie fehlende Toiletten und alte Traditionen für Probleme sorgen" ("How lack of toilets and old traditions are causing problems"), National Geographic, November 9, 2017

²⁶⁰ See "BIS hallmarking for gold jewellery mandatory from January 15, 2021: Govt", Zee News, November 29, 2019

²⁶¹ Reserve Bank of India: "Gold Monetisation Scheme, 2015 (Updated as on August 16, 2019)", August 16, 2019

India: Gold and silver imports, in tonnes, 2010-2019



Source: Smaugold, Incrementum AG

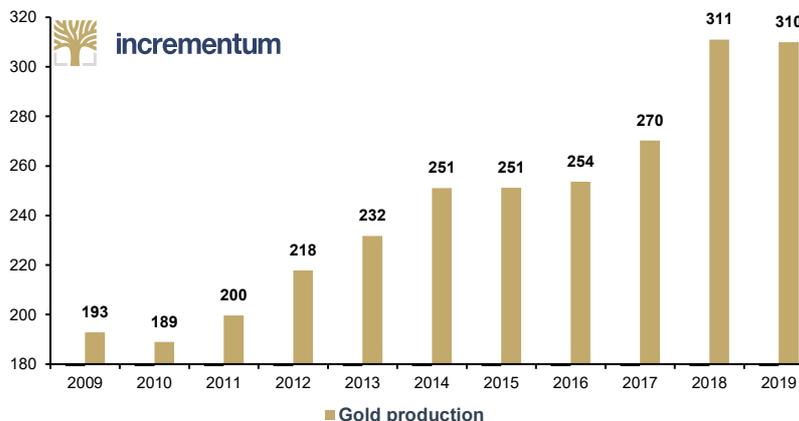
Russia

“If everything stops functioning, our level will be able to ensure our trade turnover using our gold and foreign currency reserves for at least six months or more, which is more than enough.”

Vladimir Putin

Russia is important for the gold market in two ways. Firstly, Russia is one of the largest producers, with an output of around 310 tonnes last year. Overall, Russian production has increased by more than 50% in the past 10 years.

Russia: Gold production, in tonnes, 2009-2019



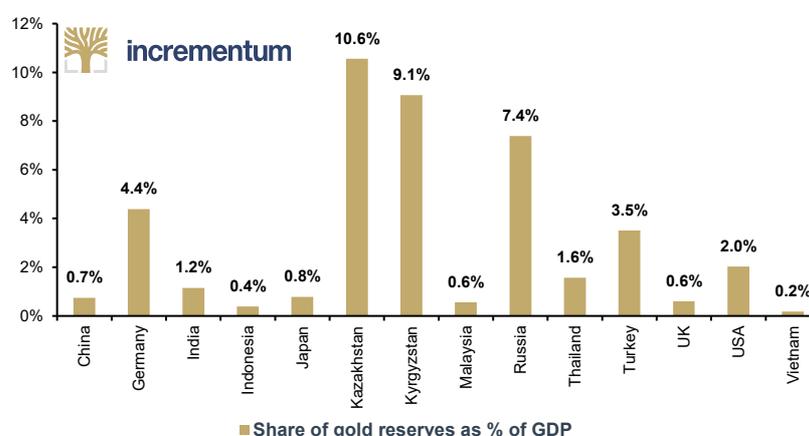
Source: World Gold Council, Bank Rossii, Incrementum AG

I strongly believe that the misuse of the role of the US dollar as an international currency will ultimately lead to its role being undermined.

Sergei Lavrov
Russian Foreign Minister

In addition, the Russian central bank has been a regular gold buyer for years. The reason for this is straightforward. Russia is trying to protect itself against the sanctions of the West by buying gold. The Russian ruble in particular has repeatedly suffered massively from the sanctions. At the same time, Russia is now probably one of the most stable state actors. The huge credit and debt bubble that was inflated in the aftermath of the Great Financial Crisis from 2009 onwards completely bypassed Russia. Russia's public debt is less than 15% of GDP and net debt is below zero. For Russia's gold more or less the same is true as for China's: It remains in the country. With 2,251.89 tonnes, Russia is now one of the largest global gold holders. Russia's gold reserves account for 7.25% of GDP, whereas the largest gold holder in absolute terms, the US, holds just over 2%.

Share of gold reserves as % of GDP, 2019



Source: IMF, World Gold Council, Incrementum AG

Japan

Remarkably, one rarely speaks about Japan when it comes to gold. This may be due in no small part to the fact that the country's culture focuses on decency and restraint. While in China the colors red and gold are central elements of the culture and stand for joy, happiness, and wealth, in Japan muted colors dominate.

When the student is ready, the master appears.

Japanese Buddhist Proverb

It is forgotten that Japan had a flourishing gold market, especially during the boom of the 1970s and 1980s. The so-called "Gold Accumulation Plans" (GAP) reached their peak in the 1980s, when Japanese citizens saved a total of around 300 tonnes of gold. The physical gold trade itself is controlled by large conglomerates such as Mitsubishi and Tanaka. The entire range of investment vehicles is traded on the Tokyo Commodity Exchange (TOCOM). ETFs are available to investors, as are futures, gold savings plans, and derivatives. **The Japanese gold market is certainly one of the most liquid, most "mature", and largest in the world, even if it is no longer perceived as such in the West.**

Given its geographical proximity to Japan, Beijing may have borrowed some inspiration from Japan in the development of its plan for the national gold sector.

The BoJ holds more than 700 tonnes of gold, and from this perspective, too, the country is certainly a major player in the gold market. **The Vienna Philharmonic, the beautiful bullion gold coin minted by the Austrian mint since 1989, is particularly popular as a physical investment, which is not as surprising as it might seem at first glance, given the Japanese love of classical music. The Philharmonic coin ranks number 1 of all bullion coins sold in Japan, with a market share of 46% in 2019.**

Wise men do not argue with idiots.

Japanese Proverb

At the same time, the Japanese government is trying to make the direct purchase of physical gold unattractive by artificially increasing the gold price through tax increases. Taxes on gold imports have been gradually raised from 5% to 10% since 2014. The reaction to this is classic: Official imports fall and smuggling flourishes. The government estimates that around 160 tonnes of gold were smuggled into the country in 2017 alone.²⁶² This compares with official imports of just 16.7 tonnes.

Iran

Iran is an island of stability in a turbulent corner of the world.

Jimmy Carter

Since the mullahs took power in 1979, Iran has been under sometimes more, sometimes less severe economic sanctions by the West. When in 2012 access to the payment system of the Society for Worldwide Interbank Financial Telecommunication (SWIFT) was cut for the first time, gold was almost the only way for Iran to engage in any kind of foreign trade besides the Islamic hawala network. For example, Turkey paid for Iranian oil supplies – Iran is the second most important supplier of black gold to Turkey after Russia – with gold. Since 2018 Iran has been cut off from the SWIFT network again. This time, however, the consequences are not quite as serious, since bilateral trade agreements are in place with Russia. Moreover, Russia offers SWIFT-compatible systems with “CyberFT” for private users and the “System for Transfer of Financial Messages” (SPFS) for the Central Bank of Iran. China, also an ally of Iran, now has its own “SWIFT” system with the “Cross-Border Interbank Payment System” (CIPS).

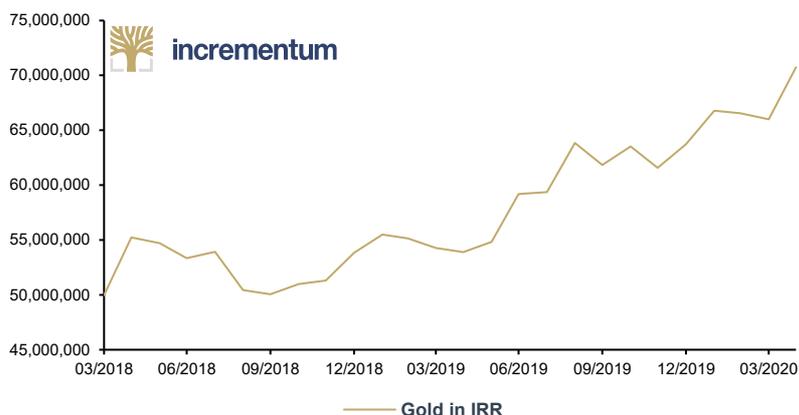
Money isn't a bear's grass.

Persian Proverb

From this perspective, the importance of gold for direct foreign trade may have declined somewhat, but of course gold remains the number one savings vehicle for the Iranian people. The value of gold against the Iranian rial increased more than sevenfold between 2010 and today, despite the gold bear market in US dollars. The country has been in a deep economic and currency crisis for years, which explains the repeatedly rising protests, especially by the better educated of Iran's younger generation.

²⁶² See Persson, Torgny: “Gold Smuggling to India & Japan is a Symptom of Governments' War against Gold”, Bullionstar, July 10, 2019

Gold in IRR, 03/2018-04/2020



Source: Reuters Eikon, Incrementum AG

Turkey

“If there is anyone who has dollars or gold under their pillows, they should go exchange it for liras at our banks.”

President Recep Tayyip Erdoğan (2018)

What I'm saying is that these debts should be in gold. Because at this point the karat of gold is unlike anything else. The world is continually putting us under currency pressure with the dollar.

Recep Tayyip Erdoğan

The Turkish gold market is growing quickly and robustly. One of the most important reasons for this development is the turbulence of the Turkish economy and especially the Turkish lira since 2017. With its current rank of 13th, Turkey is one of the largest economies in the world, yet its current account deficit is huge and its foreign debt is extremely high. As a result, the country was successively downgraded by the rating agencies and the Turkish lira fell into a downward spiral. In recent years inflation has been in the double-digit range, and it was not until mid-2019 that it was brought down to just under 10%. Youth unemployment is over 25%. Added to this are the burdens of the Syrian civil war. On the one hand, Turkey has accepted around 4 million Syrian refugees, but on the other hand it has contributed to the escalation of the conflict, and, as recent events have shown, this military adventure is more likely to fail than to succeed.²⁶³ **All this is reflected in the price of gold expressed in Turkish lira, which since 2015 has more than tripled.**

²⁶³ See “How Turkey lost Russia and the West”, Washington Post, March 17, 2020

Gold in TRY, 01/2010-04/2020



Source: Reuters Eikon, Incrementum AG

Gold does not rust on the ground, and rocks don't get soaked in the rain.

Turkish Proverb

In addition, Turkey has strongly increased its gold reserves, precisely since the beginning of economic the crisis in 2017. At that time, the Turkish central bank, Türkiye Cumhuriyet Merkez Bankası (TCMB), had reserves of 116 tonnes of gold. By December 31, 2019, however, the TCMB had 412.15 tonnes. Turkey had therefore almost quadrupled its reserves in only 3 years.

Turkey: Gold reserves, in tonnes, Q1/2017-Q4/2019



Source: World Gold Council, Incrementum AG

If they have dollar, we have our Allah.

Recep Tayyip Erdoğan

This example confirms the well-known property of gold to be a unique anchor that can stabilize a fragile system. In addition, the TCMB needs gold to handle possible oil and gas purchases with Iran. This increases the country's alienation from the US. Thus, the increased gold reserves are also a protection against (further) possible US sanctions. Relations between Turkey and its actual allies are tense, for various reasons. In particular, there are now huge differences with the USA.²⁶⁴ The situation has escalated, especially after the failed coup against Erdoğan, for which the US was indirectly held responsible, because Turkey claimed the attempt was

²⁶⁴ As long as the USSR existed, Turkey was the most important bastion on NATO's south-eastern flank and was supported accordingly with weapons, capital, and know-how, despite the repeatedly escalating conflict with NATO ally Greece, especially because of Cyprus.

led by a Turkish expatriate pastor, now a US resident.²⁶⁵ As a reaction there were tough US sanctions, which were not the cause but partly the trigger of the economic and currency crisis from which Turkey is suffering since 2017.

Southeast Asia

“In the Far East [...] we should start with a common trading currency [...] for the purpose of settling of trade. The currency that we propose should be based on gold, because gold is much more stable.”²⁶⁶

Mahathir bin Mohamad, former Prime Minister of Malaysia

Gold is traditionally an important metal for religious ceremonies in Southeast Asia. Every year, especially in Thailand and Myanmar, the faithful cover their sanctuaries with tonnes of gold leaf. The gold plates that cover the top of the famous Shwedagon Stupa in Yangon (Myanmar), weigh an estimated 60 tonnes – not counting the gold leaf at the foot of the stupa. **Not only the Buddhists use gold for acts of religious worship, but also in Islamic countries gold (and silver) play a role as the only “godly” money.**

Shwedagon pagoda



Credit: Thettoe

It is therefore not surprising that the gold dinar and silver dirham, which were launched in 2010 in the province of Kelantan in Malaysia, play a role in the region as bridal gifts and savings vehicles.²⁶⁷ There are

²⁶⁵ The USA granted asylum to the preacher, Fethullah Gülen, who was Erdogan's ally for a long time. He was identified by Ankara as the mastermind behind the coup.

²⁶⁶ See "[Mahathir's Asian Gold Currency Is A Return To Asian Values](#)", Forbes, June 18, 2019

²⁶⁷ See "[Regression theorem explains why gold equals money](#)", In *Gold We Trust* report 2011

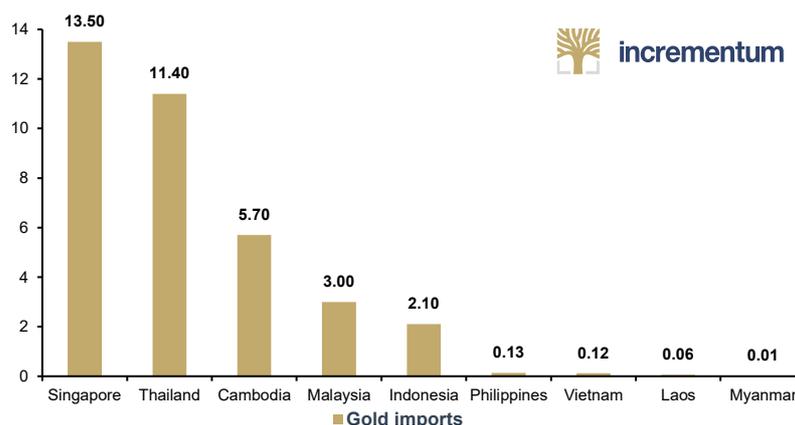
now over 2,000 shops that accept the complementary currency as a means of payment.²⁶⁸ In Vietnam, Laos and Cambodia, the religious aspect of gold is less pronounced, not least because of the communist past of these countries. However, the population there is increasingly renewing religious traditions.

*The desire of gold is not for gold.
It is for the means of freedom
and benefit.*

Ralph Waldo Emerson

In addition, gold naturally plays an important role in these countries from a savings perspective. Almost all the countries of Southeast Asia suffer from high inflation. Losses of the national fiat money's purchasing power of 10% per year have been normal in many places. In addition, most citizens of the region have also had to contend with extremely unstable governments, military dictatorships, coups d'état, and the like. Thus trust in state institutions is extremely low. **Furthermore, gold traders, mostly of Chinese descent, have taken over the tasks of the banks. Gold is money, the people of Southeast Asia are fully aware of the fact.** In this respect, it is hardly surprising that Thailand, Vietnam, and Cambodia rank relatively high among the world's largest gold importers despite relatively low GDP and per capita income.

South East Asia: Gold imports, in USD bn, 2018



Source: worldstopexports.com, Incrementum AG

While most states in Southeast Asia are open to the purchase of gold by their citizens and keep regulatory barriers for gold traders and buyers within bounds, Vietnam has tightened the reins firmly since 2010. The formerly private gold trade has been banned. The same applies to gold lending and custody at banks. The production of gold bars is solely in the hands of the Vietnamese central bank. Since 2013, gold trading licenses have been granted only to selected and strictly controlled companies. **Since 2018, the Vietnamese gold market has been liberalized in tiny steps, but it is still far from the free market that prevails in Singapore or Thailand, for example.**²⁶⁹

Southeast Asia is rich in gold deposits. Indonesia is one of the largest gold producers in the world. At the same time, there are always fierce disputes about production. The state wants to make more money from the mining companies, and at the same time there are accusations about environmental

²⁶⁸ Grummes, Fabian: "Gottgefälliges Geld" ("Godly money"), eigentümlich frei, No. 134, 2013, p. 55

²⁶⁹ *ImSee* "Vietnam: Looking forward to a more open Gold Market", SBMA, 2017; "Vietnam Gold Market", Bullionstar, 2016

pollution and property rights. The military junta in Thailand, for example, closed the country's largest gold mine, in Phichit, on January 1, 2017. Since then, production in Thailand has come almost to a standstill. An arbitration between the mine owner, Kingsgate Consolidated Ltd of Australia, and the Thai government got underway in Singapore on February 3, 2020.²⁷⁰

Central Asia

*"Now I shall go far and far into the North,
playing the Great Game."*

Rudyard Kipling²⁷¹

Due to their low GDP, the "Stan" states – Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan – play a subordinate role in terms of private gold demand. But Central Asia is an important playing field for the major powers. Here England and Russia contended "the Great Game"²⁷² in the 19th century, and now the USA and China are also trying their hands.

*If you are sick, think about your
life; if you are better, think about
your gold.*

Mongolian Proverb

With its Belt and Road Initiative (BRI),²⁷³ China in particular is targeting the Central Asian republics and trying to gain political and economic influence. Gold production plays a central role in this. **In Kazakhstan, Uzbekistan, and Kyrgyzstan, enormous gold and numerous other raw-material deposits are to be found.** In Uzbekistan alone, a study by the World Bank has identified four large gold deposits with reserves totaling over 8,500 tonnes.²⁷⁴ Gold is one of the main export goods of Kyrgyzstan. Kazakhstan and Uzbekistan both mined about 100 tonnes of gold in 2019.

China is making intensive and successful efforts to obtain mining rights in the region. Often it does not obtain these rights in return for money, but rather in return for building or expanding infrastructure.²⁷⁵ With the withdrawal of US troops from Afghanistan and the associated dismantling of US bases in neighboring countries, China's influence in the region is likely to grow further. In particular, the state-owned Chinese gold and raw-materials companies will continue to gain a foothold and thus promote the expansion of the Chinese gold and mining industry abroad.

But Central Asia is not only the playing field of the great powers. The Central Asian states also appear as buyers on the gold market. In 2019, the Kazakh central bank bought 31.53 tonnes of gold. This put the country in fifth place in the global ranking after Russia, Turkey, China, and Poland. The Kyrgyz bought 3.2 tonnes of gold and thus made it into the top 10 in 2019.

²⁷⁰ See "Phichit gold mine arbitration to begin next month", Bangkok Post, January 4, 2020

²⁷¹ See Wikipedia entry: "Kim (novel)"

²⁷² See Wikipedia entry: "The Great Game"

²⁷³ See "Gold and the Dragon – China Stabilizes Its Ascent with Gold", *In Gold We Trust* report 2019

²⁷⁴ Hedenquist, Jeffrey and Daneshfar, Bahram: *Mineral potential of Central and East Asia*, 2003

²⁷⁵ See "China's Belt and Road Initiative and its Impact in Central Asia", Voices on Central Asia, January 19, 2018

Greed is powerful. Fear is stronger. But there's one thing that's even bigger than the two, which is "need". If you need to, you really don't have any choice.

Jeff Gundlach

Conclusion

Asia remains a central piece in the gold market mosaic. The bulk of private demand will continue to come from here, yet it is also not to be expected that the "strong hands" of Asia will be caught out by a rising gold price. The continent's government actors are also likely to remain net buyers and continue to expand their reserves. China in particular can be expected to further expand its already leading position in the gold market, as it covers the entire value chain from production to sale and is steadily becoming more professional.



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Gold Storage – Fact Checking New Zealand, Australia, and Dubai

“Currencies break, gold does not.”

Jeffrey Snider

Key Takeaways

- Money is de facto a quantitative form of human communication. Over the centuries physical gold has proven itself to be the most trustworthy manifestation of money.
- Despite being currently not accepted as legal tender, gold has never lost its owners' trust as money and continues to provide one the most trustworthy options to preserve wealth.
- How to store physical gold safely is just as important a decision as investing in gold. It is a complex logistical task and requires careful consideration.
- In last year's *In Gold We Trust* report we covered Liechtenstein, Switzerland, and Singapore.
- Australia, New Zealand, and Dubai have also established for themselves reputations as trustworthy places to securely store physical gold. The choice amongst them depends on personal preferences.

The gold price can go up, it can go down, but gold itself is permanent.

Simon Mikhailovich

If you in fact had no gold, then your situation was hopeless.

Alexander Solzhenitsyn

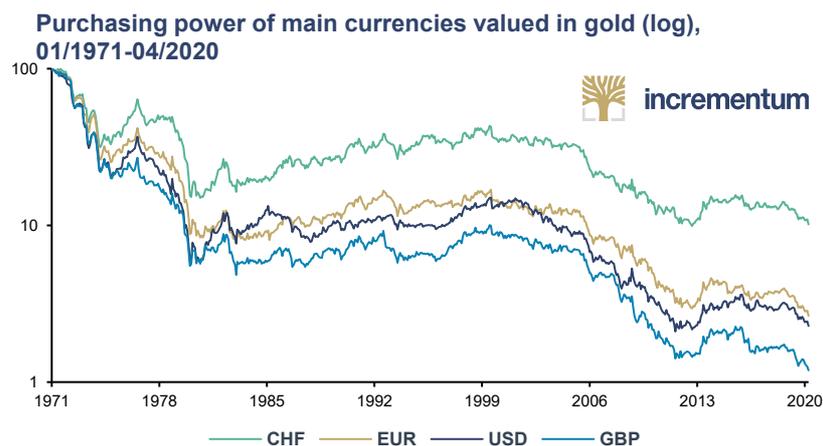
Money has often been made worse by great kings through frequent devaluation.

Juan de Mariana

Money is not a “thing” but an economic concept, an abstract idea facilitating trade and human interaction. The exchange of money between counterparties is generically a quantitative form of human communication. This exchange of value can be in the form of currency (USD, EUR, CHF), or commodity money such as gold and silver, or in the trading of shares or in-kind, or cryptocurrencies. Many different tokens may satisfy the requirements for a particular transaction, and may be advantageous for their features of scarcity, fungibility, portability, legal tender, store of wealth, divisibility, unit of account, convertibility, privacy, acceptability, liquidity, counter-party risk, price risk, independence, etc.²⁷⁶

Gold is a physical manifestation of money and has emerged throughout human history as the most trustworthy one. Silver is a close second place to gold. Although gold is not currently defined as legal tender, its reputation and trustworthiness as money remains unblemished. Legal tender legislation favors fiat currencies over gold in terms of the volume of transactions but does not impair precious metals’ desirability as a reliable store of wealth. **Hence, it should not surprise that the world’s central banks collectively hold 33.919 tonnes or about 17.2% of the world’s gold reserves in their vaults as reserve assets.**²⁷⁷

No fiat currency has survived the test of time. They have all failed to be a reliable store of wealth. The financial crisis of 2020 will challenge the trustworthiness of the current monetary system and the credibility of all fiat currencies. In times of turmoil gold is the ideal manifestation of money and has already proven that it can survive the test of time. **Unlike fiat currencies or other financial assets, physical gold is no one’s liability and is independent of the functioning of financial institutions.**²⁷⁸ Its metric as a store of monetary value is unrivaled.



Precisely because of this notoriety, gold has also attracted an outsized number of creative efforts by thieves and bandits. But gold is not just a victim to the criminal element, it is repeatedly confiscated by governments, frequently lent out by

²⁷⁶ “Why now & Why Gold?”, TBR Bullion Reserve
²⁷⁷ “Above-ground stocks”, Gold Hub, January 30, 2020
²⁷⁸ “Diversification”, TBR Bullion Reserve

The record of fiat currencies through history, 100%, is eventual failure. The record of gold for 5,000 years, 100%, is lack of failure.

Simon Mikhailovich

Capital is agnostic. That is one of the truisms of the system under which we live. All capital cares about are security and getting the best return.

Jim Rogers

reputable bankers as fractional “unassigned” units, and counterfeited by weight and content by royal intervention. The list of gold debaucheries in history is endless. Even the ivory tower of science has been fascinated by gold, and it is arguable that the whole discipline of chemistry exists because of the irresistible desire of the alchemists: to make gold from lesser elements. Gold has a more storied history of theft and human malfeasance than any other item on earth.

Thus, securing your physical gold is crucial. It is a complex task, and that task is just as important as the decision to invest in gold itself. The logistics around keeping physical gold secure should therefore evolve around considerations of security, trust, risk diversification and hedging against the vulnerabilities and worst-case scenarios of the current monetary and political system. In the current turmoil around Covid-19, normal laws and protections are being suspended. Financial repression and capital controls are only to increase, parallel to the ever-increasing debt issuance by states.

The choice of jurisdiction for high-security bullion storage should thus carefully involve the evaluation of the protection of the individual’s most fundamental rights, personal freedom and private property rights, as well as the jurisdiction’s political and economic stability and historical track record.

No single storage solution or country should be considered perfect. There is no single solution for gold storage vault that works for every investor. Each secure storage solution should be customized to the individual investor. As no storage solution is 100% guaranteed, diversification amongst storage locations should also be taken into consideration. **We are continuously researching for the safest and most secure solution to store gold, and in 2019 we reviewed storage options in Switzerland, Liechtenstein and Singapore.**²⁷⁹

This year we will travel a bit further and evaluate the advantages and disadvantages of three more gold storage locations: New Zealand, Australia and the United Arab Emirates.

New Zealand: Safety at the End of the World

It is no surprise that New Zealand is one of the favorite destinations for those wanting a “safe place” at the end of the world, far away from political and social conflicts. Various billionaires, including Paypal founder Peter Thiel, LinkedIn founder Reid Hoffman, and entrepreneur Kim Dotcom, have made headlines by buying themselves into the New Zealand residency scheme.²⁸⁰ But New Zealand is not only one of the world’s favorite exile destinations, it is also an excellent place to safely store your gold and other precious metals.

²⁷⁹ See “Gold Storage: Fact Checking Liechtenstein, Switzerland, and Singapore”, In *Gold We Trust* report 2019

²⁸⁰ “The super-rich of Silicon Valley have a doomsday escape plan”, Bloomberg, September 5, 2018; “Why Silicon Valley billionaires are prepping for the apocalypse in New Zealand”, The Guardian, February 15, 2018

New Zealand is not a small country but a large village.

Peter Jackson

Its geographical remoteness stands out at first glance. Located about 2000 km east of Australia across the Tasman sea, the island nation not only has no direct borders with any other country but also the special advantage of the ocean providing a natural barrier to invasion. This mostly precludes New Zealand from the focus of global attention but can also make it more difficult to reach. The relationship with its closest neighbor, Australia, is very amicable, with the latter often jokingly described as “the older sibling”.

This geographical isolation and its strong focus in the agricultural sector perhaps best explain the openness and gentleness of the Kiwi culture. The relatively young nation is known for its “fair play” and embracing the sovereignty of the individual. The fact that in 1893 New Zealand was the first country to grant women the right to vote stands for itself.²⁸¹ Today, New Zealand repeatedly ranks as number one in the Human Freedom Index.²⁸² With regards to global prosperity New Zealand not only is ranked amongst the top ten countries worldwide but has also shown a positive upward dynamic in recent years.

We cannot direct the wind. But we can adjust the sails.

Aristotle

New Zealand is widely known for its political stability and has one of the most fiscally conservative governments in the OECD. Its public debt is less than 20% of GDP, demonstrating the fiscal discipline of the political environment. As some Western nations flirt with MMT and fiscal irresponsibility, New Zealand has reported a budget surplus for four years, with a surplus of 1.9% in the fiscal year 2018/2019. This substantial record of fiscal prudence increases the level of confidence that your gold is safe, even if you live 10,000 km away from your physical gold.

Deep roots are not reached by the frost.

J. R. R. Tolkien

As part of the British Commonwealth, New Zealand can look back on a long history of trustworthy institutions and a strong and independent rule of law.²⁸³ Consistently, the country is ranked at the top of Transparency International’s Anti-Corruption Index.²⁸⁴ In the past there has never been a government confiscation of gold, and neither is there a law in place laying the grounds for this.

While there is gold mining in New Zealand (10,045 kg in 2018) there is no great tradition of gold ownership amongst Kiwis, with estimates below 1%, as traditionally land has been the preferred store of wealth. This sentiment is also visible at the Royal Bank of New Zealand, which has not held any gold reserves for the last 30 years.²⁸⁵ In other words, there is not that much attention to gold and thus less regulatory rigor with respect to private gold holdings. For example, New Zealand has no disclosure rules for precious metals except for Know Your Customer procedures (KYC). Also, given a purity of 99.5% or above, there is neither an import duty on gold nor does it fall under the VAT regulations.

²⁸¹ See Wikipedia entry: “Women’s suffrage in New Zealand”

²⁸² Vásquez, Ian and Porčnik, Tanja: “The Human Freedom Index 2019 - A Global Measurement of Personal, Civil and Economic Freedom”, Fraser Institute, 2019

²⁸³ See The World Justice Project (WJP) Rule of Law Index® - New Zealand

²⁸⁴ See Corruption Perceptions Index 2018, Transparency International

²⁸⁵ See New Zealand’s official overseas reserves, Reserve Bank of New Zealand, April 7, 2020

From a physical gold investor’s point of view, New Zealand will certainly stand out with its geographical remoteness, the gentle Kiwi culture, the beautiful scenery, and the high reputation of British Common Law. Potential downsides might equally arise from the country’s geographical remoteness and related logistical difficulties to transport the physical gold.

Australia: Storing Your Gold “Down Under”

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

Charles M. Schulz

Sittin’ at home last Sunday mornin’ me mate Boomerrang. Said he was havin’ a few people around for a barbie, Said he might Kookaburra or two. I said, “Sounds great, will Wallaby there?” He said “Yeah and Vegemite come too”. So I said to the wife “Do you wanna Goanna?”. She said “I’ll go if Dingos”.

Austen Tayshus

Australia is the world’s second largest gold producer and thus well known amongst gold investors. Surrounded by the Indian and Pacific oceans and with an area of 7.69 million square kilometers, mainland Australia approximately doubles the European Union in size and is often considered to be the world’s largest island. However, the country appears bigger than it is, as most of Australia’s interior, the famous Outback, is desert and largely inhabitable. This explains Australia’s high urbanization rate, with the population core living along the Melbourne-Sydney-Brisbane corridor, while at the same time the country has one of the world’s lowest population densities, with only 3.3 people per square kilometer.²⁸⁶

Geographic isolation within the country and a small population pose one of Australia’s main challenges and are certainly one of the reasons that only in 1901 did the various states form a single, federated country, the Commonwealth of Australia. After World War II, the nation actively encouraged immigration in order to grow its population. Therefore it had to create economic opportunity and prosperity to attract the immigrants and expand its maritime trading activities. This also led to Australia establishing close ties with other maritime powers, first the UK and later the US, for protection of its ocean trade access. Increasingly, Australia must balance that alliance with the US with its growing economic integration with East and Southeast Asia, and in particular with its largest trading partner, China. Today, Australia is the world’s 14th largest economy,²⁸⁷ has the 10th highest GDP per capita at 53,825 USD, and ranks 6th on the United Nations’ Human Development Index.

One of the key drivers of Australia’s economic growth is the mining sector. Not only does the Outback hold some of the world’s largest iron and coal reserves but also the largest gold reserve, with about 10,070 tonnes or 18% of the world’s total economic demonstrated reserves. **While in the past this lode gave rise to various gold rushes, today Australia is the second largest gold producer after China, mining a record of 325 tonnes in 2019.**²⁸⁸ **The industry comprises 71 operating gold projects, of which 14 are amongst the world’s largest.**^{289,290}

²⁸⁶ See [Population Clock](#), Australian Bureau of Statistics, September 30, 2019

²⁸⁷ See [International Monetary Fund](#)

²⁸⁸ “2019 was a record year for Australian gold production”, Mining Weekly, March 2, 2020

²⁸⁹ “Australia is the world’s second largest gold producer, mining More than 326 tonnes of gold in 2019”, Gold Industry Group, 2019

²⁹⁰ SBMA: [The Australian Gold Industry, Trade, And Markets](#).

*Predicting rain does not count.
Building the ark does.*

Warren Buffett

*God bless America. God save the
Queen. God defend New Zealand
and thank Christ for Australia.*

Russell Crowe

*I think the difference between
America and Australia is very
simple. It's 20 million people
versus 350 million.*

Jim Jefferies

Australia is not only a major producer of gold but also a key player in the gold refining industry. While most of the gold mined in Australia is also refined there, an additional 112 tonnes of gold are imported for refinery purposes each year.²⁹¹ With the majority of gold mines located in Western Australia, over 90% of minting takes place in or near Perth.²⁹² Australia's mints are amongst the world's largest and technologically most advanced. The most renowned are the government-owned Perth Mint and the ABC Refinery in Sydney. Since Australian domestic gold consumption is relatively small, most of the gold is exported worldwide, with demand largely dominated by Hong Kong and China, followed by the United Kingdom, Thailand, Singapore, and India.

Australia's enormous wealth in the ground and experience in the gold trading business mean that the country down under has an excellent infrastructure to measure, deliver and store gold. This Australian gold infrastructure sets the world's highest standards, simply because of the sheer scale of the business. There exists a competitive marketplace with over 80 gold bullion traders offering facilities to buy, vault and trade physical gold.

Australia's institutions are strong and trustworthy, founded on the traditions of Britain's Common Law. In the World Justice Project's Rule of Law Index, Australia repeatedly scores amongst the top ten percent.²⁹³ **Like many other countries, Australia confiscated its citizens' gold holdings in the past. Under the 1959 Banking Act, the Australian government seized its citizens' gold in return for paper money payments.** However, this legislation was subsequently suspended in 1976. Today strict rules about gold segregation in private storage facilities exempt them from the 2017 Bank Bail-in Law, under which the government could in situations of crisis exert significant powers over banks.²⁹⁴

Australia has managed to escape the two last global recessions, in 2001 and 2008, and even achieved positive economic growth through the Asian crisis in 1997. **The Australian economy is backed by huge wealth in natural resources, strong rule of law, and a highly educated, multicultural population, which have made 27 years of consecutive annual economic growth possible.** While government debt is comparatively low, at 40.70% of GDP, private household debt increased to 119.80% of GDP in 2019.²⁹⁵

Overall, Australia is an excellent place to store physical gold securely. It offers geopolitical stability and private storage facilities that maintain the highest standards.

²⁹¹ SBMA: [The Australian Gold Industry, Trade, And Markets](#)

²⁹² SBMA: [The Australian Gold Industry, Trade, And Markets](#)

²⁹³ See [The World Justice Project \(WJP\) Rule of Law Index® - Australia](#)

²⁹⁴ ["How a Private Vault Secures Your Assets From the Bank Bail-In Law"](#), Private Vaults Australia

²⁹⁵ See [Australia Households Debt To GDP](#) Trading Economics, 2019

Dubai: The City of Gold

The third candidate we will take a closer look at is the United Arab Emirates (UAE), and in particular the Emirate of Dubai.

Gold is forever. It is beautiful, useful, and never wears out. Small wonder that gold has been prized over all else, in all ages, as a store of value that will survive the travails of life and the ravages of time.

James Blakely

The sovereign constitutional monarchy is located at the southwestern edge of the Arabian Peninsula, bordering Saudi Arabia to the west and Oman to the east. To the north, just a few kilometers across the Persian Gulf, is Iran. As vast parts of the country are dry and arid, agriculture and trade have always been arduous and bounded. This changed significantly with the discovery of oil in 1962. With most of the oil reserves located in Abu Dhabi, the emirate experienced a sudden increase in importance. Following Britain's military departure in 1971, the United Arab Emirates (UAE) formed under Sheikh Zayed bin Sultan Al Nahyan, ruler of Abu Dhabi, which by then had become the most significant and wealthiest of the constituent emirates. To date, the UAE is the only successful federation in the Arab world.

While Sheikh Zayed was aiming for a neutral and low-profile foreign policy, the geopolitical and religious tensions in the Middle East have posed some obstacles to this. Thus, when the current leader, Sheikh Mohammed bin Zayed Al Nahyan took over the reign after his father's death in 2004, he put more emphasis on the country's foreign policy strategy, aiming to free the UAE from Saudi Arabia's domination, modernizing the military forces, and establishing a strategic, mutually beneficial relationship with the US, in order to counter the more powerful regional players, Iran and Saudi Arabia, and secure the maritime routes in the Strait of Hormuz.

Today the UAE is the second largest economy in the Middle East (USD 732.9bn in 2018). Thanks to its oil riches it has developed into one of the wealthiest countries, often thought of as an oasis of stability and modernity in the Middle East. Therefore, it is hardly surprising that it has one of the world's highest GDPs per capita (USD 70,441), a number that exceeds even Switzerland's.²⁹⁶ The UAE's extraordinary concentration of wealth is greater than that of many tax havens, such as Andorra or the Isle of Man.

Over the last decades, the UAE strongly positioned itself as the financial hub of the Middle East, with modern banking and professional services. **Alongside, Dubai has also developed into an important gold trading center, where about 25%²⁹⁷ of today's global gold trading taking place. Already in the 19th century, most of the gold trade with Iran and India passed through Dubai, and later the now-famous Dubai Gold Souk emerged.** In 2002 the Dubai Multi Commodities Centre (DMCC) was established by the Government of Dubai to strengthen its position as a precious metals trading hub, and it should not surprise that it recently opened the largest non-sovereign vault in the Middle East.²⁹⁸

²⁹⁶ See [International Monetary Fund](#)

²⁹⁷ See [Gold](#), DMCC

²⁹⁸ See [DMCC Vault](#), DMCC

The best way to predict the future is to create it.

Peter Drucker

By failing to prepare, you are preparing to fail.

Benjamin Franklin

Storing physical gold at a location near your residence or at least within a reasonable travel distance is of high priority to many investors and provides a measure of safety and security. Trust in financial institutions is important, but so is physical proximity. Many people live and work in the UAE and want to store their gold close by. Physical proximity to their gold may overcome the shorter history of gold vaults in the UAE, which have only emerged since WWII.

The UAE currency, the dirham, is pegged to the US dollar, and the government has massive foreign reserves to deploy in a financial crisis – protecting its peg to the dollar. This USD peg makes the UAE an efficient and transparent marketplace and decreases the risk of local currency fluctuations and the potential for damage caused to the regional economic and political spheres.

From a governmental perspective, Dubai’s pro-gold policies have clearly proven attractive, exempting precious metals investments from taxation and establishing the Dubai Good Delivery (DGD) standard, an accreditation for gold refiners producing one-kilo gold bars for the Dubai Gold and Commodity Exchange.²⁹⁹

The UAE is extraordinarily ambitious in all respects and is growing at a breakneck pace. It has the world’s tallest building, largest hotel, largest shopping center, largest metro system, and one of the busiest international airports. By many measures Dubai does even more global business transactions than London, and the city may become the largest gold storage location in the 21st century. Already, Dubai and the UAE are the largest repository of gold in the Middle East.

While Dubai and the UAE cannot look back on a tradition comparable to the British Commonwealth, their dynamic development into the Middle East’s financial hotspot is clearly indicative of their aspirations, as well as their competitiveness in the global gold market.

Conclusion

All in all, identifying the best solution for securely storing long-term investments in physical gold and other precious metals is not only a complex task but also highly dependent on personal preferences. And it is certainly just as important a task as the decision to invest in gold itself. While many people have lost money by not investing in gold, just as many may have lost it by not storing it securely. Thus, developing a prudent strategy for how to secure physical gold is crucial. While geopolitical factors and jurisdictional peculiarities as well as personal circumstances play a key role, in the end this complex task can be reduced to one word: trustworthiness. Who is worth my trust to bear the responsibility of being the custodian of my wealth?

Strategy is something that emerges from reality, while tactics might be chosen.

George Friedman

²⁹⁹ See [Dubai Gold Market](#), Bullionstar

Plans are nothing; planning is everything.

Dwight Eisenhower

To succeed, planning alone is insufficient. One must improvise as well.

Isaac Asimov

All three jurisdictions can make a convincing argument for providing excellent gold storage that is private and secure. While New Zealand can uniquely argue in favor of its geographical remoteness, Australia can refer to its long history in the gold industry. Dubai, being the gateway to the Middle East, will certainly only grow in its importance in the international gold market.

We cannot know what the future will bring. Thus, developing a deep understanding of a jurisdiction's history and culture will always provide important insights as to whether it can be a trustworthy choice for safely securing physical gold. Diversification amongst various storage locations should be at least considered. The one perfect solution does not exist, and in every jurisdiction there is some inherent level of risk. In the end, the choice of where to store physical gold requires a customized solution based on trust.



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Monetary Endgame Ahead? When Absurdity Becomes the New Normal

“When Gold argues the cause, eloquence is impotent.”

Publilius Syrus

Key Takeaways

- Gold has a proven track record throughout history as the best protector of purchasing power.
- The future will bring more uncertainty as the ‘great moderation’ is unmistakably a thing of the past. Political turmoil will spill over to markets in a way that could make gold the most crucial part of any portfolio.
- With the current economic constellation making it impossible to create sustainable, organic (debt free) growth for the future without causing a crisis – and since doing nothing is also certain to bring forth a crisis – gold is the only way to square the circle and get through to the next decade more or less unscathed.



***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.*

*Gold is not about Armageddon ...
Gold is simply a marker, a
barometer showing the state of
confidence in the financial
system and its managers
(Central Banks) at any given
time.*

Barry Ritholtz

Inflation is a strange concept. It is mostly thought of as a general rise in prices, and while that is often, but not always, a symptom of inflation, a more sophisticated definition is – paraphrasing Murray Rothbard – “*an undue increase in the amount of money in circulation*”.³⁰⁰

By undue, we simply mean an increase in paper money over and above the amount of gold used as money. If the market, as would be likely if it were left free and unhampered, choose gold as the preferred medium of exchange, any increase in fiat currency not backed by gold should be considered undue. Working under the reasonable assumption that gold miners will supply new gold in line with overall productivity in the broader economy, the price level will not change from any given period to the next. Obviously, individual prices may fluctuate as dictated by their specific supply/demand dynamics, but overall, prices will stay stable when gold, or any other commodity, is used as the medium of exchange.

Global productivity yoy%, and gold inflation yoy% (10-year rolling average), 1820-2020



Source: Rogoff (1984), Madisson, IMF, USGS, UN, Fredrik Hansen, Incrementum AG

Over the last 200 years average gold production exactly matches global productivity³⁰¹ at the rate of 1.75% growth per annum. During the US gold rush gold production deviated from its long-term trend, and if sustained, gold would not have remained an optimal medium of exchange. As increased supply led to lower prices, gold output eventually reverted to its *steady state* and thus continued to be the best choice as a medium of exchange.

From this we can conclude that the *general* level of prices today should not have changed one iota from what it was 200 years ago. That is clearly not the case. For example, the exponential increase in commodity prices prior to the financial crisis is clearly visible when expressed in both nominal and real US dollars but disappears when expressed in gold.

³⁰⁰ See “Hyperinflation: Much Talked About, Little Understood”, *In Gold We Trust* report 2019

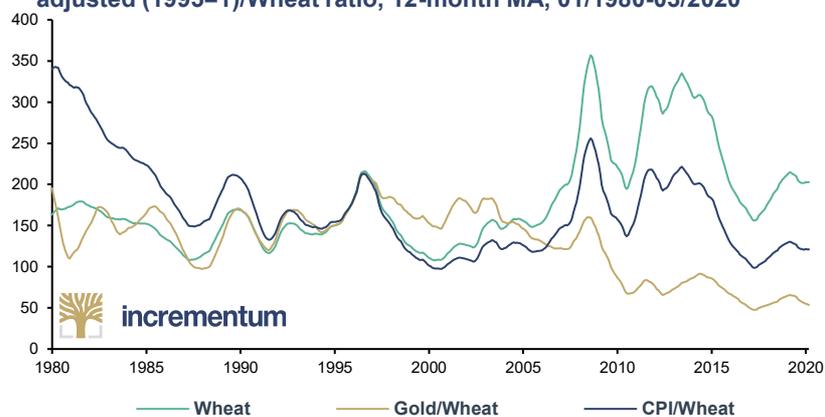
³⁰¹ Global productivity from 1820 to 2020 is calculated as real GDP per capita. Since the only way to increase living standards is through higher productivity the two should be the same over the long term. Because a higher capital stock will lead to higher depreciation and total output per capita remains steady as a larger workforce is drawn from a larger population, only productivity raises GDP per capita. World is here defined as: Belgium, Switzerland, Germany, Denmark, Spain, Finland, France, UK, Greece, Ireland, Italy, Netherlands, Norway, Portugal, Sweden, Turkey, US, Canada, Mexico, FSU, China, India, Australia, Indonesia, Japan, and New Zealand. Collectively these countries represented more than two-thirds of the global economy in 2019, and close to 90% in 1980.

Ironically, fiscal expansion, historically considered imprudent, is now the only prudent way forward.

Larry Summers

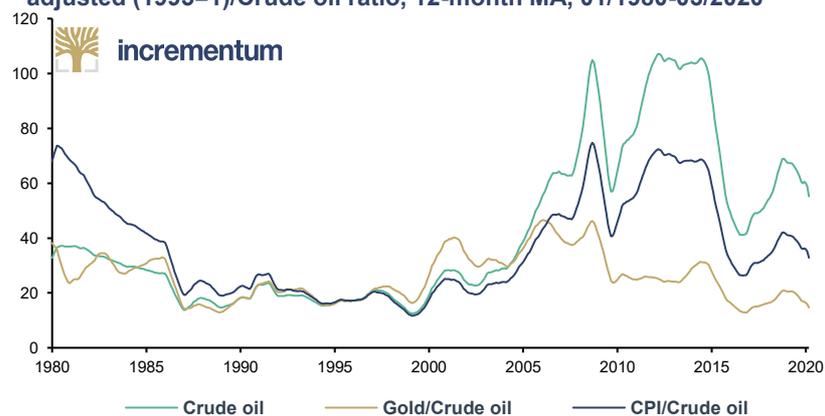
It is thus safe to say that the financial crisis was preceded, and caused, by strong monetary inflation in the global US dollar system, i.e. the eurodollar. It also clear that the purchasing power of gold remains relatively stable during times of excess, or undue, money and credit creation.

Wheat, in USD/mt, Gold adjusted (1995 = 1)/Wheat ratio, and CPI adjusted (1995=1)/Wheat ratio, 12-month MA, 01/1980-03/2020



Source: BLS, World Bank, Fredrik Hansen, Incrementum AG

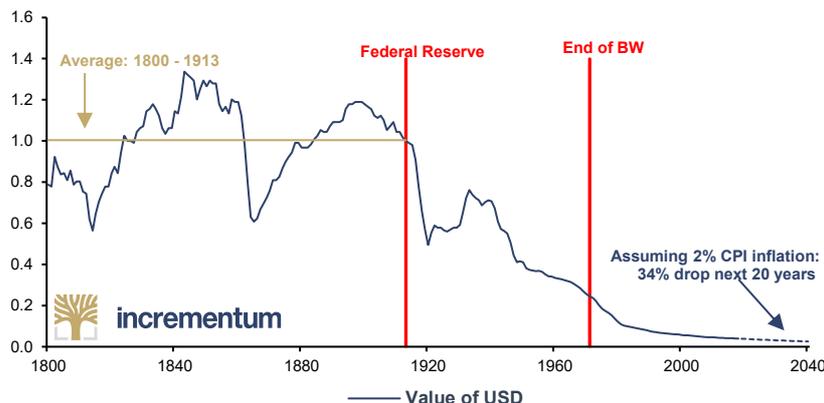
Crude oil, in USD/bbl, Gold adjusted (1995=1)/Crude oil ratio, and CPI adjusted (1995=1)/Crude oil ratio, 12-month MA, 01/1980-03/2020



Source: BLS, World Bank, Fredrik Hansen, Incrementum AG

The US dollar itself, on the other hand, does not provide a reliable store of value. It is actually falling in a very reliable fashion. But that was not always the case, as the following chart demonstrates.

Value of USD, 1913 = 1, 1800-2040



Source: Historical Statistics of the United States, Colonial Times to 1970, BLS, Fredrik Hansen, Incrementum AG

From 1800 to 1913 the purchasing power of the US dollar rose by almost 30%, although there were some big swings to the downside, especially around the Civil War. The average value in the years prior to the introduction of the Federal Reserve was exactly 1.0, which is incidentally the value to which we rebased the time series starting point in 1913 in the chart.

A currency, to be perfect, should be absolutely invariable in value.

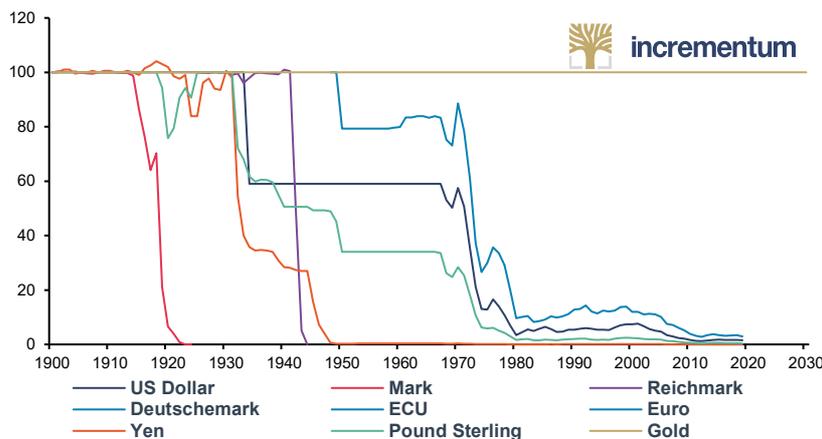
David Ricardo

In other words, the US dollar remained a stable store of value for more than a century. In contrast, from 1913 to 2019 the purchasing power of the US dollar fell by 96.5%; and if the Federal Reserve hit their two percent annual inflation target, the US dollar is destined to lose another 34% over the next 20 years. If this is indeed the case, the Federal Reserve will have managed to debase the value of the US dollar by a staggering 97.5% in less than 130 years. As we will argue below, “hitting” the two percent target has at this stage become a pipe dream.

Amazingly enough, even with such a dismal track record, the US dollar has been one of the better performing currencies over the last century. Relative to many of its peers, the US dollar held up well for many years, until they all started a race to the bottom, engaged in a strange but united mercantilist perversion founded on the belief that the road to prosperity is only possible through a weak currency, restricted imports, and maximized exports.

The hypothetical best solution would clearly be to export one single unit at an infinitely strong exchange rate, and from there be able to import whatever was needed for the rest of time. While that is obviously not feasible, it does show what to aim for, and currency debasement with a weak currency is obviously not it.

Exchange rates against gold, 1900 = 100, 1900-2020



Source: World Gold Council, Bloomberg, Fredrik Hansen, Incrementum AG

It's funny, in a human kind of way, how we can convince ourselves that we're in control at the very moment we are beginning to lose it.

William C. Moyers

Such logic does not register with the custodians of our money, though, and somehow this destructive “race to the bottom” is seen as the best way to create economic growth. The only way to achieve more growth, according to the Federal Reserve and their central banking peers across the globe, is through further currency debasement; and since organic, sustainable – inclusive, if you will – growth is not going to happen under the current regime, **policy makers are now forced to try out new and untested plans.**

When Absurdity Becomes the New Normal

The fact that an opinion has been widely held is no evidence whatever that it is not utterly absurd.

Bertrand Russell

Just as quantitative easing and negative nominal interest rates seemed far-fetched only a decade ago, we will soon see radical new policy measures, destined to shock the contemporary reader, be ‘rationally’ defended, and soon thereafter be generally accepted as conventional monetary policy tools. Imagine reading: “... *in contrast to the conventional wisdom, we find that, when banks are sound, the **Negative Interest Rate Policy (NIRP) can effectively stimulate the real economic activity** by influencing the behavior of both banks and firms*”³⁰² ten years ago?

If such hogwash had been written back then it would have been dismissed as complete nonsense or some form of skullduggery emanating from an obscure blogpost in the darkest corner of the internet.

But it is no such thing. The statement was extracted from a recent ECB working paper, written by renowned economists, and debated by equally serious peers, commentators, and policy makers.

³⁰² Altavilla, Carlo et al.: “[Is there a zero lower bound? The effects of negative policy rates on banks and firms](#)”, *ECB Working Paper Series*, No. 2289, June 2019, our emphasis

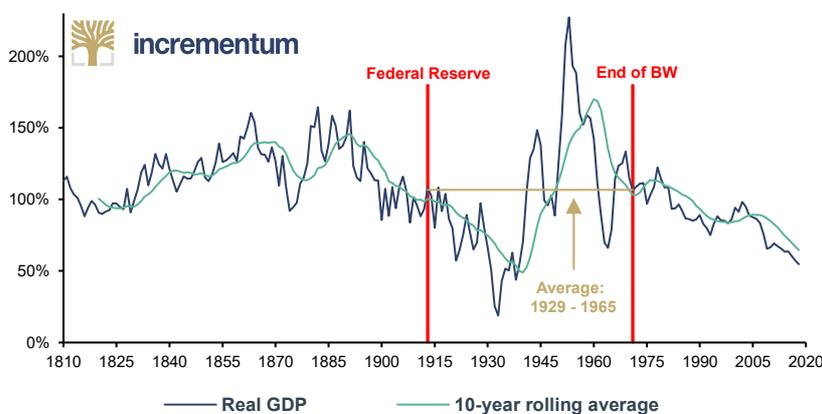
We have abolished the idea of failure – nature’s cleansing mechanism. As a consequence, we’ve lost real economic vitality. We’ve substituted finance for an industry as the locomotive of economic growth. In GDP terms, it looks terrific. But it is neither enduring nor real.

Tony Deden

Looking back, it is incredible how quickly these ideas became mainstream. Just because something sounds like utter nonsense today is clearly no guarantee against its acceptance tomorrow.

If it takes less than a decade to turn something as insane as negative nominal interest rates into conventional wisdom, imagine the damage the next ten years can do? Since the damage caused to money naturally extends to every facet of society, – as money is the universal medium that connects everything, – it is one of the most harmful things to turn on its head. **If money suddenly stems from ‘opposite land’³⁰³ then society will eventually follow.**

US real GDP growth, 20-year change, 1810-2020



Source: Historical Statistics of the United States, Colonial Times to 1970, BLS, BEA, Fredrik Hansen, Incrementum AG

Economic growth, represented in the chart above by *real* GDP growth over a 20-year period, naturally suffered materially with the introduction of centralized money. Although growth set new record highs in the 1950s, that anomaly is partly due to the very low starting point left over from the Great Depression; but it is due even more to the way the US government calculated growth during the Second World War.

During those years, the combination of excessive money printing, forced resource allocation for armament production, and price controls (distorting the deflator used to calculate *real* GDP growth) clearly flatter growth statistics to the point of rendering them useless. The Kansas farmer, rationed on everything from sugar to fuel to penicillin, eagerly awaiting news from his sons drafted to join the fighting overseas, would most definitely disagree with the statistics. For the American public, the GDP statistics claiming the economy was booming must have been an insult.

³⁰³ "Opposite Land" is a children’s book by Charlotte Rose Hamlyn, where everything is opposite to what it is supposed to be. 'Opposite Land' is "where socks wear feet, broccoli is meat, behind is ahead, and people poop from their head!"

He [man] is free to make the wrong choice, but not free to succeed with it. He is free to evade reality... but not free to avoid the abyss he refuses to see.

Ayn Rand

Disregarding the 1950s anomaly, by averaging growth between 1929 and 1965 we gain a better representation of facts. In any case, economic growth has suffered no matter how we look at it. The 60% gain achieved during the past 20 years in the US is on par with the Great Depression; and as the table below shows, the US experiment with centralized money is not a one-off. Every “advanced” economy on the planet has had the same dismal performance.

Real GDP growth, 20-year change

	1850	1900	2000	2020
Belgium	46%	52%	54%	32%
Switzerland	42%	110%	40%	41%
Germany	42%	82%	53%	28%
Denmark	52%	72%	60%	25%
Spain	42%	31%	77%	39%
Finland	35%	87%	68%	30%
France	47%	59%	58%	28%
United Kingdom	52%	62%	71%	40%
Greece	57%	46%	36%	3%
Italy	13%	32%	50%	4%
Netherlands	35%	60%	75%	32%
Portugal	4%	56%	68%	13%
Sweden	35%	57%	54%	50%
Canada	199%	112%	72%	44%
Mexico	14%	86%	69%	46%

Source: Maddison, World Bank, Fredrik Hansen, Incrementum AG

More Debt, Less Growth

The flip side to currency debasement and lower growth is higher relative debt levels. By keeping *real* interest rates artificially low, debt is subsidized and saving taxed. Such a lopsided incentive structure is bound to lead to more debt, less savings (and therefore less investment), lower growth and ultimately stagnating economies.

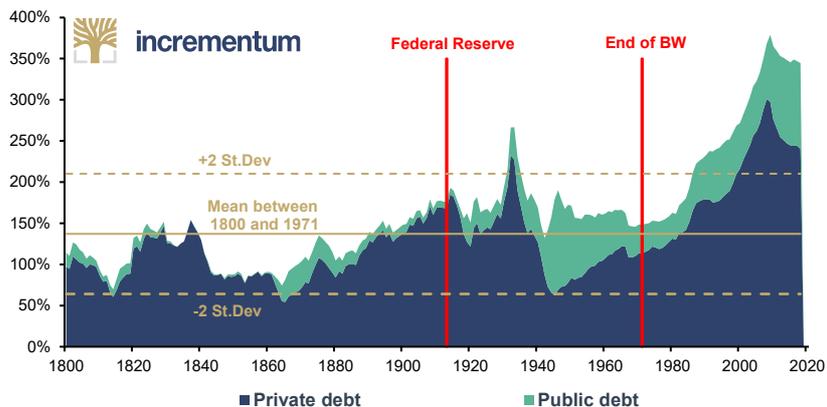
Well, it's too late tonight to drag the past out into the light.

U2, One

Note that the US economy grew from an unsophisticated agri-economy to not only becoming the dominant global economy but also leapfrogging past Europe into the technological forefront between 1800 and 1913. And contrary to what we are told today, ever-increasing debt levels were not needed to achieve this feat. From 1800 to 1971 *total* US debt averaged less than 1.4 times GDP.³⁰⁴ Today, total public debt, including federal, state and local, *alone*, is over 1.2 times GDP.

³⁰⁴ To estimate total private debt prior to 1916 we use loan statistics from state, national, commercial, and mutual banks and regress these on total debt from 1916 to 1955. Naturally, these correlate well (84%), and since data on loans exists back to 1834, we can use the regression result to estimate total debt. Public debt levels are recorded for the entire time series.

Total debt as % of GDP, 1800-2020



Source: Historical Statistics of the United States, Colonial Times to 1970, Fed, BEA Carmen & Reinhart (2010), Fredrik Hansen, Incrementum AG

And even more concerning, most of the increase in private debt is not of the productive kind that will help generate additional cash flow to service said debt and expand the economy in the future. Most is used for current consumption, which makes it detrimental to growth, as it consumes resources today, with no gain to be had tomorrow.

Private debt has gone from once being used exclusively to fund investments and help businesses grow, to increasingly funding durable consumer goods and, perversely enough, in the current – and clearly final stage of the credit supercycle – to funding an increasing share of households’ discretionary spending on nondurable consumer goods.

We no longer have business cycles, we have credit cycles.

Peter Boockvar

Credit is not supposed to be something the bank gives away, but something the debtor already possesses. **Only through hard work, reliability, and ingenuity should credit be achieved.** Centralized money reversed the causal chain, and nowadays banks and other creditors compete to *give* away as much credit as possible. Since credit enables the debtor to bid on goods and services today, for which an equal amount of resources has yet to be produced by the borrower, anything but a productive use of those resources will drain capital from society and depress future growth rates.

A society grows great when old men plant trees whose shade they know they shall never sit in.

Greek proverb

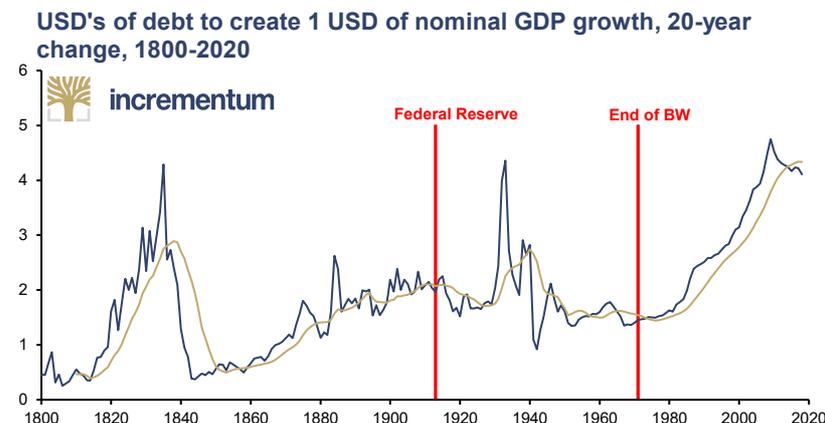
When credit is *systematically* used to fund nondurable discretionary spending, it is inevitable that expected future growth, which *implicitly* underwrites current credit expansion, will fail to materialize, simply because the resources needed to create economic growth will not be available.

From the way GDP is constructed, i.e. by counting US dollars used on spending, credit expansion is an easy way to boost growth in the short term. But unless credit is used productively, it is not really growth, it is capital consumption, which is the exact opposite of growth.

Debt is an inexhaustible fountain of dishonesty.

Henry Ward Beecher

We can prove this by looking at the amount of debt needed to create GDP growth. As shown in the chart below, the end of Bretton-Woods, the last vestige of central bank constraint, did not only propel debt levels higher, it reduced the productivity of credit creation. **In 1971, USD 1.4 of additional debt created one USD of GDP. Today the US economy needs USD 4.3 of debt for every US dollar of additional GDP.**



Source: Historical Statistics of the United States, Colonial Times to 1970, BEA, Fredrik Hansen, Incrementum AG

By deliberately pushing credit into the system, away from the historical average of 1.4 times GDP, a gargantuan debt supercycle magically created a globalized growth miracle, which unfortunately is more mirage than miracle. To further substantiate the claim that the last four to five decades of credit expansion have been, at best, unproductive, or at worst pure capital consumption, we note that the velocity of money³⁰⁵ has fallen significantly from a peak in the late 1990s.

Nominal GDP, i.e. quantity of goods and services (Y) times price (P) can also be expressed as the stock of money (M) times its circulation, or velocity (V):
 $Y \times P = M \times V$.

Conventional economics teaches us that monetary inflation, either through an expansion of money supply or alternatively through higher velocity, will boost growth, which is why central banks engage in both balance sheet expansion (i.e. increases in the stock of money) and forward guidance, i.e. altering general inflation expectations and, by extension, increasing velocity.

Debt is the match that lights the fire of every crisis.

Andrew Ross Sorkin

In our view, causality runs in the opposite direction. For any given money supply, an increase in *real* output must be countered by a drop in prices and/or an increase in velocity. However, since central banks do everything in their power to make sure prices do not adjust downwards, any adjustment must fall solely on velocity.

³⁰⁵ A reduction in the velocity of money equals an increasing demand to hold money, an increase in the velocity of money a reduction in the demand to hold money.

Funny how bonds were labelled “certificates of confiscation” back in the early 1980s when yield were 14%. What should we call them now?

Bill Gross

Bottom line, with velocity of money currently falling, output is clearly not keeping up with changes in money and credit supply. Contrary to conventional wisdom, falling velocity certainly does not mean that central banks can *engineer* higher growth rates by either manipulating money supply or by tricking people into increasing the velocity of money. Velocity is simply a market mechanism to clear output (on central bank fixed prices) to any level of money supply and not a *cause* of economic growth, as the economic mainstream seems to believe.

The incessant focus on some arbitrary construct called *the* price level has led to gross distortions in the global market economy. With tradable goods falling in price, which is the natural state in a capitalistic system, central banks have hit their inflation targets by pushing up prices of nontradable goods.

A New Feudalism in the Making

Liberty is not a means to a higher political end. It is itself the highest political end.

Lord Acton

This trend has in turn led Western households to spend an increasing share of their income on necessities such as health care, tuition, and insurance – or in Europe’s case, on an increasing tax burden. The Western world, which broke free from feudalism in the 19th century by applying the principles of the Renaissance, is currently reimposing feudal structures through credit creation. With the cost of living rising, households saddled with student debt, auto loans, and maybe even a credit card bill to bridge the gap between paychecks, are forced to take on a 30-year mortgage to afford a place to live. This no longer represent a free society. This is a society of debt serfs.

Debt is the slavery of the free.

Publilius Syrus

The new feudal lords, consisting of the increasing concentration of creditors, do not worry about cost of living expenses. *The have-nots, the debt serfs, do. For them, hope, the most important ingredient in a healthy society, is gone. There is no way out of the debt serfdom they find themselves in. They can work till retirement and still be in debt. And with hope for a better future gone, society is susceptible to radical political changes. Increasing polarization of the artificial left/right spectrum is a fertile breeding ground for populists willing to play the blame game and present easy solutions to a desperate and gullible public.*

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

In conclusion, the combination of centralized money, high and rising debt levels, and an unsustainable capital constellation with *real* resource flows dependent on continued monetary debasement to sustain itself, have removed all chances of creating broad-based and inclusive economic growth. Such growth is simply not possible without a drastic change in direction, which in itself would cause enough pain in the short run to kill any political career. In other words, the current system is no longer able to generate enough growth to bring people out of their predicament. And it is simultaneously not able to change. **It is trapped in the ultimate Catch-22.**

The easy solution, as history proves, would be significant debt relief through a debt jubilee, but in today’s unprecedented world where society is fully dependent on the financial system, that is simply not an option. Across-the-board write-downs of debt would most certainly bankrupt the

banking system, pension funds, and insurance companies and lead to a range of unforeseen consequences. Recent history suggests that inflation and the gradual and not so gradual debasement of money to boost *nominal* growth, wages and profits will be the preferred route chosen by populists in a democratic system.

“QE for the people, not for Wall Street” will soon become a winning slogan in political campaigns. The Modern Monetary Theory (MMT) school is quickly gaining popularity, and we have already seen central banks willing to adopt environmental considerations when setting monetary policy.

The trouble with the world is that the stupid are cocksure and the intelligent are full of doubt.

Bertrand Russell

Promising to credit every bank account within the central bank jurisdiction with, say, USD or EUR 10,000, will quickly bring hope back to indebted households. This has sounded far-fetched just a couple of weeks ago, as did negative interest rates and QE only 10 years ago. Yet, in the course of debating how to kick-start the economy after the lockdowns due to COVID-19, proposals like this are put forward at an ever accelerating pace.

Since sustainable growth is per definition no longer possible, QE for the people will be a solution within the next election cycle and the current financial crisis.³⁰⁶ It will also be a global solution, quickly creating soaring inflation across most monetary jurisdictions. **Therefore, we still trust in gold, in fact more than ever. It will maintain, and even increase, its purchasing power as we move into the last leg of the debt cycle.**

Why Has Inflation Not Accelerated (Yet)?

*You never give me your money,
You only give me your funny
paper,*

*And in the middle of
negotiations,*

You break down.

The Beatles

The steady loss of purchasing power of money is guaranteed by the system, but why didn't the unprecedented market intervention led by central banks in the aftermath of the global financial crisis accelerate the inflationary trend? It is true that asset prices inflation did indeed accelerate significantly. But there has not been a markedly larger loss of monies' purchasing power vis-à-vis internationally traded consumer goods than before the GFC. Why is that?

To properly understand inflation, we need to fully grasp money since “*Inflation is always and everywhere a monetary phenomenon*”, as Milton Friedman famously stated. As opposed to a pure commodity standard, where money is easy to understand, today's medium of exchange is more a theoretical abstraction with practical implications that few, if any, fully understand.

Start with *nominal* GDP, which is itself a floating abstraction, defined by various subjective ideas of what it should or should not be. Despite its vagueness, we do know that *nominal* GDP is basically a very broad measure of inflation. It is a measure of how much money was spent within a pre-defined geographical area over a certain amount of time on goods and services. As stated above, GDP is

³⁰⁶ A financial crisis with today's debt levels will initially be deflationary, quite possibly severely deflationary, which means the value of money will rise, or alternatively the prices of everything will fall. Calls for inflation of any sort will grow concomitantly with the severity of deflation.

prices (P) times the quantity (Y) sold, whether it is groceries, a Google advertisement, a taxi ride, or a snack from the vending machine – it is all supposed to be part of the overall GDP calculation. Yes, there is a complex ‘science’ behind GDP calculations, but in its crudest form $nGDP = P \times Y$.

Prices are naturally driven by the amount of money available relative to the amount of goods and services produced. But what is money? At the most basic level money is money supply times its velocity, $P \times Y = M \times V$.

That obviously begs the question: what is the money supply? We note that the central bank produces base money (BM) which a fractional reserve banking system leverage. Money supply is therefore given by the amount of central bank supplied reserves and physical cash times a leverage ratio, or multiplier (m).

What is needed for a sound expansion of production is additional capital goods, not money or fiduciary media. The credit expansion is built on the sands of banknotes and deposits. It must collapse.

Ludwig von Mises

...Gold is a currency. It is still, by all evidence, a premier currency. No fiat currency, including the dollar, can match it.

Alan Greenspan

This is where our somewhat tedious discussion finally gets interesting.

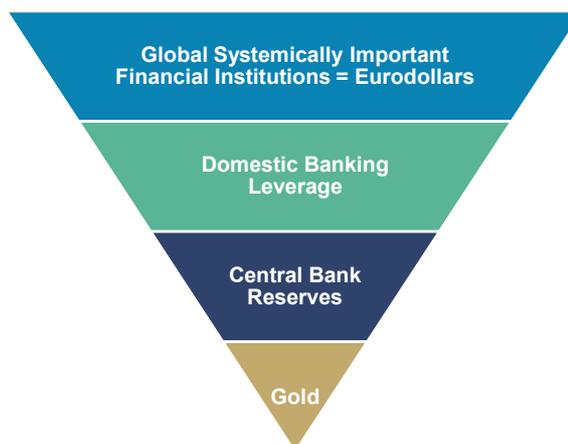
Financial leverage, or the banking multiplier, is determined by overall balance sheet capacity in the banking system, which means the money supply itself is largely a function of all the factors that affect balance sheet capacity, such as regulatory requirements and regulatory arbitrage, collateral values, interest rates, risk perception and economic growth. With balance sheet capacity it is important to distinguish between domestic and globally integrated banks. Domestic banks supply US dollar liquidity to agents domiciled within a currency jurisdiction, such as the US. Domestic banks leverage base money from the central bank by creating currency units, such as euros or dollars for which no euros or dollars actually exist – the standard *fractional* reserve banking process of lending money into existence.

On the other hand, globally integrated banks create so-called eurodollars³⁰⁷, i.e. claims to fiat dollars (mostly US dollars) for which no fiat dollars exist. Eurodollars are yet another layer of leverage on top of already leveraged money. Eurodollars are basically a financial derivative of a derivative – derivative squared, if you like. As the inverted pyramid shows, supply of US dollars is to only a very limited extent controlled by the Federal Reserve.³⁰⁸

³⁰⁷ For further information we recommend: Snider, Jeffrey, Yusko, Mark and Gromen, Luke: “[The Eurodollar University](#)”, MacroVoices.com

³⁰⁸ See “[The Enduring Relevance of Exter’s Pyramid](#)”, *In Gold We Trust* report 2019

Inverted Pyramid of Dollar Leverage



Source: Fredrik Hansen, Incrementum AG

Banks spanning the globe have created an intricate system whereby their balance sheet capacity creates internationally accepted liquidity, used by all sorts of institutions around the world. Trade credit, hedges, forwards, swaps and a range of other products all depends on global banks having the balance sheet capacity to accommodate.

Global money supply is therefore a function of two multipliers, the domestic one (m_D) and the global one (m_G), which yields the following: $M = (m_D \times BM) + (m_G \times (m_D \times BM))$.

Depicted in the chart below, the exponential increase in global banking assets, rising from less than USD 4trn in 2000 to more than USD 20trn at the eve of the financial crisis, caused a massive inflation, distorting capital structures and funding malinvestments on a global scale.

When trust and confidence weaken, a small accident may greatly hurt.

Walter Bagehot

As the financial crisis put an abrupt end to further eurodollar expansion, central banks scrambled to re-create the lost balance sheet capacity that the eurodollar system once provided. Although central bank actions were unprecedented, and while the trillions of US dollars through QE were admittedly sizeable in comparison to the eurodollar system, the central banks never managed to bring the system back to the exponential trend-line that pertained as multinational banks expanded their assets prior to the crisis. In addition, there was, and still is, not a chance that central banks can bring liquidity into every dark little corner of the global financial system. To do that they would need to *become* the market. On the contrary, central bank liquidity has become a Wall-Street merry-go-round used to secure funding for government deficits and in the process enrich those with financial assets.

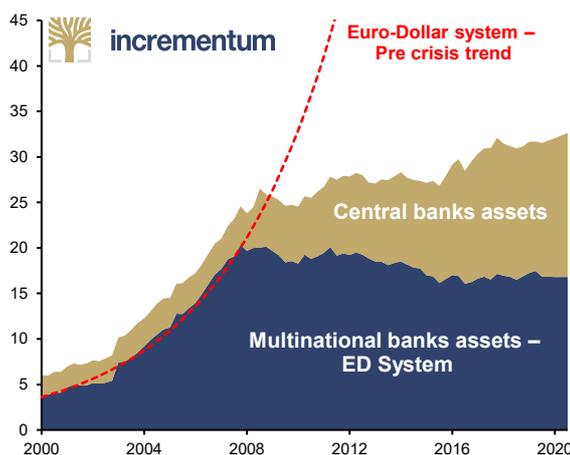
Inflation did not accelerate simply because the money supply central banks created was ineffectual, or because, weird as **it may sound, central banks were too**

timid to do anything on the scale the broken global banking system once did.

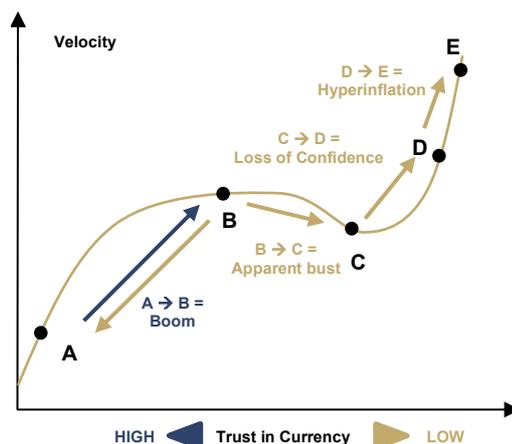
However, our argument of higher inflation does not rely on the multiplier but rather on velocity. In a normal business cycle, velocity moves between A and B, as shown in the second chart below. As the boom gains traction, agents are less willing to keep currency and more willing to invest and speculate (and consume) with their money. The banks, spurred on by improved collateral values, help drive the boom with increased balance sheet capacity as they lend more and more money into existence. Global supply of US dollars increases, too.

However, as boom inevitably turns to bust, economic agents become less willing to hold claims to dollars and rushes to get hold of actual dollars. In the process they drive the value of money up or, stated differently, they pull prices of everything denominated in dollars down in a vicious deflationary cycle. A typical boom-bust cycle can be thought of as a tug of war between A and B.

Euro-Dollar System



Velocity of money: A stylized example



If, on the other hand, economic agents do not flock to US dollars as in past bust phases but instead lose confidence in the soundness of the currency, a different chain of events will unfold.

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

At first, moving from B to C, the end of a boom may appear as a normal down cycle. Investors will sell assets such as growth stocks, venture capital, industrial commodities, value stocks, and bonds to raise cash – not because they believe in the value of the currency but because they want to rid themselves of financial assets they think are vulnerable in order to buy safer assets such as real estate, farmland, and gold, silver and other precious metals. **Money is just a steppingstone to get to where investors really want to place their wealth.**

Since a move from B to C looks like a bust, it will prompt central banks to initiate their conventional policy of lowering rates, if possible, and they will expand their own balance sheets to supply liquidity. In this stage central banks will only

exacerbate the loss of confidence and bring forth the move from C to D even faster. Investors want to get out of the currency, and central bank actions are only making matters worse.

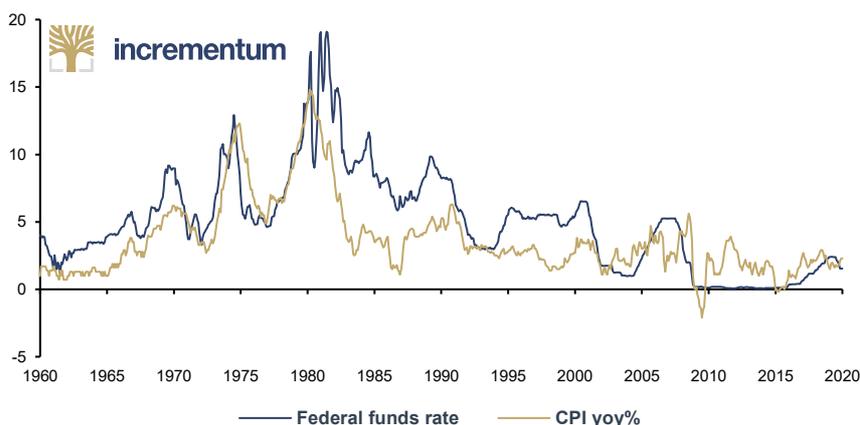
This is the precarious situation the US dollar was in in the late 1970s. It took a strongly resolved central bank to get control over the situation, with large economic costs in terms of deflation and deep recession. If the Federal Reserve, under its chairman Paul Volcker, had not acted with determination, a complete loss of confidence would have accelerated inflation ever higher, depicted above as the move from D to E.

They've done studies, you know. 60 percent of the time, it works every time.

Brian Fantana,
Anchorman movie

In the 1970s US federal debt was less than 40% of GDP, compared to more than 100% and growing today. We should not expect central banks to act with the same resolve if a similar loss of confidence were to occur today. Raising nominal rates to double digits, pushing *real* rates higher, will inevitably lead to widespread deflation and cascading debt defaults. Due to lag effects from debt rollover, the exceptionally high interest rates of the 1970s and early 1980s pushed debt-servicing costs to almost 5% of GDP in the 1990s. Higher rates on federal debt in today's market will basically bankrupt the US government.

Federal funds rate, and CPI yoy%, 01/1960-01/2020



Source: Bloomberg, BLS, Fredrik Hansen, Incrementum AG

One of the most nefarious consequences of dishonest money is to destroy our ability and willingness to act responsibly in light of our own judgments. It has led us to replace common sense by compliance.

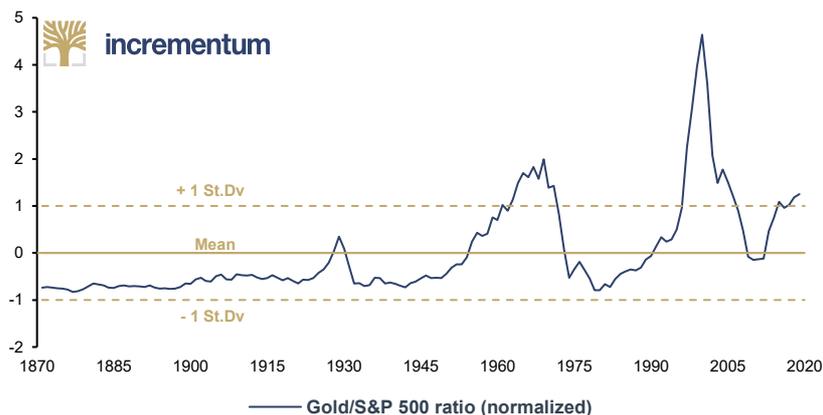
Tony Deden

Faced with rising inflation due to higher velocity as confidence in the US dollar evaporates, central banks will have to make a tough decision, either to “stimulate” growth in a stagflationary economy, risking even higher inflation, or to fight inflation by crashing the economy into deflationary depression. Somehow, we doubt a debt-crushing deflationary monetary policy is ever on a central banker’s mind. Recent events and the drastic measures taken by central banks around the world clearly confirm this view.

Relative Valuation

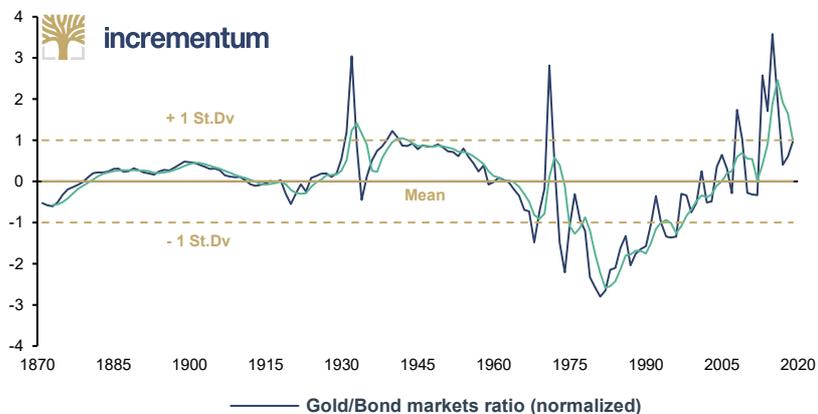
The nominal price of gold may look expensive. At more than 1,700 USD per ounce, it is close to record-high levels, but this view is clouded by the constant debasement of the US dollar. The better way to look at gold is by comparing it to other assets and from there make a judgment on gold's true price.

Gold/S&P 500 (normalized), 1870-2020



Source: Case/Shiller, MeasuringWorth, Fredrik Hansen, Incrementum AG

Gold/Bond markets ratio (normalized), 1870-2020



Source: Case/Shiller, MeasuringWorth, Fredrik Hansen, Incrementum AG

We use the ratio between gold and any particular asset and then normalize it to see how many standard deviations gold is priced away from the comparable asset. The exercise is straightforward for other *nominal* time series like the stock market or various commodity markets, but we must be a bit more creative when comparing to mean-reverting markets like the bond market.³⁰⁹

The results for two markets are shown above. They clearly depict a grossly overvalued US stock market. The US stock market was only more overvalued compared to gold during the height of the dot-com bubble and in 1968,

³⁰⁹ Specifically, since interest rates, or in this case, our calculated hypothetical bond price, will by definition fluctuate around a mean, we compare the bond price deviation from mean to the gold price deviation from its underlying trend using a so-called HP-filter.

just as the Bretton Woods devaluations started.³¹⁰ Compared to bonds, gold has hardly ever been cheaper. And were we to use a German Bund instead of the US 10-year note, the results will be even more damning for bonds and flattering for gold.

Conclusion

To sum up, a systemic use of credit for current consumption has robbed the future of economic growth – the very growth that has been pledged as “collateral” for all the outstanding debt. Naturally, the debt must be defaulted upon. An overt default will not only bankrupt the financial system but also the middle class, as their pension savings are written down. **The only feasible option politically is covert default through the printing press.**

Since “good old-fashioned” QE has led to extreme wealth inequality, the next political cycle will be won by candidates promising “QE for the people”. Low economic growth and low wage growth will make radical change palatable to the electorate. **Gold, which is relatively cheap compared to other assets, will be the best hedge against the inevitable political and economic developments that will define the 2020s.**

Any damn fool can run a printing press.

Bunker Hunt

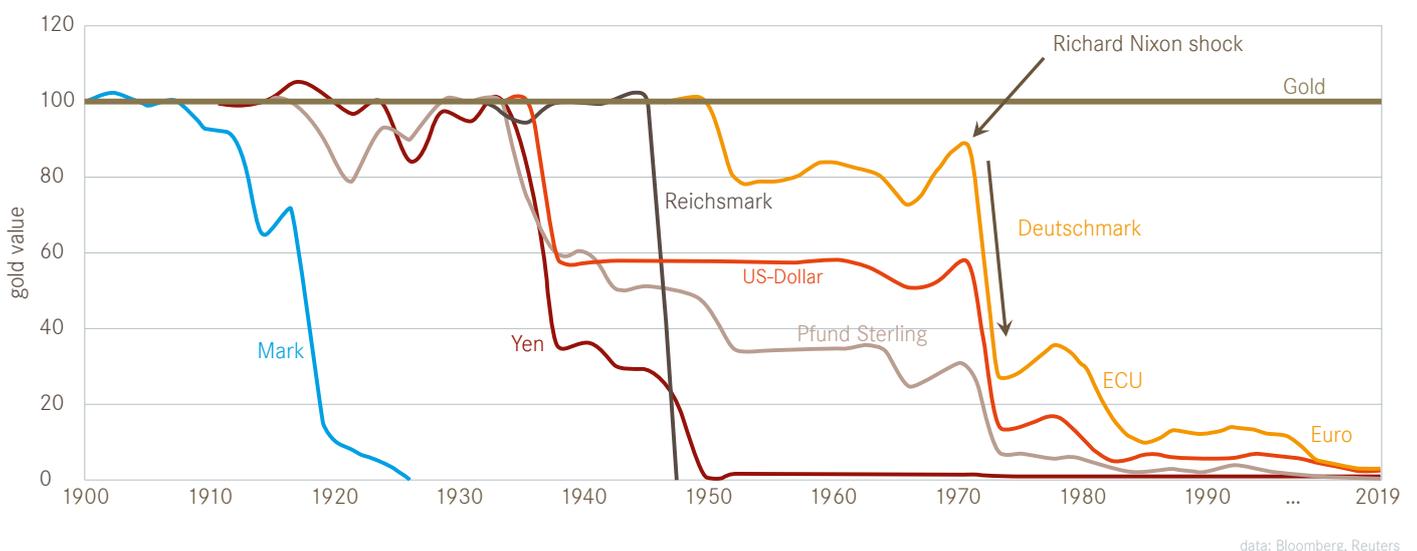


Courtesy of Hedgeye

³¹⁰ At this point in history inflation affected stock markets, but gold was still (price) controlled. As soon as Nixon let the dollar float versus gold, the price of gold caught up with accumulated inflation.

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professional all-in-one asset protection partner!



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

Gold and Silver – a Biblical Perspective

“Gold represents the unsurpassable medium of accumulated value, based on its chemical and physical properties, scarcity while sufficiently available, and the amount of labor required to mine it and refine it to a pure, undiluted state.”

Key Takeaways

- There are seven Hebrew words used in the Bible’s Old Testament and one Greek word used in the New Testament that translate to gold. As a rule, these words have different secondary meanings applicable to the contexts in which they are used.
- Gold has a purpose – to serve as the ultimate medium of accumulated value – as it combines material substance with unique properties and the human labor required to extract and purify it.
- Silver is money because it does not have a value expressed in other measurements. Silver *is* the value, and the value of a transaction is determined by the weight of silver transferred from buyer to seller.
- Based on biblical principles, long-lasting wealth can be built only using non-conditional assets (i.e. “without counterparty risk”).

There can be few fields of human endeavor in which history counts for so little as in the world of finance.

John Kenneth Galbraith

In the beginning, there was the ratio, and the ratio was with God, and the ratio was God.

John 1:1*

The more I study science, the more I believe in God.

Albert Einstein

Loyal readers know that the *In Gold We Trust* report is intended to present a holistic analysis of gold. While for the most part the *In Gold We Trust* report looks into the present and the future, we do also look back to the past to better understand gold and the social and economic context in which gold is appreciated or despised. This year our historical journey does not only go far back in time, but also to territory that is probably yet uncharted, especially for our readers in Europe and Asia, as we inquire into the standing and reputation of gold and silver in the Old Testament. *Prima facie* this journey may seem to be a transgression, but have a look yourself!

The Words that Translate to Gold

In the Hebrew version of the Old Testament, there are seven words that are translated in the different English versions to “gold.” Seven is also the biblical number of perfection. Determining the exact number of occurrences is not a straightforward endeavor, mainly due to different grammatical forms of the words. Sometimes the words are nouns (referring to the metal itself), while other times they occur as adjectives or are used in more complex constructions.

It is important to observe that these Hebrew words stem from root words with different meanings. Hence, the passages where these words are used in the original text reveal secondary meanings that are not always reflected in modern translations.

The seven words translated to “gold” are:

1) *Zahav* [Strong’s³¹¹ #2091] is the most used word in the original text, occurring 389 times, and it refers to “gold (or golden) in a raw state.” *Zahav* stems from a root word which means “to shimmer” or “to shine.”

2) *Dehab* [Strong’s #1722] is the second most used word translated to gold (23 occurrences). This word originates from the Aramaic language, and it occurs only in the books of Daniel and Ezra, as entire passages of these books are written in Aramaic.

3) *Kethem* [Strong’s #3800] occurs nine times and refers to the metal in its original state, as in “originally mined.” *Kethem* stems from a root word meaning “inscribed with a permanent, indelible mark.”

4) *Paz* [Strong’s #6337] also occurs nine times. It refers to the mineral in its refined state and, therefore, is used as a symbol of purity and glory. *Paz* stems from a root word meaning “to be refined” (verb in passive form, indicating that the refining and purification process is done by an exterior party).

³¹¹ *The Exhaustive Concordance of the Bible* by James Strong, commonly referred to as “Strong’s Concordance”, was first published in 1890 and is an index of the words that appear in the King James version of the Bible. The concordance also includes an index of the Hebrew words used in the original text of the Old Testament and the Greek words used in the original text of the New Testament.

5) *Charuts* [Strong's #2742] is a word that translates differently depending upon the context, but six occurrences are translated to gold. It is used in contexts that link gold to “knowledge” and “wisdom”, as the same word also means “decision”, “diligence”, “sharp”, or “incisive”.

6) *Segor* [Strong's #5458] occurs two times in the book of Job, referencing gold as a solid, with the meaning “enclosure”, or “encasement.”

7) *Betsar* [Strong's #1220] also occurs two times in the book of Job, and it refers to gold as “precious ore”, or “ingot”. It stems from a root word meaning “fortified”, “impenetrable”, or “inaccessible”.

In the original text of the New Testament, written in the Greek language, gold is expressed using different grammatical versions of one word, *chrusos* [Strong's Greek #5557] – *chrusion* (a piece of gold), or *chrusous* (golden, made of gold). *Chrusos* is also used in the sense of a “symbol of profound purchasing power or potential acquisition”.³¹²

The Purpose of Gold

“[...] the land of Havilah, where there is gold. And the gold of that land is good.”

Genesis 2:11-12

Your faith is far more precious than mere gold.

1 Peter 1:7

One of the most important rules in Bible interpretation [a.k.a. *hermeneutics*] is the Rule of First Mention. According to this principle, the context in which a concept is mentioned for the first time will be used to determine the main applicability of that concept. Since the verse quoted above is the first time the word *zahav* (*gold*) is mentioned, the overall context is definitory for gold.

The statement that gold is “good” needs to be understood beyond the literal meaning of the word. It means: (1) gold serves a purpose, and (2) a principle is established to make sure the purpose is fulfilled.

As a general rule, when the purpose of a thing is misunderstood, it will either be misused or not used to its fullest potential. Therefore, understanding the purpose of gold is very important.

Gold has the purpose of serving as the *ultimate medium of accumulated value*. This conclusion can be drawn based on analyzing chapters 1 and 2 of Genesis, where a clear connection is made between *material substance* and *human labor*. Beyond the theological perspective, mankind was given a clear economic mandate: to have dominion over the Earth and manage its resources for growth.

³¹² HELPS Ministries: [The Discovery Bible](#)

It is advisable for one that he shall divide his money in three parts, one of which he shall invest in real estate, one of which in business, and the third part to remain always in his hands, as it may happen that he will need cash for a profitable transaction.

**Talmud, Bava Metzia,
 Chapter 3**

This mandate can be carried through only because *labor* and *economic growth* are inseparable. Where no human labor is involved, everything depreciates, stagnates, or grows chaotically. Through work, man is supposed to cultivate selectively and multiply the more desirable and enjoyable elements of life, while protecting them from predators or the chokehold of weeds. Further, as economic growth and development require *created value*, value can be created only when these two elements, material substance and human labor, are present and combined.

Gold represents the ultimate material substance when we take into consideration a variety of aspects:

- chemically, it does not combine naturally with other elements;
- it resists erosion and attacks from the environment in which it is placed, even very corrosive ones;
- it is scarce while sufficiently available; and it is difficult to extract and purify.

If we add to these properties the amount of labor required to mine it and refine it to a pure, undiluted state, we understand the purpose of gold: It is the unsurpassable medium of accumulated value.

Silver Is ... Money

“Abraham weighed to Ephron the silver, which he had named in the presence of the sons of Heth, four hundred shekels of silver, current money with the merchants.”

Genesis 23:16

The Hebrew word *keseph* (Strong’s #3701) has a dual meaning — “silver” and “money.” This can be observed because *keseph* is used in different contexts, sometimes referring to values in commercial transactions, sometimes referring to objects made of silver like cups, bowls, tools, etc.

Silver and gold belong to God, but he has given us the privilege to own it; because he is a God of Grace.

Gift Gugu Mona

Hebrew is not the only language in which the same word is used for both *silver* and *money*. In Greek, the language of the New Testament, the word *arguros/argurion* has the same double meaning. This is also the case in French, where the word *argent* means both “silver” and “money”.

Like any material that requires labor for extraction and refining, silver has its own value, defined by its availability, desirability, and the amount of labor required for extraction and refining.

A careful reading of any verse where *keseph* is used as a “measure of value” will reveal that the value of silver, as a medium of exchange, *is expressed directly in its own weight*. Regardless of which biblical translation is used, these passages make a clear reference to the weight of the silver. In most cases, the word used is *shekel* (Strong’s #8255), and this is not a measure of value, but a measure of weight.

Shekel comes from the root word *shaqal* (Strong's #8254), which means “to weigh”.

When Abraham wanted to purchase a plot of land to bury his wife (Genesis 23), he weighed four hundred shekels of silver as payment.

Further, the text makes it clear that silver is “current money with the merchants”. A closer look into the original text will reveal that “current money” can also be interpreted as “acceptable for exchange by those who travel around”, as the words imply a form of transition, both as an *exchange of position* and *acceptance*.

Also, the same connection between silver and weight can be seen in the New Testament, where we learn about Judas betraying Jesus for “thirty pieces of silver”. The Greek word used to describe the payment is *histemi*, meaning “to weigh” and it corresponds to the Hebrew word *shaqal* used in the Old Testament.

In conclusion, silver, like gold, does not have a value. Rather, silver is the value, and the value of a transaction is determined by the weight of silver transferred. Hence, silver is money.

Abram’s Riches — A Complete Economic Model

“Abram was very rich in cattle, in silver, and in gold.”

Genesis 13:2

Gold was a gift to Jesus. If it's good enough for Jesus, it's good enough for me.

Mr. T.

Abram, later known as Abraham, was one of the patriarchs of Judaism and Christianity. A deeper analysis of the fact that he was very rich in cattle, in silver, and in gold will reveal a complete and cohesive economic model, consisting of three fundamental economic functions that all humans need and that all economies are built on:

- Production
- Exchange
- Wealth accumulation

Abram’s livestock was his *productive* source of revenue, which sustained him and his family. It also ensured a flow of goods that was not only constant, but also steadily increasing. As the herds produced more goods than he and his family would ever be able to consume, he needed to exchange the overflow into an alternative form of goods – something that would not only last beyond the normal lifetime of meat and dairy products, but also be acceptable among the wider population. Using metals as a medium of exchange proved to be very convenient because of their universal acceptance. Hence, Abram traded the products of his herds for *keseph*, which is money in the form of silver pieces. In trading his

productive overflow for silver, Abram accumulated a non-perishable asset that could be used later to acquire whatever he and his family needed.

Therefore, Abram’s silver represents the second fundamental economic function: exchange. As his herds of cattle kept growing, and the silver also increased in such abundance that he could not use it all, Abram exchanged the excess silver for gold. Since it is approximately 15–20 times scarcer than silver, gold is much more valuable and can be used to store high values in a concentrated form.

While both silver and gold are precious metals and serve as the Bible’s defined mediums of exchange, their usage is different. Silver is used for everyday transactions, in which the value of the goods and services exchanged is relatively low. Gold is used for higher value transactions, wealth accumulation, and wealth transfer to future generations.

*May your home be filled with
 laughter,
 May your pockets be filled with
 gold,
 And may you have all the
 happiness,
 Your heart can hold.*

Irish Blessing

Based on biblical principles, long lasting wealth building and accumulation cannot be accomplished based on assets that represent someone else’s ability to perform, whether that party is an individual human or any entity created by man. In modern vernacular such assets are said to carry *counterparty risk*, as the assets’ value is derived from the other party’s ability to deliver or provide based on a promise. Being subject to circumstances outside their own control, human individuals and entities created by man can only make conditional promises.

On the other hand, only assets that are non-conditional, i.e. “without counterparty risk”, can be considered God-given assets, simply because God alone can make unconditional promises. As a rule, such assets are tangible and have intrinsic value – meaning that the value is attached to the asset itself and is conferred by the asset’s ability to satisfy a human need. Examples of such assets are land, real estate, mineral resources, and precious metals. The owner possesses the asset, and no other party has to provide or perform anything in order for the value of that asset to be maintained.

The astute economist and investor of today may find it important to respect the long-lasting validity of the principles revealed by Abram’s wealth, as they reveal a complete economic model that is still valid:

- All three economic functions are necessary for a good life.
- Owning productive assets without growing them and accumulating for the future will make one totally dependent on the activities performed with those assets. Once the productive flow slows, so does consumption.
- If a significant amount of money is suddenly gained (by inheritance, lottery, etc.) but there is no production, consumption will dry out the entire stash of cash.
- If no wealth is accumulated, there are no reserves for times of economic downturn, and nothing will be left for future generations.

Summary

In the Bible, gold's being defined as "good" means that gold serves a purpose. Because of its physical and chemical qualities, scarcity, and difficulty to extract and purify, gold is the ultimate medium of accumulated value and wealth.

Referring to the process of creating the Earth and giving mankind the mandate to take dominion over it, **the Bible reveals an important principle for creating economic value: the requirement for two basic elements: material substance (matter) and work (labor).**

*A golden key opens every door
except that of heaven.*

Danish Proverb

Work represents man's contribution to growth and development, using natural resources. Where no human labor is involved, everything depreciates, stagnates, or grows chaotically. Through work, man is supposed to cultivate selectively and multiply the more desirable and enjoyable elements of life.

Equally important, gold does not represent someone else's liability. Assets that represent someone else's liability derive their value from that party's ability to deliver according to a promise. Only assets with intrinsic value can be considered God-given, simply because God alone can make unconditional promises.

In the original biblical languages, Hebrew for the Old Testament and Greek for the New Testament, money and silver are expressed by the same word. Throughout the entire Bible, silver is the medium of exchange designated to be used by merchants, and it was used for trade, and payment for labor, rewards, and even betrayals.

*If you can't accept the thesis that
gold is the ultimate money, then
you're 'out of it' and in denial.
And most likely, you will not
understand the coming big
picture.*

Richard Russell

Neither gold, nor silver has value expressed in other units of measure. Their value is expressed directly in their own weights. Everything else that is valuable including other assets, properties, commodities, goods, services, or performed labor is measured against a certain weight of these metals. **The open question is – would our modern society and lifestyle allow for a return to "biblical money", i.e. gold and silver?**

As modern trade is mainly based on mediums of exchange with no tangible value, except for their general acceptance, the key mistake made today is to mix up the technology used to transfer value with the value itself.

The fundamental problem of the existing monetary and financial system is not related to technological developments. Instead, the root problem is that the system is based on forms of "money" for which the material component is totally absent. **A return to a sound money based economic system does not mean a return to carrying around heavy coin pouches filled with gold and silver pieces and doing away with technological advances.** Technology can still be used to immediately transfer value from one party to another – value that is backed by different weights of gold and silver stored in vaults around the world.

in gold we trust
report
Gold has been money for many thousands of years. Gold is mentioned repeatedly in the Bible. Every civilization and every government in history has treasured gold...It's been said that gold is built into man's DNA.

Richard Russell

In the absence of political will, the answer to our question may depend upon what and how long will it take for individuals to be capable of creating a critical mass that will adopt – using the latest digital technologies – a value exchange system based on gold and silver. **So, as odd as it may have seemed prima facie, the Old Testament confirms the principles that the *In Gold We Trust* report, the “bible” of gold reports, has supported ever since its first edition.**

From Money to Gold

“If there are so few people today, even among my own colleagues, who grasp the deepest essence and workings of the capital market and the banks that control it, it is only because the knowledge of money is so bitterly lacking today.”

Alfred Lansburgh, alias “Argentarius”

Key Takeaways

- The book *Vom Gelde* (“About Money”) describes money as an immaterial legal claim to an economic output preceded by an equivalent output.
- Money can only arise from daily economic transactions. No state or authority is able to create money. To artificially multiply monetary units – a process called inflation – is an unlawful manipulation of an economy.
- A commercial effort must have been made in the economy, from which effort a good was created that in itself carries the guarantee of the greatest possible stability of value. Only such a claim to goods is a genuine, legally created means of payment.
- Gold’s unique physical properties enable it to represent this greatest possible stability of value.



***About the Author:** Maik Enders, a dedicated proponent of Austrian economics, is an investment consultant, professional speaker, and risk profiler. For more than twenty years he has been engaged with the challenges of the monetary system, financial-market history, and economics. He wants to publish the first English version of *Vom Gelde* (“About Money”) to bring the knowledge gained from it to a wider readership. Further information can be found at www.maikenders.com.*

Some books fundamentally transform entire scientific fields. Adam Smith's *Wealth of Nations* and Charles Darwin's *On the Origin of Species* are two of the most famous examples.

However, the work presented here, which its author describes as a “complete monetary theory”³¹³, is still largely unknown. Alfred Lansburgh, alias “Argentarius”, wrote it in the 1920s during the days of the Weimar Republic. His “Letters of a Bank Director to His Son” – that is the book's subtitle – have the potential to become a fundamental work of monetary theory.

First, Lansburgh discusses the praxeological fact that people have been exchanging goods and services since the earliest times. If such transactions take place in complete agreement on all parameters, they are called barter transactions. But even in such primitive transactions, there has rarely been a mutual agreement on the values of the goods offered, the place of exchange, or the time of the transaction. For this reason, in the beginning, the equivalent value of a good or service was often deferred in whole or in part. Credit is thus as old as human economic transactions.

It is the economic effort that creates money, not the state.

Argentarius, About Money

Here the abstract (or immaterial) character of money is immediately revealed. Because one or a few open transactions can be remembered by the acting parties, no physical means of payment is required. The two actors' knowledge that they have agreed that payment will be deferred is the only prerequisite for the creation of money.

The Optimal Means of Payment

A short example will serve as an illustration. In a traditional society, a fisherman needed a new boat. A carpenter made one for him after one week of production time. In exchange, he asked for a hundred fish. However, this quantity was not suitable for immediate consumption, so this situation demanded a different solution. Thus an agreement was reached that the fisherman would hand the carpenter ten fish every week for ten weeks to pay his outstanding debt *peu à peu*. As long as this transaction was not completed in full, the carpenter's claim to the outstanding consideration remained.

Those who do not understand the past do not really understand anything.

Stefan Zweig

The faster the population grew, the more the society flourished, and the more the economy developed based on the division of labor. As a result, credit became increasingly common. Thus, in the interest of maintaining clarity, a trustworthy accountant was chosen by the society's members to record these open transactions in writing. But even this solution quickly reached its limits. Consequently, a standardized pledge was developed, which at the time of the exchange was given by the buyer to the seller as collateral for the outstanding consideration. The monetary unit or means of payment – not the money itself – was created.

³¹³ See Lansburgh, Alfred: *Valuta*, 1921, Introduction

Never have the world's moneys been so long cut off from their metallic roots.

Murray Rothbard

The introduction of an optimal monetary unit was the prerequisite for credit's no longer appearing outwardly as such, without depriving it of its function in commercial transactions. The legal claim to the outstanding consideration was thus secured by this physical instrument that is now commonly called "money". However, we must call it a monetary unit. Any existing monetary unit means that someone has not yet received the counter value to which he has a claim.

Therefore, every time a good is exchanged for a monetary unit, a new right to receive goods is created – that's the sale. Such a right expires in the same transaction – that is, in the purchase, the handing over of the means of payment. The legal claim securitized in money is objectivized by the means of payment and circulates in the national economy. In this way, the monetary unit enters eternal circulation.

The means of payment provisionally replaces the outstanding consideration. It is therefore usually regarded as the consideration itself. Paradoxically, this often leads to the view that money is a commodity that can and should be increased or reduced according to plan. However, there is never too much or too little money. **Rather, the correct amount of money corresponds exactly to the number of open transactions in an economy.**

There is always just as much money circulating in a country as there are acts of exchange that have been carried out but not completely settled, but that rather remain in abeyance, so to speak.

Argentarius, About Money

As is well known, throughout history, states and central banks have made countless attempts to control the amount of the means of payment. The regular failure of this approach can be compared with the attempt to eliminate a housing shortage by adding entries in the land register and the cadaster of houses. For no one is in a position to increase or decrease an abstract right. The housing shortage remains as long as no new houses are built. Likewise, the prosperity of a nation does not increase through issuing new legal claims on goods and services that have not been produced.



Courtesy of Hedgeye

This is illustrated by observing a patron handing over his coat at the cloakroom of a theatre. He receives a token in return. With this token, he can exercise his right to claim the deposited garment after the performance, and the claim thereby expires. But what is the actual value here? If the theatre were to tell the guest that he would not get his property back in exchange for his token, that would be fraud.

In today's financial system, this type of fraud is omnipresent. This is because governments, in conjunction with central and commercial banks, are using the fractional reserve system to create new monetary units out of thin air in the form of fiat money. Artificially and arbitrarily created means of payment are, however, legal titles for the receipt of consideration without prior equivalent consideration and thus are counterfeit. Such a procedure results in the partial expropriation of all existing monetary units. A redistribution of wealth via the Cantillon effect arises.³¹⁴

³¹⁴ See "Cantillon effect describes unequal distribution of newly created money", In *Gold We Trust* report 2013; Taghizadegan, Rahim, Stoeferle, Ronald, and Valek, Mark: *Austrian School for Investors: Austrian Investing between Inflation and Deflation*, 2014, pp. 135ff.

The “Value” of Money

Acquiring gold is not an investment. It is a conscious decision to REFRAIN from investing until an honest monetary regime makes rational calculation of relative asset prices possible.

Andreas Acavalos

By issuing monetary units, the state does not create new money, but taxes one part of the population in favor of the other.

Argentarius, About Money

The decline of its currency is probably the greatest misfortune that can strike a people. Even a war that is lost does not bring them as much immediate harm as the ruin of their monetary system.

Argentarius, About Money

What is the “value” of money in this consideration? As an abstract right, money cannot have a concrete “value”. In the example of gold coins, it is not the money or the right to receive goods that have the value, but the metal. If a money’s value were to be derived from its property as money, then paper money and gold money with the same face value would always have the same exchange value. However, historical evidence does not support this posited relationship.

This was established by Ludwig von Mises with his famous “regression theorem”.³⁴⁵ According to Mises, the optimal monetary unit must have had an exchange value even before it acquired its function as a means of facilitating traffic and accelerating the development of a global society based on the division of labor. For money is a legal claim to consideration that is preceded by an equivalent consideration. This definition is in stark contrast to the effortless creation of new banknotes or credit entries on a computer.

The main purpose of money is to secure the full value of a commercial effort rendered until the day consideration for that effort is demanded.

However, the legal claim of money cannot be based on a fixed amount of goods and services; it only corresponds to a very specific part of all existing claims to goods and services. A constantly changing demand-and-supply structure for individual goods and services inevitably also changes the purchasing power of money. Money as an abstract right is powerless against this. This moment of uncertainty, however, takes a back seat to the guarantee of being able to acquire a fixed proportion of all existing claims on goods and services.

The metaphor of apportioning a cake and of the value of a single piece of cake makes this clear. This value can only be determined when the size of the cake and the number of pieces are known. To arrive at this conclusion in a national economy is, as Friedrich August von Hayek correctly pointed out, a *pretense of knowledge*. It is impossible to gather the total amount of goods and services in an economy. It is also hopeless to calculate the money supply – that is, the number of transactions still open – and the preferences of individual market participants. For all these components are subject to daily and sometimes severe fluctuations.

Money in Use and Idle Money

Velocity of circulation is decisive for the effectiveness of money. However, the following difference in types of circulation of money is of utmost importance. Money can circulate idly; that is, it can be used for unproductive purposes, such as the purchase of long-standing assets (real estate, shares of stock). On the other hand, money can circulate in use. In this case, new capital and consumer goods, for example, are created for productive use. The price mechanism serves to regulate these two components of money circulation. **A low price of production forces**

³⁴⁵ See “Regression theorem explains why gold equals money”, *In Gold We Trust* classics 2011

the flow of money toward new goods to be produced; a high price means that the money is repelled from this market.

Thus, in the case of constant competition between new and old forms of production, manufacturers are forced to produce cheaply and thus in large quantities, which leads to an increase in the effective velocity of money in circulation. The more goods a producer manufactures and sells, the more claims on other goods and services are available and the more he/she can consume. The increase in the company's production consequently leads to an increase in general production. More and more economic output is created, which results in more and more claims on goods and services. But since a claim on goods and services is nothing other than money, the increase in production generates the money necessary for the coverage of the increase itself. In other words, the circulation of money and goods is identical. It is only for reasons of convenience and to facilitate proof of ownership that the abstract rights to purchase goods and services become an independent, concrete economic factor – money.

The following illustration summarizes this phenomenon. Production and consumption are the rising and falling piston of the economic machine. Money is the flywheel, which is set in motion by the piston, first in a slow, then in a fast movement, which corresponds to the speed of circulation. The piston, not the wheel, which is merely a technical aid, drives the machine. It is more advantageous to let the piston act on the motion of the machine not directly but through the flywheel, but it is not strictly necessary. An economy without a flywheel is a natural economy; one with it is the much more efficient money economy.

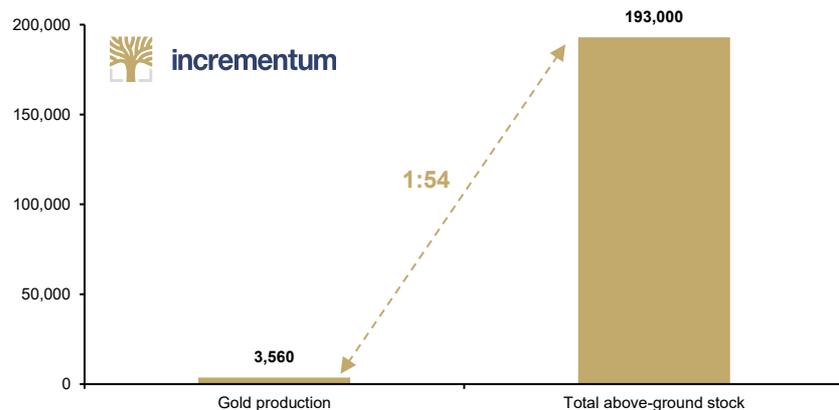
The relative stability of the value of gold money is rather due to the fact that the production of such money is beyond the arbitrary control of the state.

Argentarius, About Money

So why has gold developed as the optimal means of payment over a centuries-long selection process? A commercial effort must have been made in the economy, from which a good was created that in itself carries the guarantee of the greatest possible stability of value. Only a claim to goods that relates to this particular item is a genuine, fully fledged, legally created means of payment. Gold's unique physical properties enable it to represent this greatest possible stability of value. It is expressed, among other things, in its stock-to-flow ratio; that is, that the annual global gold mine production of 3,000–3,500 tonnes is less than one-sixtieth of the world's above-ground gold reserves. **In other words, the annual percentage increase in gold is comparable to the increase in the world population and has been so for many centuries without major fluctuations. This ensures that the amount of the means of payment follows an extremely stable and therefore predictable path.**³¹⁶

³¹⁶ See Macleod, Alasdair: "Gold's outlook for 2020", GoldmoneyInsights, January 2, 2020

Stock-to-flow ratio of gold, in tonnes, 2019



Source: USGS, World Gold Council, Incrementum AG

This view of the nature of money has profound implications for other issues in commercial transactions. What role does the rate of interest play? What are the driving forces behind the valuta – that is, the value of money abroad? Is a healthy and sustainable monetary system even achievable at present? And if so, what practical measures, apart from explaining the theoretical background of this monetary theory, must be taken to achieve this?

Conclusion

Money is a right and should not become an injustice. Therefore, the state must never take the liberty of creating or destroying money arbitrarily, because it creates or destroys with it well acquired claims on goods.

Argentarius, About Money

The thread running through the complex set of concepts and interrelationships in the monetary and economic system is the simple recognition that money is an abstract right to receive goods and services – one that is in its essence immune to any attempt at manipulation. Measures by the authorities to control the monetary system, which are without exception disadvantageous to the broad masses, always arise only at the level of the external form – the monetary unit or means of payment.

When knowledge of the inherent nature of money as an abstract claim on goods and services becomes more widespread, the number of people who are able to recognize the destructive impact of inflation will increase significantly. **Even John Maynard Keynes once warned forcefully of that impact:**

“There is no subtler, no surer means of overturning the existing basis of society than to debauch the currency. The process engages all the hidden forces of economic law on the side of destruction, and does it in a manner which not one man in a million is able to diagnose.”³¹⁷

³¹⁷ See Keynes, John Maynard: *The Economic Consequences of the Peace*, 1920, chapter 6

Capital Consumption – The Pathway to Poverty

“That amount which can be consumed within a definite period without lowering the capital is called income. If consumption exceeds the income available, the difference is called capital consumption.”

Ludwig von Mises

Key Takeaways

- The continuous process of *capital accumulation* is the root cause for growing global prosperity and the associated improvement in human well-being.
- An important reason for triggering the process of capital consumption in modern economies is the process of credit expansion.
- Boom-bust cycles provoke capital consumption, but also overtaxation, forcing up wage rates and social-benefit contributions of enterprises, the payment of unearned dividends and debt-funded share buybacks by corporations, as well as the suppression of interest rates to the so-called “zero bound” or even into negative territory.

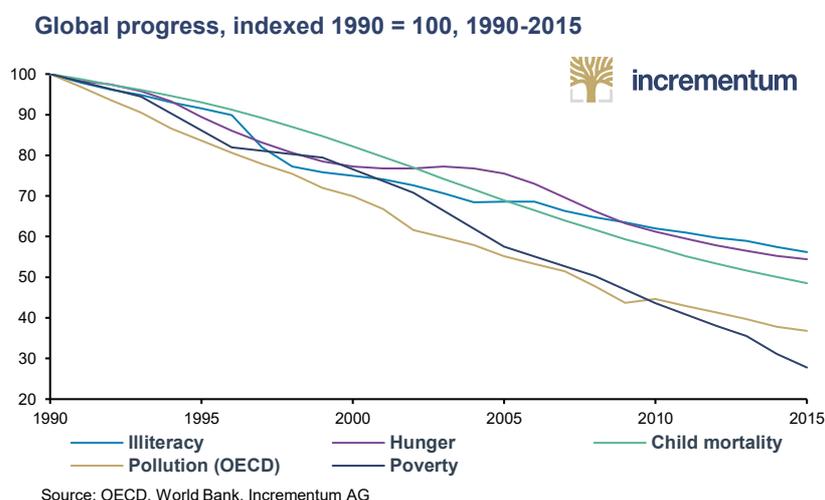
Growing Prosperity in a Progressing Economy

Productivity growth, capital accumulation, and growing prosperity have been hallmarks of the market economy. There have been frequent setbacks in the form of boom-bust cycles, sometimes quite severe ones, but these cycles have oscillated around a secular growth vector. Since the former Eastern Bloc countries and China have abandoned socialism in favor of becoming market economies, prosperity has vastly grown on a global level, despite a worrisome trend toward increasing interventionism in developed countries.³¹⁸

*If only Karl has made capital,
instead of writing about it!*
Karl Marx' mother

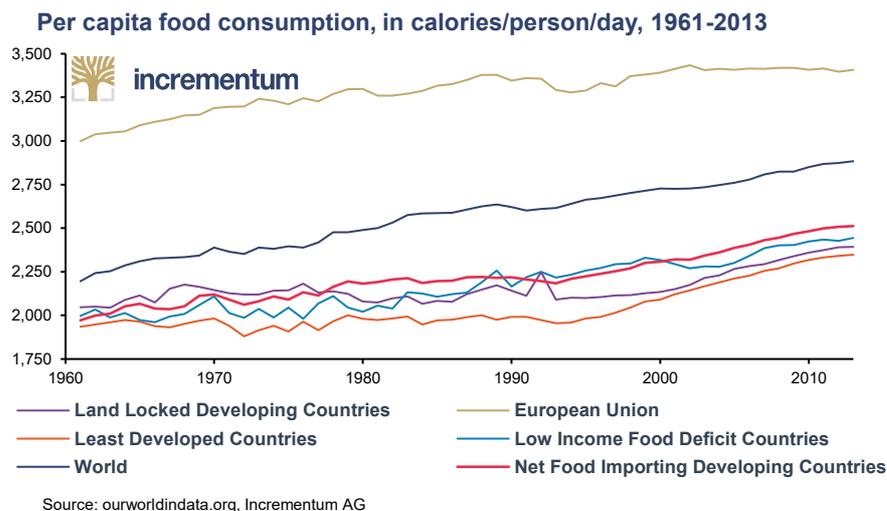
It should be interposed here that the term *market economy* is not meant to convey that any of today's economic dispensations are of the "*laissez-faire*" type – on the contrary, there exist only hampered market economies today. They differ solely in the degree to which they are hampered. Ludwig von Mises proposed as a "quick test" that one should simply ask whether a country had a stock market. If the answer was yes, it should be considered a capitalist market economy.

Growing global prosperity and the associated improvement in human well-being are well-documented by statistics: hunger, poverty, illiteracy, child mortality, and environmental pollution have been in free-fall for centuries, and their decline has accelerated following the collapse of the communist scourge. As the following chart shows, from 1990 to 2015 alone, many of the problems besetting humanity at large have diminished greatly. **This is a direct result of the worldwide adoption of capitalism.**



At the same time, crop yields and life expectancy have soared. Global crop yields have increased by 25% in the past 20 years alone. **Neo-Malthusian doomsayers at the Club of Rome continue to be proven completely wrong, year after year.**

³¹⁸ See "The Age of Capital Consumption", *In Gold We Trust* report 2017



Per capita food consumption has leveled off in developed countries, but is growing fast everywhere else. This is a reflection of growing crop yields, i.e., growing agricultural productivity.

How do you make poor people feel wealthy when wages are stagnant? You give them cheap loans.

**Vincent Daniel,
The Big Short**

However, as the title of this chapter suggests, we are going to examine whether these welcome trends, which are caused by the continuous process of capital accumulation and its corollaries of increasing economic productivity and growing real wealth, are actually under threat. We will look at what drives the opposite process, namely *capital consumption* and its corollary, economic impoverishment. The term *capital consumption* is to be understood as the opposite of capital accumulation in this context, rather than in the sense of the planned consumption of intermediate capital in production processes.

Credit Expansion as the Root Cause of Money-Induced Capital Consumption

“All those who tacitly assume that the demand for capital goods changes in proportion to the demand for consumer goods ignore the fact that it is impossible to consume more and yet simultaneously to defer consumption with the aim of increasing the stock of intermediate products.”

Friedrich August von Hayek

An important reason for triggering the process of capital consumption in modern economies is the process of credit expansion. Credit expansion refers specifically to the creation of *fiduciary media* in a fractionally reserved banking system, i.e., the creation of additional deposit money *ex nihilo*. Inflation of the money and credit supply suppresses market interest rates and therefore alters relative prices in the economy – entrepreneurs receive signals that are falsified.

Bankruptcies of governments have, on the whole, done less harm to mankind than their ability to raise loans.

R.H. Tawney

Credit expansion creates the appearance that savings have been increased. Newly created money can be used to exercise demand, but this demand is not supported by real savings, which is to say: Since social time preferences have not changed, there exist no offsetting additions to the economy's pool of real funding. **In fact, using newly created money to purchase goods and services effectively amounts to an exchange of nothing for something.**

Which prices will be pushed up the most by this new demand depends on where exactly the additional money enters the economy. New money always enters the economy at discrete points, but it can be stated as a generalization that the stages of the capital structure furthest removed from consumption will as a rule be affected the most – that is to say, the effect on resource allocation decisions will be similar to that one would observe if savings had in fact increased. **Since the supply of capital goods, the valuations of consumers, and their actual time preferences are at odds with these decisions, they represent malinvestment: a misallocation of scarce resources, which are directed into the wrong lines of investment.** Ludwig von Mises remarked on this:

“The whole entrepreneurial class is, as it were, in the position of a master-builder whose task it is to erect a building out of a limited supply of building materials. If this man overestimates the quantity of the available supply, he drafts a plan for the execution of which the means at his disposal are not sufficient. He over-sizes the groundwork and the foundations and only discovers later in the progress of the construction that he lacks the material needed for the completion of the structure. It is obvious that our master-builder's fault was not over-investment, but an inappropriate employment of the means at his disposal.”³¹⁹

What is needed for a sound expansion of production is additional capital goods, not money or fiduciary media. The credit expansion is built on the sands of banknotes and deposits. It must collapse.

Ludwig von Mises

When this process is set into motion, it will initially create boom conditions; growing accounting profits and rising share prices will stoke optimistic sentiment and foster an increasing willingness to take risks. Not only has consumption not decreased, but it will actually tend to morph into *over-consumption* as the boom progresses. Companies in the more advanced stages of the process that are enjoying the greatest expansion in accounting profits will raise dividends, buy back shares, pay higher salaries, and so forth.

Those benefiting from this largess now have the wherewithal to boost their consumption; as a result of this boost to consumer demand, capital malinvestment is likely to ensue in the earlier stages as well. Goods in process that have already arrived in the earlier stages while investment in the more advanced stages is initiated will continue to emerge for some period of time; thus these investment errors will only be discovered with a considerable lag.

The sequence in which the effects occur is as follows: First, additional loans are offered – and this prospective influx of additional fiduciary media lowers gross market interest rates. This in turn affects relative prices as the net present value of

³¹⁹ See Mises, Ludwig von: *Human Action*, 1949, p. 557

We look at prices on an exchange to reckon value, having failed to see that wealth creation via the stock market does not create resources in the economy. We don't see that booming markets without savings is not an accumulation of resources but an accumulation of claims on existing resources.

Tony Deden

The heroes in the boom become the villains in the bust.

Peter Drucker

goods distant from the consumption stage rises; at the same time lower borrowing costs provide an additional incentive for investing in the more advanced stages. In this situation those investing in longer-term projects and capital goods production will be able to outbid those active in the earlier stages for scarce resources. However, since this happens without an actual increase in savings, companies operating close to the consumer will not experience a decline in revenues.

As boom conditions take hold, accounting profits in the capital goods industries, stock prices, and real estate prices begin to rise and consumption not only remains unchanged but actually begins to increase.³²⁰ This increase in consumer demand spurs an increase in investment in the earlier stages and at least initially seems to affirm that the investment decisions of capitalists and entrepreneurs were correct. But the amount of capital has not increased, and particularly in the middle stages, companies will be deprived of the wherewithal to maintain their capital in this scenario. Capital maintenance requires that gross investment exceed depreciation, and rising prices for capital goods make it increasingly difficult to remain profitable and to be able to afford capital maintenance in the downstream stages.

From the perspective of the pool of real funding, more and more final goods are needed to sustain activities in the advanced stages of the now-lengthened production structure, but the initial movement of resources from the earlier and middle stages to the advanced stages eventually creates a bottleneck: The output of consumer goods declines, just as demand for them actually increases. Relative prices shift once again, as consumer goods become more expensive relative to capital goods.

Rising consumer goods prices will eventually lead to a decline in real wage rates, lowering the demand for capital goods to the extent that they can be substituted by labor. Interest rates are pushed up again, not least as banks tend to become more cautious as a boom matures. Moreover, this happens just as entrepreneurs who have invested in long-term projects are desperate to finish them and are scrambling to obtain more credit. Accounting profits in the advanced stages are under pressure from several sides and begin to fall, as input costs paid for original factors rise faster than sales proceeds.

The neglect of capital maintenance leads to the production structure becoming increasingly dis-coordinated. As capital goods move from one stage to the next, they become more specific and therefore less convertible. The less-convertible concrete capital goods become, the more important it is that complementary capital goods are available to bring the envisaged production processes to fruition. One of the characteristics of a bust consists inter alia of the fact that a lack of complementary capital is discovered in numerous lines and many investment projects cannot be finished as a result. Numerous capital goods of high specificity may eventually turn out to be completely useless and will have to be scrapped.

³²⁰ From an analytical perspective, real estate and other durable consumer goods are similar to capital goods that are maintained over several consecutive stages of production while they render their services to their owners.

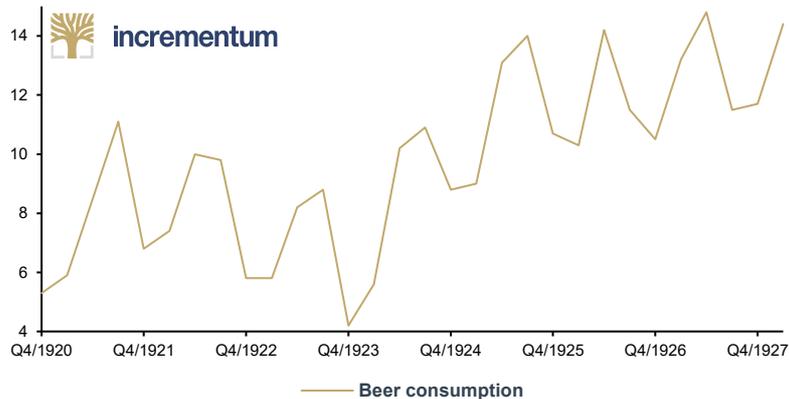
While both malinvestment and overconsumption are usually hallmarks of a boom, the extent to which one or the other predominates depends on concrete historical settings and circumstances. **For example, in the hyperinflation crack-up boom of Weimar Germany, only a relatively small class of inflation profiteers was truly able to indulge in overconsumption.**

For a quart of Ale is a dish for a king.

William Shakespeare

Otherwise this particular boom was characterized by extremely large capital malinvestment in the advanced stages, while the earlier stages were completely starved of investment – production of consumer goods collapsed on account of a massive decline in real wages. When the eventual “stabilization crisis” arrived in the wake of the post-inflation currency reform, the bust in the advanced stages was actually mitigated somewhat by a notable recovery in consumer goods industries. **As real wages normalized, consumer goods production revived rapidly.** Below is a chart illustrating beer consumption in Germany in the course of the 1920s:

Beer consumption in Germany, in millions of hectolitres, Q4/1920-Q1/1928



Source: Breciani-Turroni, Constantino: *The Economics of Inflation*, 1968 [1931], p. 381, Incrementum AG

You can't be a real country unless you have a beer and an airline. It helps if you have some kind of a football team, or some nuclear weapons, but at the very least you need a beer.

Frank Zappa

By late 1922 and again in late 1923, real wages had declined by 50% compared to 1913 levels and demand for consumer goods collapsed – this was “forced saving” writ large. At the same time, the unemployment rate fell to less than 2% as people were employed in all sorts of redundant “make-work” jobs. In mid-1923 the government passed a law making the indexing of wages mandatory. The resultant increase in real wages was accompanied by soaring unemployment, but demand for consumer goods nevertheless almost immediately revived; this demand intensified after the currency reform of late 1923, when consumer goods producers such as breweries expanded production accordingly. By contrast, steelmakers, coal mining companies, and other companies that had flourished during the crack-up boom suddenly found out in the advanced stages that their numerous plants and mines and their vast inventories of intermediate products were essentially worthless. Many went practically overnight from reporting huge profits to declaring bankruptcy.

Panics do not destroy capital; they merely reveal the extent to which it has been previously destroyed by its betrayal into hopelessly unproductive works.

John Stuart Mills



Courtesy of Hegeye

As long as a credit-induced boom continues, it is not obvious that the accounting profits reported by many companies are illusory, but the eventual bust unmasks them as such. Consider the technology bubble of the late 1990s or the housing bubble of the early 2000s: Companies operating in the industries at the heart of these booms reported stellar earnings for several years, only to post truly eye-watering losses once these booms faltered. Many of the star performers of the boom years ended up insolvent or survived only because they were bailed out. **The payouts these companies provided to shareholders and employees in the form of dividends, share buybacks, higher salaries, and bonuses were actually not distributions of real earnings; they represented capital consumption. But what does this actually entail?**

Consider for a moment the processes we described above. Although it will not be noticed in the early stages of a circulation credit-driven boom, the fact remains that the real capital required for funding the lengthening and deepening of the capital structure is lacking if time preferences remain unchanged and there are no additional savings. In combination with the propensity of boom conditions to incentivize overconsumption, *capital maintenance* will perform have to be neglected. Ludwig von Mises notes in *Human Action*:

*“The whole complex of goods destined for acquisition is evaluated in money terms, and this sum – the capital – is the starting point of economic calculation. The immediate end of acquisitive action is to increase or, at least, to preserve the capital. That amount which can be consumed within a definite period without lowering the capital is called income. **If consumption exceeds the income available, the difference is called capital consumption. If the income available is greater than the amount consumed, the difference is called saving.** Among the main tasks of economic calculation are those of establishing the magnitudes of income, saving, and capital consumption.”³²¹*

The tendency of an inconvertible paper currency was to create fictitious wealth, bubbles which, by their bursting, produced inconvenience.

**Lord Liverpool,
Parliamentary Debate, 1803**

Mises repeatedly mentions economic calculation, which is an important aspect: The shift in relative prices caused by the addition of circulation credit and the associated suppression of market interest rates below the natural rate that would be in line with actual time preferences falsify economic calculation. Economic calculation is both rooted in current conditions and forward-looking: Entrepreneurs continually rearrange and adapt their activities in response to ever-changing market data. They contemplate and choose from countless possible combinations of capital goods, technologies, and production techniques which they deem most likely to generate profits based on the capital goods available to them and their estimates of future consumer demand.

More specifically, it is the future demand of the next stage that concerns them, which ultimately depends on future consumer demand. As an aside to this, capital is not a magically self-replicating, homogeneous blob. It is embodied in concrete, heterogeneous capital goods, and its existence and accumulation depend on the active, purposive decisions of capital

³²¹ Mises, Ludwig von: *Human Action*, 1949, p. 261

Information is acquired by being told, whereas knowledge can be acquired by thinking.

Fritz Machlup

providers and entrepreneurs. **Since money prices form the basis of all such calculation efforts, an artificial and unsustainable distortion of prices creates a plethora of avenues for error.**

One of the most common mistakes is miscalculation based on the fact that the depreciation of plant and equipment is calculated on their old purchase prices – but under boom conditions these prices are much higher by the time they must be replaced. It turns out that what a company's owners consumed were not profits but the now-missing replacement funds.

Crack-up booms provide particularly stark illustrations of the concept. Like Germany, Austria suffered a hyperinflation episode after World War I. In a presentation on capital consumption in Austria after the war, Fritz Machlup cited pertinent examples for both fixed and working capital as a result of inflation:

“In spite of ordinary bookkeeping, inflationary price increases lead to insufficient replacement reserves. An example will make it clear. A manufacturer owned a plant worth one million crowns. He used to write of 100,000 crowns a year for depreciation; that is, ten percent. As inflation raises prices and costs, and as the costs of an equivalent plant would run up to two million crowns, the customary replacement quota represents only five percent; and the reserve, after the whole plant has been written off, allows the renewal of only half the equipment. If inflation raises prices to the fourteen-thousand-fold, as was the case in Austria, the replacement reserve of a machine is just large enough to buy one new screw.

But does inflation not increase profits and therefore the ability to build up reserves? I wish to emphasize that those money profits are delusive profits; if parts of them are considered real profits – that is, as a base for increased consumption – capital is consumed.

Capital consumption is still better illustrated in the case of working capital. A dealer bought a thousand tons of copper. He sold them, as prices rose, with considerable profit. He consumed only half of the profit and saved the other half. He invested again in copper and got several hundred tons. Prices rose and rose. The dealer's profit was enormous; he could afford to travel and to buy cars, country houses and whatnot. He also saved and invested again in copper. His money capital was now a high multiple of his initial one. After repeated transactions – he always could afford to live a luxurious life – he invested his whole capital, grown to an astronomical amount, in a few pounds of copper. While he and the public considered him a profiteer of the highest income, he had in reality eaten up his capital.”³²²

³²² See Machlup, Fritz: “[The Consumption of Capital in Austria](#)”, *Review of Economic Statistics II*, 1935, pp. 13-19, here p. 16

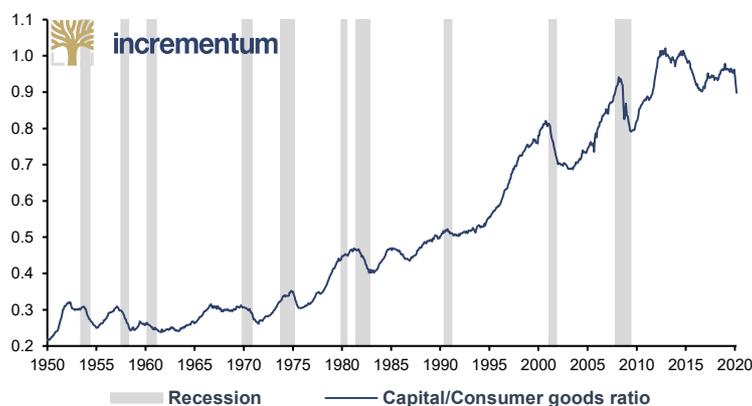
Capital Consumption in the Post-Crisis Era

The biggest market disasters happen when both leverage and securitization get mixed up with the same clever scheme.

Ben Hunt

Boom-bust cycles provoke capital consumption, but other factors can and do promote it as well. Among these are overtaxation of incomes and production in order to fund public spending, forcing up wage rates and social-benefit contributions of enterprises, and the payment of unearned dividends and debt-funded share buybacks by corporations. A special problem that has come into view in recent years in this context is the suppression of interest rates to the so-called “zero bound” or even into negative territory.

Capital/Consumer goods ratio, 01/1950-03/2020



Source: Reuters Eikon, Incrementum AG

The boom period following on the heels of the financial crisis of 2008 and the euro area debt crisis of 2011 was in many ways different from previous boom phases. Initially, rapid money supply expansion was driven exclusively by so-called “quantitative easing” by central banks, particularly by the Federal Reserve. By contrast, bank lending remained subdued – in fact, it even declined for some time after the crisis had passed. In contrast to bank lending to nonfinancial businesses, the Federal Reserve injected newly created money directly into the financial system by purchasing Treasury and agency bonds, mainly from primary dealers and institutional investors.

In addition to introducing Moral Hazard to the financial markets, a Central Bank buying risky assets created the potential to erode the basic foundation of Capitalism.

Harley S. Bassman

Since it purchased primarily Treasury bonds, the situation was initially reminiscent of what Mises referred to as “simple inflation” – the monetization of government debt to fund deficit spending – rather than the beginning of a business cycle. Money printing by the central bank and elevated deficit spending by the government affect the production structure as well, but the distortions are intra-temporal rather than inter-temporal. Money is not distributed equally among all economic agents in either case, but rather directed toward specific (politically favored) recipients. The result is a production structure that is once again not aligned with actual consumer wants, even if the degree of discoordination is less pronounced than that caused by a classical business cycle driven by bank credit expansion.

However, by suppressing interest rates, the QE policy soon kick-started renewed growth in bank lending, even if it did not reach the growth rates customarily seen prior to the crisis. Since the injection of funds into the financial system boosted securities prices rapidly and substantially, capital consumption can be assumed to have resumed fairly quickly. Increased consumption spurred by the so-called “wealth effect” that results from an advance in stock prices driven by money supply expansion also consumes capital. The same holds for spending profits generated from selling real estate at inflated prices. Hayek noted:

“Stock Exchange profits made during such periods of capital appreciation in terms of money, which do not correspond to any proportional increase of capital beyond the amount which is required to reproduce the equivalent of current income, are not income, and their use for consumption purposes must lead to a destruction of capital.”³²³

Safety’ is a tricky and paradoxical concept. The safe assets are often the ones that people regard as hopelessly risky.

Jim Grant

There is no barrier for U.S. Treasury yields going below zero. Zero has no meaning, beside being a certain level.

Alan Greenspan

Moreover, central bank asset purchases began to put significant pressure on government bond yields. This was exacerbated by various financial repression-type regulations, such as new capital adequacy rules for banks and insurance companies and investment mandates for pension funds. Regulators simply declared government debt to be “risk-free” – hence banks and insurers did not have to set any capital aside for sovereign bond portfolios. It is quite ironic that these regulations were introduced shortly after the euro area debt crisis, demonstrating unequivocally that government debt is anything *but* “risk-free”.

As government bond yields declined, a hunt for yield ensued: Investors began to buy riskier debt, driving yields on corporate bonds across all rating categories to extremely low levels. This in turn spurred a corporate debt issuance boom. Credit expansion was taking a roundabout route. As an example, banks started lending to hedge funds that wanted to leverage holdings of collateralized loan obligations (CLOs), i. e. securities backed by leveraged loans made to companies with less-than-pristine credit ratings. Reportedly, leverage ratios of up to 10:1 were enabled in some cases.

With credit easy to get, listed companies started to fund dividend payments and stock buybacks by issuing debt, gradually weakening their balance sheets in the process, while helping to drive share prices to far higher levels than warranted by fundamentals. It is a good bet that this entailed sizable capital consumption.

Despite the comparatively weak growth rates characterizing the post-crisis recovery, numerous examples of sectors experiencing classical boom conditions could be detected across the economic landscape. The US oil industry is a glaring example: The combined monetary pumping efforts of central banks all over the world in the wake of the 2008 crisis reignited a strong uptrend in oil prices, which investors and entrepreneurs promptly extrapolated indefinitely into the future.

³²³ See Hayek, Friedrich A.: “The Maintenance of Capital”, *Economica*, Vol. 2, No. 7 (1935); Reprinted in: Hayek, Friedrich A.: *Profits, Interest and Investment*, 1975 [1939], p. 133

Some areas near Dallas experienced a 3.5-magnitude earthquake, which some blame on fracking. However, scientists say that it was more likely aftershocks from Chris Christie celebrating at the Cowboys game.

Jimmy Fallon

It all comes down to interest rates. As an investor, all you're doing is putting up a lump-sum payment for a future cash flow.

Ray Dalio

At the height of this echo boom, a very prominent hedge fund manager who is otherwise considered quite level-headed surprised his audience with an elaborate screed on “peak oil”, holding out the prospect of oil prices rising to unimaginable levels. Alas, it was not oil production that peaked but the oil price – as it turned out, the fund manager’s missive was the proverbial “ringing of the bell” signaling the end of the boom.

Elevated oil prices notwithstanding, a great many companies engaged in hydraulic fracturing failed to generate free cash flows. And yet, they were able to grow production incessantly, as investors were happy to lend them the needed funds. The steady increase in production affected investment in storage facilities, since the surfeit of oil needed to be stored. This shows how malinvestment of capital fosters additional demand for capital in related downstream industries. Given the scarcity of capital, other, more urgent needs will inevitably remain unsatisfied.

The fracking boom even caused large investments in the production of *sand*, which soared by nearly 250% between 2009 and 2013 alone. (So-called “frac sand”, a high-purity quartz sand with very round grains, is mixed with water and chemicals to blast shale rock open.) This illustrates both the lengthening and widening of the capital structure discussed above.

The Phenomenon of Negative Interest Rates

Numerous central banks decided to impose negative deposit rates on bank reserves in recent years, aiming to either spur bank lending or to weaken the external value of the currency they issue. We will leave aside whether negative deposit rates on bank reserves actually work as an incentive to spur lending (probably not). What concerns us is the fact that negative interest rates are utter economic nonsense, for the simple reason that time preference can never be negative. Present goods will *always* be deemed more valuable than future goods. **It follows that the natural interest rate cannot be zero or negative – it must be positive.**

Ludwig von Mises remarks on this:

“... the fading away of originary interest would mean that people do not care at all for want-satisfaction in nearer periods of the future. It would mean that they prefer to an apple available today, tomorrow, in one year or in ten years, two apples available in a thousand or ten thousand years. We cannot even think of a world in which originary interest would not exist as an inexorable element in every kind of action.”³²⁴

When contemplating the vast array of government bonds that have begun to sport negative yields to maturity in recent years (at the height of the bond market craze, some USD 17trn worth of outstanding government bonds held out the prospect of a

³²⁴ See Mises, Ludwig von: *Human Action*, 1949, p. 523

A negative interest rate world implies, ipso facto, that the future is more certain than the present. Taken to logical extreme, in a negative interest rate world, economic agents should shutter current production and return inputs back to supply chains for future reference.

Trey Reik

In every undertaking, the more humans try to be demi-gods, the more they become half-monsters.

Nassim Taleb

guaranteed loss for buyers), one must keep in mind that gross market interest rates consist not only of the natural interest rate. There are two additional components: the entrepreneurial profit component, also known as the “risk premium” (i.e. what lenders charge borrowers for their perceived default risk), and a price premium, a surcharge that accounts for the expected loss of the currency’s purchasing power.

Negative nominal market interest rates are therefore conceivable irrespective of central bank-directed market manipulation. While the natural interest rate component must always be in positive territory, both the risk premium and the price premium can in theory become negative. For instance, if there are grave concerns regarding the health of the banking system, investors may be prepared to accept negative yields in exchange for the perceived safety of highly rated sovereign debt. And even though this is unlikely in a fiat money system, if pronounced price deflation is expected, the price premium could also turn negative.

However, there are ongoing efforts to enable monetary authorities to impose negative interest rates on a broad front by means of coercive legislation. This involves proposals to either ban cash currency outright or to introduce penalties reducing its value relative to that of deposit money.³²⁵ It is held that if depositors were no longer able to withdraw their money from banks, negative interest rate policies would be much more effective. **Negative interest rates would be an incentive for people to spend their money rather than lose it by attrition.**

These ideas are extremely dangerous, to put it mildly. Apart from the fact that it is not possible to spend oneself to prosperity – even if a great many mainstream economists seem unable to grasp this obvious truism – imposing zero or negative rates by fiat could well lead to capital consumption on a scale that destroys the economy.

As Ludwig von Mises writes on attempts to abolish interest in *Human Action*:

“If the capitalist no longer receives interest, the balance between satisfaction in nearer and remoter periods of the future is disarranged. The fact that a capitalist has maintained his capital at just 100,000 dollars was conditioned by the fact that 100,000 present dollars were equal to 105,000 dollars available twelve months later. These 5,000 dollars were in his eyes sufficient to outweigh the advantages to be expected from an instantaneous consumption of a part of this sum. If interest payments are eliminated, capital consumption ensues. [...]”

The capitalists would consume their capital goods and their capital precisely because there is originary interest and present want-satisfaction is preferred to later satisfaction.

³²⁵ See Jafarov, Etibar, Maino, Rodolfo and Pani Marco: “Financial Repression is Knocking at the Door. Again”, *IMF Working Paper*, WP/19/211, September 30, 2019

Therefore there cannot be any question of abolishing interest by any institutions, laws, and devices of bank manipulation. He who wants to 'abolish' interest will have to induce people to value an apple available in a hundred years no less than a present apple. What can be abolished by laws and decrees is merely the right of the capitalists to receive interest. But such laws would bring about capital consumption and would very soon throw mankind back into the original state of natural poverty.”³²⁶

You almost feel like capitalism died in this last month.

Chris Cole

In the wake of the recent outbreak of the Covid-19 pandemic, monetary and fiscal authorities have once again resorted to the same policies of large-scale money creation and deficit spending to counter the economic downturn. **The pandemic arrived at a very bad time: just as edifices of debt and asset bubbles of unprecedented proportions had been built up and the economy already showed signs of weakening.**

As is often the case in such situations, the final leg up in stock prices was accompanied by signs of unbridled speculation, with numerous positioning indicators, particularly in options and futures markets, reaching never-before-seen extremes. This is worth mentioning because experience shows that such extremes in speculative activity tend to coincide with major medium- to long-term turning points in financial markets.

Interest rates exist because we want things now rather than later. That's the nature of human desire. Negative interest rates turn that on its head. So they are a sign not of constructive policy making, but of trouble.

Jim Grant

The economy's pool of real funding is not measurable, but after 10 years of massive money supply and credit expansion, it can be surmised that it is in a parlous state. If it is stagnating or shrinking, no amount of monetary pumping will reignite the boom. **Normally a boom ends when banks become cautious and no longer offer additional circulation credit at ever lower interest rates.**

It is important to realize, though, that even if the inflationary policy is not stopped voluntarily, the boom cannot continue indefinitely. In fact, the consequences of continuing the policy are particularly dire. Ludwig von Mises notes this:

“Neither could the boom last endlessly if the banks were to cling stubbornly to their expansionist policies. Any attempt to substitute additional fiduciary media for non-existing capital goods is doomed to failure. If the credit expansion is not stopped in time, the boom turns into the crack-up boom; the flight into real values begins, and the whole monetary system founders.”³²⁷

If the public becomes convinced that the inflationary policy is not merely a temporary expedient but will be continued indefinitely, **faith in the currency eventually falters. At that point, the surge in the money supply begins to be complemented by a rapid fall in the demand for money. Where this leads can currently be observed in Venezuela.**

To be sure, as long as Western central banks remain formally independent, their institutional set-ups and mandates represent significant obstacles to the recklessness required to trigger

³²⁶ See Mises, Ludwig von: *Human Action*, 1949, p. 528f.

³²⁷ See Mises, Ludwig von: *Human Action*, 1949, p. 559

You ain't seen nothin' yet, b-b-b-baby, you just ain't seen n-n-nothin' yet, here's something that you never gonna forget, b-b-b-baby, you just ain't seen n-n-nothin' yet!

Bachman-Turner Overdrive

Significant increases in inflation will ultimately increase the price of gold. Investment in gold now is insurance. It's not for short-term gain, but for long-term protection.

Alan Greenspan

hyperinflation. However, concerns that ever more extreme policies will be considered and implemented are nevertheless legitimate. An attempt to extend the imposition of zero or negative interest rates from bank reserves to the public at large is certainly one of the possibilities in this context.

It is also worth noting that chartalism, in its most current version misnamed “Modern Monetary Theory”, is gaining in popularity again.

The idea is that governments can just inflate the money supply and spend willy-nilly as long as there is no “price inflation” visible in indexes such as the CPI. Hopefully the above has dispelled the notion that any harm caused by money supply expansion depends on or is confined to increases in CPI. It is a far more complex problem. **Needless to say, MMT is an exceedingly bad idea – it is ultimately nothing but hoary inflationism.**

Preserving Wealth

While the Covid-19 emergency has provided authorities with a perfect excuse to intervene on an unprecedented scale, these or very similar steps would eventually have been taken regardless of what triggered the bust – albeit perhaps not so rapidly. The actions of central banks in the decade since the 2008 crisis strongly suggest as much.

A number of market participants appear to have harbored similar expectations, as gold prices had begun to rise well before the coronavirus was on anyone's radar. In the face of unprecedented monetary pumping, investors have little choice if they wish to preserve their wealth. **Gold is not risk-free: Whether it will rise or fall in price will depend on the future actions of authorities and the effects of the actions they have already taken. But it is certainly one of the best insurance policies available to investors.**

Financial Repression – Economic Reasons Come to the Fore

“Only one thing is certain – no policy will ever be announced under the brand ‘financial repression’. Such a policy would be as effective as a trumpet-playing burglar.”

Russell Napier

Key Takeaways

- After years of agitation against cash for the – pretended – reason of the fight against terrorism and against criminality in general, and even before the outbreak of the coronavirus, economic reasons have come to the fore again.
- A growing number of economists consider cash to be the main obstacle to the enforcement of significantly lower negative interest rates. Kenneth Rogoff, for example, sees a need for negative interest rates of -6% to combat an ordinary recession.
- A historical experiment with negative interest rates of up to 10% per quarter was conducted by Switzerland in the 1970s. Despite these penalty interest rates, the appreciation of the Swiss franc could not be stopped at that time. The severe recession triggered by the Covid-19 outbreak will revive the call for substantial negative interest rates.
- The coronavirus has also put pressure on cash because it is claimed that cash promotes the physical spread of the virus.



Courtesy of Hedgeye

Monetary policy activism in the first weeks of March 2020 was of unprecedented intensity. To combat the shocks on the financial markets triggered by the coronavirus outbreak, trillions in liquidity were made available within a few days and the portfolio of extraordinary measures, such as new rounds of QE, interventions on the repo market, and the extension of asset purchase programs to other asset classes was significantly expanded.³²⁸ In the three weeks from March 11 to April 1, 2020, the Federal Reserve's total assets increased by more than USD 1.5trn. This corresponds to USD 84bn per day, USD 60mn per minute, or USD 1mn per second. The development of central bank balance sheets since mid-March speaks for itself.

Aggregated total assets of the Fed, ECB & BoJ (lhs), in USD bn, and gold (rhs), in USD, 01/2002-04/2020



Source: Reuters Eikon, Incrementum AG

Although the coronavirus was not mentioned by anyone until mid-February as a trigger for a profound correction in the financial markets, we already predicted in last year's *In Gold We Trust* report that this flooding of the markets with liquidity would occur if worst came to the worst.³²⁹ **After all, even at that time the central banks were already more or less stuck in the zero interest rate trap.**³³⁰

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

From the outset, the scope for monetary policy action was clearly limited due to the historically low nominal rates. This is because the question of how the zero percent lower limit for nominal interest rates, the zero lower bound, can be overcome has not yet been answered comprehensively. However, as many central banks – with the notable exception of the Federal Reserve – have not been able to use the steady, albeit modest, economic growth of recent years to raise interest rates, this question has taken on a new topicality in view of the economic situation, which had already clouded over last year. The issue of financial repression, which has been somewhat relegated to the background in recent years, has been brought back to the fore.

In a previous *In Gold We Trust* report, we defined financial repression as follows: “The goal of financial repression is to reduce the real value of

³²⁸ For an overview of the Federal Reserve's programs as of March 23, 2020 see: “What Are All the Fed's Corporate & Investor Bailout Programs and SPVs? Here's the Whole Shitload of Them”, Wolf Street, March 23, 2020

³²⁹ See our detailed description in: “Gold in the Age of Eroding Trust”, *In Gold We Trust* report 2019, and “Gold and the Turning of the Monetary Tides”, *In Gold We Trust* report 2018

³³⁰ A detailed presentation of the zero interest rate trap offers: Stoeferle, Ronald, Taghizadegan, Rahim and Hochreiter, Gregor: *The Zero Interest Trap: How the Economy is Zombified and Society Divided*, 2019

*government debt and lower the government's financing costs below the level that would pertain under purely competitive conditions.*³³¹ Financial repression comprises all measures that are to the detriment of the state's creditors. The classic instrument is the reduction of nominal interest rates by the central bank. However, the instruments of financial repression also include the regulatory preference for government bonds. The equity-capital privilege, because of which commercial banks do not have to hold equity capital for government bonds, artificially increases the demand for government bonds, which in turn leads to lower yields than for comparable corporate bonds.

Successful financial repression requires a widespread belief that conventional government bonds are safe.

Peter Warburton

The question of how the *nominal* interest rate level can be kept permanently and significantly below zero is new. Yet, the fact that *real* interest rates are negative is not a new phenomenon. Whereas in times of high inflation, negative real interest rates were the result of nominal interest rates being low yet clearly positive, the past few years have been characterized by extremely low inflation, and so real interest rates have been negative for several years in many countries and particularly in the euro zone. The US is an exception.

Many central banks had already reached the zero lower bound – a nominal interest rate close to or at zero – before the coronavirus pandemic broke out. With Covid-19 raging, the Federal Reserve quickly joined those central banks whose nominal interest rates are at the zero lower bound. And in view of the fact that key interest rates in the USA have been reduced by an average of 520 basis points in the course of the last few recessions, it is completely unclear how the central banks intend to effectively combat the current, and extremely sharp, recession. In any case, the conventional tool of interest rate cuts is no longer in the toolbox. Kenneth Rogoff, the former chief economist of the International Monetary Fund (IMF), considers negative interest rates of up to 6% necessary to pull the US out of the next recession.³³² And his estimate of the need for interest rate cuts was based on ordinary recessions.

Today, many investors are what my late father-in-law used to call "handcuff volunteers". They are doing what they have to do, not what they want to do.

Howard Marks

The question of how such low negative interest rates can be pushed through on the market has therefore increasingly preoccupied economists for some time now. The basic problem is as simple as it is widely understood. Once a certain negative interest rate is reached (i.e. as soon as the negative interest rate on bank deposits causes higher costs than the zero interest rate for keeping cash plus the costs for safe custody outside the banking system), households and businesses withdraw their deposits from the banks and store the money within their own four walls. Not surprisingly, commercial banks also act according to this trivial business logic. **As soon as the interest rate on deposits at the central bank becomes too negative, the cash held in bank vaults is increased.**³³³

³³¹ "Financial Repression: When the Grasping hand of the State Runs Rampant", *In Gold We Trust* report 2016

³³² See "Star-Ökonom für Minuszinsen von bis zu sechs Prozent" ("Star economist for negative interest rates of up to six percent"), *Die Welt*, September 18, 2016

³³³ See "Wegen Negativzinsen: Banken horten so viel Bargeld, dass die Tresore knapp werden" ("Because of negative interest rates, banks are hoarding so much cash that safes are running low"), *Focus Money Online*, February 6, 2020

The IMF in the role of the inglorious mastermind

“... the zero lower bound is not a law of nature; it is a policy choice.”

Ruchir Agarwal and Miles S. Kimball³³⁴

Whether initially deflationary or ultimately inflationary, this profound shift ends the long period of disinflation, but it also creates the necessity for much more aggressive financial repression in the developed world.

Russell Napier

Since the attacks on cash in recent years – including by economists – primarily because of the possibility of anonymous transactions such as the financing of terrorism, cash is now once again in the crosshairs of many economists for the reasons mentioned above. **The IMF is leading the way in the development of proposals to implement significantly lower negative interest rates.** For example, just under a year ago, a long IMF Working Paper entitled “Enabling Deep Negative Rates to Fight Recessions: A Guide”³³⁵ was published, containing detailed instructions on measures to abolish cash. The key economic phrase can be found at the very beginning of the document:

“... the zero lower bound is not a law of nature; it is a policy choice. The central message of this paper is that with readily available tools a central bank can enable deep negative rates whenever needed – thus maintaining the power of monetary policy to end recessions within a short time.”³³⁶

Moreover – and probably rather unintentionally – this statement refutes in two sentences the widespread thesis that low interest rates are a consequence of the high propensity to save. In fact, low interest rates are the consequence of the deliberately implemented monetary policies of the central banks. And, additionally, **the authors believe that the enforcement of low negative interest rates is likely to be worth the political costs.**

Five ways to negative nominal interest rates

The authors propose five variants on how significantly lower negative interest rates on cash could be achieved, or in other words, how households and businesses could be prevented from switching to (negative) interest-free paper money in case of significantly lower nominal interest rates. In times of positive nominal interest rates, cash is at a disadvantage compared with digital bank money because it is interest-free, whereas in times of negative nominal interest rates, holding interest-free paper money proves to be economically advantageous. **The five approaches examined are:**

1. **“Clean approach”:** The preferred option proposes an exchange rate between cash and non-cash digital money, with non-cash electronic money being declared the unit of account. Cash would thus be demoted to secondary money circulating at a premium to digital

³³⁴ Agarwal, Ruchir and Kimball, Miles: “[Enabling Deep Negative Rates to Fight Recessions: A Guide](#)”, *IMF Working Paper* No. 19/84, April 2019, p. 3, executive summary

³³⁵ Agarwal, Ruchir and Kimball, Miles: “[Enabling Deep Negative Rates to Fight Recessions: A Guide](#)”, *IMF Working Paper* No. 19/84, April 2019, p. 3, executive summary

³³⁶ Agarwal, Ruchir and Kimball, Miles: “[Enabling Deep Negative Rates to Fight Recessions: A Guide](#)”, *IMF Working Paper* No. 19/84, April 2019, p. 8

money. In shops, the indicated prices would be applied for payment in electronic money, while the price for payment in cash would include a surcharge equal to the exchange rate set by the central bank. The curious consequence of this proposal would be that electronic money, although not even legal tender, would be given preference over cash, which alone is legal tender.

A similar situation, in which generally accepted means of exchange of various forms were not circulating at par, was omnipresent in Europe in the 19th century. For when the central and commercial banks put significantly more banknotes into circulation than they had gold in their vaults, the banknotes received a surcharge called a premium. This premium was sometimes subject to significant fluctuations. A higher premium was the monetary expression of the increased risk that the issuing bank would not, or not fully, meet its redemption obligation.

2. **Rental fee approach:** Cash and electronic money have the same value, but a rental fee is charged for the use of the cash. This rental fee is for cash what the official negative interest rate is for electronic money. Thus, cash loses its advantage of being interest-free.
3. **Withdrawal limit approach:** At present, cash and sight deposits can be exchanged any time and in any quantity at par value. When the demand for cash increases, this demand is satisfied 100% by expanding the currency in circulation to match the increase in demand. If the demand for cash decreases, cash is taken out of the economy in the corresponding amount. In this way, the “exchange rate” between cash and demand deposits is fixed and secured at par. This automatism is to be abandoned in order to enforce negative interest rates on cash, as central banks no longer cover satisfy additional demand for cash in full. By limiting the amount of currency in circulation, cash is initially given a premium over electronic money. The resulting loss of cash’s purchasing power compared with electronic money de facto imposes a negative interest rate on cash. This proposal was first formulated by Marvin Goodfriend in his speech at the annual meeting of central bankers organized by the Federal Reserve in Jackson Hole, which bears the telling title “The Case for Unencumbering Interest Rate Policy at the Zero Lower Bound”.³³⁷
4. **Deposit limit approach:** Under this approach, the volume of demand deposits that a bank is allowed to manage is limited by the amount of cash that the bank pays out to its customers over the course of a year. This leverage rate would be reduced by the central bank if cash withdrawals by customers increased too much as a result of the implementation of a negative interest rate policy. Banks would

³³⁷ Goodfriend, Marvin: “[The Case for Unencumbering Interest Rate Policy at the Zero Lower Bound](#)”, speech delivered at the annual “Jackson Hole Economic Symposium on August 26, 2016

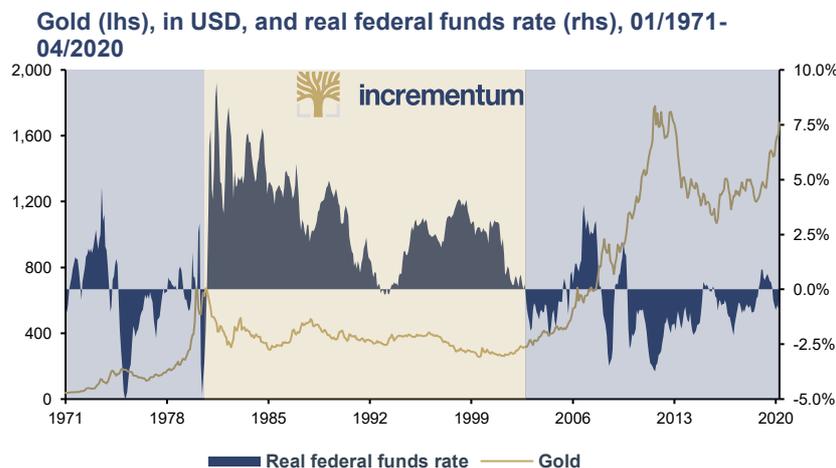
then have to decide whether to stop dispensing cash or to cease accepting demand deposits. It goes without saying that they would choose the former and stop dispensing cash. Consequently, cash would circulate with a surcharge, extending the negative interest rate on cash.

5. **Prohibition approach:** While the previous proposals seek to limit the supply of paper money, the last proposal addresses the demand for paper money. For example, certain investment or money market funds could be prohibited from using cash to meet deposit requirements; companies could be allowed to hold cash up to only a certain amount; limits for cross-border cash transports could be introduced or further reduced; or the issuance of high-denomination banknotes could be prohibited, as the ECB has done by stopping the issue of 500-euro banknotes. Kenneth Rogoff even proposes to limit cash to coins, in other words to ban all banknotes.

Negative rates would not help fight deflation but withdraw liquidity from the market because people would rather hoard cash than invest or deposit it in a bank account.

Jeff Gundlach

These proposals demonstrate that central bankers and economists continue to uphold a certain understanding of how monetary policy is to be conducted, even though this tool kit ceased to function with the collapse of the interbank market in August 2007. Since then, extraordinary measures such as QE, LTRO, and PEPP have been the order of the day and have been massively expanded in number and scope to combat the current recession. An alternative monetary theory and policy approach has not yet been established. In plain Austrian: there will be further muddling around. **The above-mentioned proposals all fall into this category, and this muddling is largely at the expense of savers.**



As we keep emphasizing, a continuation and intensification of negative nominal interest rates would be good news for gold, because this would also continue to depress real interest rates. Historically, gold has performed significantly better in periods of negative real interest rates than in periods of positive rates. One reason for this is that in times of positive rates, interest-bearing bonds and interest-bearing savings account are attractive investment options compared to investing in gold, which pays no interest.

Cash – on the hit list for decades, but still in great demand



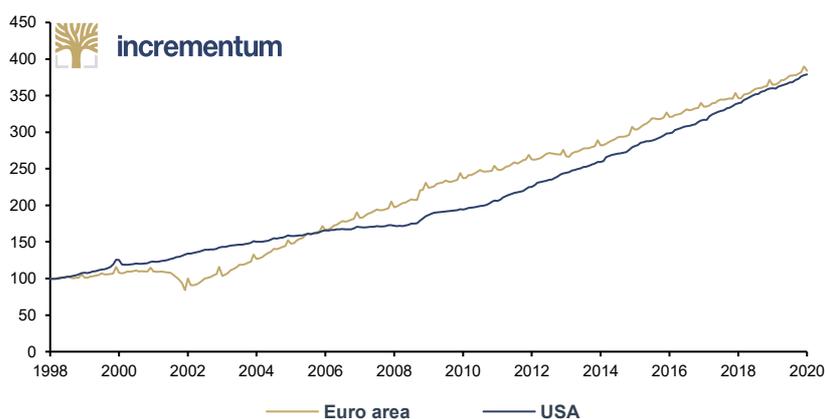
The Economist, February 15, 2007

Cash, which guarantees the anonymity of payments and ensures the integration of 1.7 billion people without bank accounts into the money economy, has been the target of many critics for many decades. The invention of the credit card in 1894 was decisive for the vision of a cashless society, especially with the introduction of the universal credit card by Diners Club in 1950. **The book “World of Tomorrow: School, Work and Play”, published by Neil Ardley in 1981, predicted, for example, a cashless society for the year 2002:**

“You do not carry any money on you and neither does anyone else. You pay for everything you buy with an identity card like a credit card. It has a magnetic strip containing your name and other personal information in the form of a magnetic code.”³³⁸

However, the transformation did not proceed quite so quickly, although some countries, such as South Korea and Sweden but also the USA, have made considerable progress along this path. At 14%, 20%, and 32% respectively, these countries lead the list of nations with the lowest levels of cash payment transactions. Sweden's rapid departure from cash motivated the Swedish Retail and Wholesale Council to conduct a study to calculate the day when Sweden would finally say goodbye to cash. March 24, 2023 is to be this historic day.³³⁹ At the other end of the list are Malta with 92% use of cash, and Greece and Cyprus with 88% each. **On average, 78.8% of all payment transactions in Europe still take place in cash, and in terms of transaction volume this figure is at 53.8%, thus still more than half.**³⁴⁰

Currency in circulation, in USD bn, 01/1998 = 100, 01/1998-01/2020



Source: ECB, Federal Reserve St. Louis, Statista, Incrementum AG

³³⁸ Quoted in: Laboure, Marion and Reid, Jim: “The Future of Payments: Part I. Cash: the Dinosaur Will Survive ... For Now”, *dbresearch*, January 2020, p. 4

³³⁹ Arvidsson, Niklas, Hedman, Jonas and Segendorf, Björn: “När slutar svenska handlare att acceptera kontanter?” (“When will Swedish retailers stop accepting cash?”), Handelsrådet, *Forskningsrapport 2018 (1)*, January 2018; See also Erlandsson, Frida and Guibourg, Gabriela: “Times are changing and so are payment patterns”, Sveriges Risk Bank, NO 6, May 14, 2018

³⁴⁰ G4S Global Cash Solutions: *World Cash Report 2018*, p. 25

It is noteworthy that the amount of cash in circulation has not decreased over the years, as one would assume, but has increased significantly, not only in absolute terms but also per capita.

In each year since January 1, 2002, when euro banknotes and coins came into circulation, the growth in currency in circulation has outpaced that of nominal GDP. The difference was particularly large in the early years of euro cash, as well as in 2008, the year of the Lehman bankruptcy, when nominal GDP grew by 2.5% while the amount of euro currency in circulation increased by 12.5%. Globally, currency in circulation accounts for 9.6% of GDP, with the share of currency in circulation increasing on all continents.³⁴¹

What is remarkable is what currency is used for in the euro area. Studies for Germany and Austria show that one third of the cash circulating in the euro area is used for transactions, while two thirds are used as a store of value.³⁴² The increasing digitalization of payment transactions does not reduce cash's ability to function as a store of value; and as this function is far more important than the direct use of cash for transactions, the demand for cash has increased despite the technological changes in recent years.

The more uncertain the future, the greater the value of [the] flexibility [of cash] and hence the greater the demand for money is likely to be.

Milton Friedman and Anna J. Schwartz

Like gold, cash has been and remains a crisis currency. This is demonstrated by the fact that the demand for cash regularly increases in crisis situations. This has been confirmed once again in the current crisis.³⁴³ This is all the more surprising as the ever-increasing spread of online trading means that electronic money can now be disposed of more quickly than cash can. When people are uncertain, it seems that direct access to physical money continues to give a greater sense of security than electronic money.

The central banks' prospect of a higher seigniorage by cutting back on cash

The central banks, in turn, have a tangible financial incentive to reduce the usage of cash as much as possible. At present, central banks derive a seigniorage profit from monopolized banknote issue,³⁴⁴ which in the period 2005–2015 amounted to 0.15% of GDP on average in the US and to 0.57% in the euro area. Cutting back on cash would in all likelihood increase these monopoly revenues.³⁴⁵ Christine Lagarde, who displayed a certain verve in her first year as ECB president, would like to actively push the project of a Central Bank Digital Currency (CBDC) for the euro area, also for cost reasons. At the first press conference following a meeting of the Governing Council under her leadership, Lagarde stated last December that the ECB should not lag behind technological developments, but should be at their forefront. She said there was no question that there was a need for digital means of

³⁴¹ G4S Global Cash Solutions: *World Cash Report 2018*, p. 22

³⁴² Jobst, Clemens and Stix, Helmut: "Assessing recent increases in cash demand", *International Cash Conference 2017 – War on Cash: Is there a Future for Cash?*, April 25-27, 2017, p. 16; See also: Schäfer, Guido: *Die volkswirtschaftliche Bedeutung des Bargelds in Österreich* ("The economic significance of cash in Austria"), 2018, p. 28

³⁴³ "Einzelne Banken begrenzen Bargeldausgabe" ("Individual banks limit cash issuance"), *Frankfurter Allgemeine Zeitung*, March 20, 2020

³⁴⁴ Seigniorage is the profit made by the mint owner from the difference between the metal value of a coin plus production costs and the nominal value of a coin. In modern terms, seigniorage is the difference between the cost of bringing additional money into circulation minus the costs incurred to do so. In the case of paper money and electronic money, the nominal value of which bears no relation whatsoever to the material used as money, the seigniorage per new monetary unit is significantly higher than in the days of coinage.

³⁴⁵ Rogoff, Kenneth: "Data for The Curse of Cash", Harvard University, 2017

The only question is whether we are able to look reality in the eye and face what is coming in an orderly fashion, or whether it will be disorderly. Debt jubilees have been going on for 5,000 years, as far back as the Sumerians.

William White

payment.³⁴⁶ **The euro area should thus join countries such as Canada, Sweden, Great Britain, Estonia, but also China, whose central banks have been pursuing the issuance of a CBDC for some time.**

Companies against cash

However, cash is on the hit list not only of governments for the pretext of combating terrorist financing³⁴⁷ and tax evasion, and of central banks for the effective implementation of monetary policy in the form of negative interest rates, but also of certain companies trying to drive cash out of everyday life. Not surprisingly, these include credit card companies and fintechs, but other retail and service companies are also pushing non-cash payment. The main reasons are:

- **Cost reduction:** Handling cash – procurement, safekeeping, deposit – is cost- and personnel-intensive. These high costs were one of the reasons why the supply of cash was systematically reduced in the sparsely populated areas of central and northern Sweden.
- **Sales increase:** Users of mobile payment systems show a higher propensity to consume.³⁴⁸
- **Use of data:** Consumer behavior is easy to record using non-cash payment systems. Internal utilization of this data or its sale – the gold of the digital age – offers an additional source of income.

Cash as collateral damage of the coronavirus

Within just a few days, the coronavirus became the dominant topic, nearly worldwide. And although the coronavirus and cash did not seem to be related at first glance, cash very quickly received attention from health authorities. The reason: Banknotes are suspected of transmitting Covid-19, because the virus is supposed to survive for several hours on the surface of a banknote.³⁴⁹ As a consequence, Chinese authorities began disinfecting cash on a large scale.³⁵⁰ In the West, especially in the cash-savvy countries such as Germany and Austria, customers are urged to pay electronically in shops that are still open. Card payments at supermarkets in Germany promptly skyrocketed by up to 65%.³⁵¹ And those who order online (and significantly more people now do so because of the severe restrictions imposed on social and economic life) pay without cash anyway. Especially in countries with a high affinity for cash, cash could suffer collateral damage from the pandemic.

³⁴⁶ [“ECB to accelerate digital currency research says Lagarde”](#), Ledger Insights, December 12, 2019

³⁴⁷ “As regards terrorism in Europe, an analysis of 40 jihadist attacks in the past 20 years shows that most funding came from delinquents’ own funds and 75% of the attacks cost in total less than USD 10,000 to carry out.” Mai, Heike: [“Cash, freedom and crime. Use and impact of cash in a world going digital”](#), *dbresearch – EU Monitor. Global financial markets*, November 23, 2016, p. 10

³⁴⁸ Laboure, Marion and Reid, Jim: [“The Future of Payments: Part II. Moving to Digital Wallets and the Extinction of Plastic Cards”](#), *dbresearch*, January 2020, p. 7

³⁴⁹ [“Avoid cash to stop coronavirus spreading, World Health Organisation warns”](#), Metro, March 3, 2020; [“Cash could be spreading the coronavirus, warn he World Health Organization”](#), Business Insider, March 5, 2020; In contrast, the Deutsche Bundesbank, citing an infectiologist, denied the transmissibility of the virus through cash on March 17, 2020: [“Von Bargeld geht kein besonderes Infektionsrisiko für Bürger aus”](#) (“Cash does not pose a particular risk of infection for citizens”), March 17, 2020

³⁵⁰ [“China is sterilizing cash in an attempt to stop the coronavirus spreading”](#), CNBC, February 17, 2020

³⁵¹ [“Aldi, Rewe & Co: Im Einzelhandel erlebt die Kartenzahlung während der Corona-Krise einen Anstieg von bis zu 65 Prozent”](#) (“Aldi, Rewe & Co: In retail, card payments are experiencing an increase of up to 65 percent during the Corona crisis”), Business Insider, March 31, 2020

Negative interest rates and open capital markets

In the discussion of the economic limits to the implementation of low negative interest rates, one important aspect has not yet been examined, namely the openness of capital markets. Even if the IMF has accepted capital controls under certain circumstances since 2011, the freedom of capital movement is one of the cornerstones of the post-Bretton Woods monetary order; more precisely, the free movement of capital is one of the pillars of the Western economic model.

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

Domestic currencies are indispensable for the settlement of payments, but especially for taxes and duties. This part of the demand for a domestic currency is therefore relatively rigid. Much less rigid is the demand for domestic currency to be used to build up savings or invest in shares, bonds, or real estate. This part of the demand for domestic currency can flow abroad if negative interest rates are too high at home. In the age of digital banking, such transactions can be ordered in the shortest possible time, and processing is becoming faster and faster.

The advantages of investing in a foreign currency or abroad are obvious when negative interest rates are substantial. The saver or investor does not only benefit from higher interest rates abroad but can also benefit from the appreciation of the target currency, especially if the currency is that of a comparatively small economy, such as the Swiss franc. If interest rates are very low, capital controls are likely to be imposed by the source country, with the imposition of capital controls dependent largely on the interest rate differential between that country and others – the higher the interest rate differential, the more likely are high capital outflows, and the more likely are capital controls.

Capital controls of the country of residence

In the era of the gold exchange standard, capital controls were the order of the day. These became all the more stringent and comprehensive the more the US inflated the dollar. Due to the gold convertibility of the US dollar at the fixed rate of USD 35 per troy ounce, each dollar that flowed abroad corresponded to a foreign claim on US gold reserves of 1/35 of a troy ounce. The inflation of the US dollar led to a steady increase in the number of gold claims in circulation, and of these claims flowing abroad. **This threatened the US gold treasure, which was steadily declining.**

Inflation is taxation without legislation.

Milton Friedman

US gold reserves, in tonnes, 1965-1985



Source: Nick Laird, goldchartsrus.com, Incrementum AG

To stop this outflow, President John F. Kennedy introduced the Interest Equalization Tax Act in March 1963. The purchase of foreign shares by US citizens was subject to a 15% tax, and the purchase of foreign bonds was now also subject to a 15% tax, up from the previous 2.75%. Within a very short time, purchases of foreign shares by US investors fell by 75%. Kennedy's successor, Lyndon B. Johnson, who had previously served as vice president, persuaded the Federal Reserve to adopt the so-called Voluntary Foreign Credit Restraint Program. This program was designed to limit loans from US banks to nonresidents.

Capital controls on the part of the recipient country

But the recipient country can also impose capital controls, for example to prevent the excessive appreciation of its own currency. **For small, open economies, in particular, comparatively small capital inflows can result in significant upward pressure on their currencies.** A typical example of such an economy is Switzerland, which regularly suffers from this problem. Thus, Switzerland has a long history of fighting the inflow of foreign capital and foreign exchange. We would like to cite here an incomplete potpourri of measures that Switzerland has adopted over the past 50 years, i.e. since the collapse of Bretton Woods and the gold exchange standard.

Switzerland in the 1970s

The increasing volatility in the late 1960s heralded the end of the Bretton Woods system. As a result of strong capital inflows, the foreign exchange reserves of the Swiss National Bank (SNB) had swollen by 94.0% in 1966 and by 191.2% in 1968. However, the then still existing system of fixed exchange rates in the form of the gold exchange standard prevented the Swiss franc from appreciating, but in return led to a sharp increase in the money supply, from 2.1% growth in 1966 to 10.9% in 1968. **Accordingly, enormous inflationary pressure built up in Switzerland.**

History shows that once an enormous debt has been incurred by a nation, there are only two ways to solve it: one is simply to declare bankruptcy – repudiate the debt. The other is to inflate the currency and thus to destroy the wealth of the ordinary citizen.

Adam Smith

There is nothing new except what is forgotten.

Rose Bertin

We want to trust in the one highest God and never be afraid of human power.

Rütli Oath, 1291

You know, I have no idea how to make monetary policy under flexible exchange rates. The only thing I've ever dealt with in my life is the question of how to combat capital inflows, how to prevent too much money coming into Switzerland.

**Fritz Leutwiler,
 SNB Chairman 1974**

Even before the collapse of the gold exchange standard on August 15, 1971, the Swiss franc experienced its first appreciation on May 9, 1971 – at that time still due to a change in the gold parity. The adjustment from the original gold parity of the Swiss franc, which had been in force since May 31, 1940, from 203.22 mgr fine gold to 217.59 mgr fine gold, and the associated adjustment of the US dollar parity from 4.0841 to 4.2728, corresponded to an appreciation of 7.07%. Half a year later (more precisely, on December 18, 1971), the Smithsonian Agreement was adopted in Washington, under which the US dollar was devalued by 7.89% against gold. As a consequence, the currencies of the leading world economies appreciated against the US dollar by between 7.48% and 16.9%, and the Swiss franc by a further 6.4%. Thus, within six months the Swiss franc appreciated by almost 14% against the US dollar.

The 1970s were characterized by several waves of large capital inflows to Switzerland. In 1971, between May 3 and May 5 alone, the SNB received US dollars worth CHF 3.2 bn. This corresponds to around 9bn in today's Swiss francs. Switzerland reacted to this inflow by temporarily closing its foreign exchange market. Nevertheless, foreign exchange reserves soared by 41.9% in 1971, after having already risen by 34.6% in 1970. The share of foreign exchange reserves in the balance sheet of the SNB multiplied within a few years. In 1965 it stood at 8.4%, seven years later at 52.1%. In other words, while the balance sheet grew by a total of CHF 12.7 billion in those years, Switzerland recorded a foreign exchange inflow of CHF 13.3 billion. And because it was not possible to sterilize the inflow of foreign funds later on, money supply growth climbed sharply to 21.2% in 1971 and 17.1% in the following year.

Moreover, the international monetary order was undergoing profound change. Gradually, the system of flexible exchange rates emerged. Switzerland itself became part of this system on January 23, 1973. Germany had already switched to flexible exchange rates during the US dollar crisis in May 1971, after having closed its capital market on May 5, 1971, to prevent significant capital inflows as a result of the capital flight out of the US dollar. Austria, Belgium, and the Netherlands did also temporarily close their capital markets.

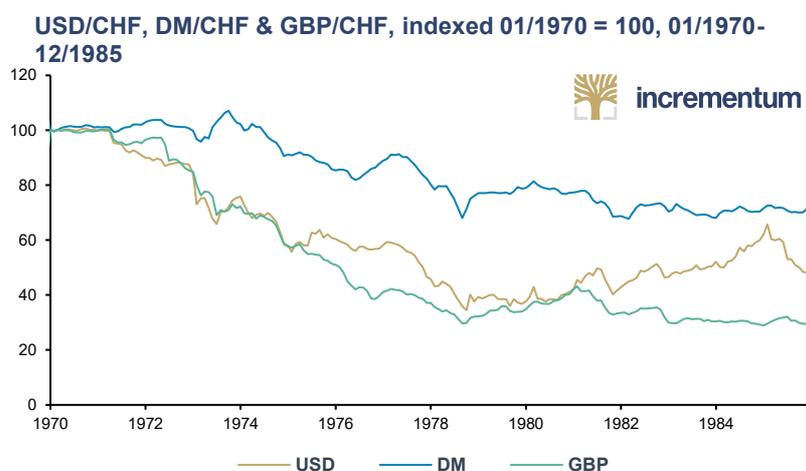
In the emerging system of flexible exchange rates, the massive inflow of foreign exchange led to the immediate appreciation of the Swiss franc. Various steps were taken to stem the inflows, which mainly originated from the US, Great Britain, and Italy. The legal basis for this policy was adopted on October 8, 1971. The Federal Decree on the Protection of the Currency authorized the Federal Council, the government of Switzerland, to take measures in exceptional situations “to ward off the undesirable inflow of foreign funds and to promote their outflow”.³⁵²

³⁵² Our translation. This federal decree had to be submitted to a mandatory referendum, which took place on June 2, 1972. The yes vote was overwhelming at 87.7%. On June 28, 1974, the act was extended for the first time and again submitted to the Swiss electorate. The approval rate of 85.5% was only marginally lower. The second extension on October 7, 1977 no longer needed to be submitted to a referendum, as other legislative decisions allowed the Federal Decree on the Protection of the Currency to be converted into ordinary law.

In such experience as I have had with taxation – and it has been considerable – there is only one tax that is popular, and that is the tax that is on the other fellow.

Sir Thomas White

These measures remained in force until 1978, when the SNB radically changed its policy overnight. Instead of the largely ineffective measures to control capital movements, in particular to stem the inflow of foreign exchange, it set a minimum rate for exchanges against the Deutsche Mark and began to defend the lower limit of 80 centimes by intervening in the foreign exchange market. Only this “coup of 1978” was able to stop the dramatic and unwanted appreciation of the Swiss franc. **In the resultant fall of the exchange rate from 4.34 to 1.49, the US dollar recorded a loss of almost 2/3 against the Swiss franc from January 1970 to December 1978.** Over the same period, the British pound fell by more than 70%, from 10.40 to 3.08, after having already recorded a loss of 15% from October 1967 onwards. After an intermediate appreciation of 7% to 1.25, the Deutsche Mark lost more than 1/3, to 0.80.



The sharp appreciation of the Swiss franc was quite infuriating for Swiss industry, which perceived the appreciation as a considerable competitive disadvantage, while the commercial banks flourished thanks to the substantial and ongoing inflow of foreign exchange. It was not only in Switzerland that export-oriented industry initially resisted the implementation of a hard-currency policy. The later success of the hard-currency policy of the Deutsche Mark bloc, along with that of Switzerland, should prove, though, that industry fears were unfounded.

Capital controls as implemented in Switzerland

So what were the measures by which the legislature, in cooperation with the SNB and the banks, tried to stem the inflow of foreign exchange? In some cases, the same defensive measures were used several times, but in different forms, and the duration of application of the individual instruments varied greatly.

1) Minimum balance: Nonresidents had to have a minimum balance in their accounts. This made it considerably more difficult for foreign small investors to transfer their assets into Swiss francs.

2) Zero or negative interest: The accounts of nonresidents were excluded from receiving interest payments. Initially only increases in the balance were excluded, later the total balance. In addition, a so-called commission fee was charged,

originally only on the increases in balances, later on total balances of more than SFR 5mn. In most cases, the commission fee was 2% or 3% per quarter, but in January 1975 it was increased to 10% per quarter. The term *commission fee* is of course nothing more than a euphemism for *penalty* or *negative interest*.

3) Conversion restriction: The amount of foreign exchange that could be exchanged into or out of Swiss francs per day was limited.

4) Import restrictions: A limit on the transfer of foreign banknotes to Switzerland was imposed.

5) Authorization requirement for loans: Borrowing abroad became subject to authorization. This measure was justified as follows: *“The use of the Swiss franc is not desirable from a monetary policy standpoint... As you know, we have long resisted the 'internationalization' of the Swiss franc. Where [...] a permit is required, we therefore refuse to grant a permit. In order to implement this policy, a reduction of the exemption limit [from 1 million] to CHF 50,000 is desirable.”*³⁵³

6) Investment prohibitions: Nonresidents were prohibited from investing in stocks, bonds, and real estate. The aim was to prevent bubbles in the respective markets and increased market instability if changes in the law in source countries led to repatriations and thus to significant capital outflows.

To be ignorant of what occurred before you were born is to remain always a child.

Cicero

Switzerland's success is largely based on the fact that it was built on economic rationality and not on politics.

Claudio Grass

However, the subsequent introduction of a lower exchange rate limit for the Deutsche Mark of 80 centimes in October 1978 must also be considered as an instrument of financial repression, as it prevents any additional revaluation gains through interventions on the foreign exchange market. Holders of Swiss francs and Swiss franc-denominated assets and balances are deprived of revaluation-related purchasing-power gains.

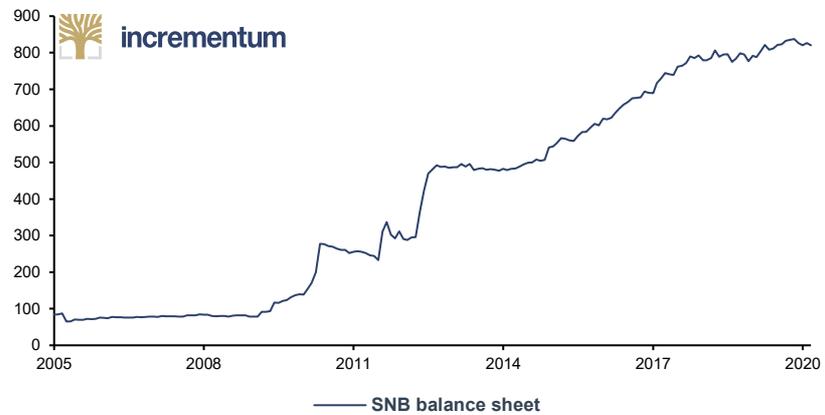
Switzerland since 2014

In the 2010s, Switzerland is once again having to contend with massive inflows of foreign exchange, which have been caused by the euro crisis and the ruble crisis. These inflowing funds seek protection against devaluation losses, but also against a (partial) loss of wealth through direct measures of financial repression, such as considerable haircuts and bail-ins, as were applied for the first time in the 2013 Cyprus crisis. With the abolition of the minimum Swiss franc exchange rate of 1.20 per euro on January 15, 2015, and the introduction of negative interest rates a week later, the SNB is currently attempting to use those means that did not work in the 1970s to alleviate the upward pressure on the Swiss franc, or in other words to prevent the full impact of financial repression abroad from being felt by the Swiss economy. **The bill was paid by all nonresidents who borrowed in Swiss francs in order to benefit from the – sometimes significantly – lower interest rates in Switzerland.** Swiss franc loans of at least EUR 150bn went in one fell swoop from an already bad deal to a financial

³⁵³ SNB: Minutes of the Governing Board (1973), January 18, no. 43, quoted in: *“Die Schweizerische Nationalbank, 1907-2007”*, (*“The Swiss National Bank, 1907-2007”*), *NZZ Libro*, 2007, p. 177, our translation

catastrophe for debtors, although many countries have called the creditor banks to account.³⁵⁴

SNB balance sheet, in CHF bn, 01/2005-03/2020



Source: Reuters Eikon, Incrementum AG

Conclusion

“The secret of a successful repression is to steal money from savers slowly.”

Russell Napier

Cash is a thorn in the sides of many. Among economists, monetary policy considerations have come back into focus in recent years, despite the fact that the first serious doubts have been expressed about the effectiveness of ZIRP (zero interest rate policy) and NIRP (negative interest rate policy).

The natural remedies, if the credit-sickness be far advanced, will always include a redistribution of wealth: the further it is postponed, the more violent it will be. Every collapse of a credit expansion is a bankruptcy, and the magnitude of the bankruptcy will be proportionate to the magnitude of the debt debauch. In bankruptcies, creditors must suffer.

Freeman Tilden

While Sweden is at the centre of attention because of its unique approach to combating the Covid 19 pandemic, Sweden again took two remarkable steps last year, one in terms of monetary policy and one in terms of the importance of cash. On December 19, 2019, *Sveriges Riksbank* ended the era of Swedish negative interest rates by raising its key interest rate by 25 basis points to 0%. The negative consequences of the negative interest rate policy outweighed the positive consequences, according to Swedish central bankers. A few months earlier, in the summer of 2019, the Swedish Civil Contingencies Agency (MSB) strongly recommended the Swedish population to increase their cash holdings.³⁵⁵ The authorities realized that a cashless society is extremely vulnerable in the event of a prolonged blackout, for example as a result of a cyber-attack. Moreover, the slight increase in Swedish currency in circulation in 2019 confirmed the change of trend, which got underway the year before. 2018 was the first time since 2007 that the currency in circulation had not decreased.³⁵⁶ This eleven-year decline is all the more remarkable given that during the same

³⁵⁴ “Franken-Kredite: Österreich EU-weit an erster Stelle” (“Swiss Franc loans: Austria in first place EU-wide”), *Die Presse*, January 19, 2015

³⁵⁵ “Stockpile coins and banknotes”: Sweden tells its citizens to squirrel away hard cash under their beds in case of a cyber attack”, *Daily Mail*, May 6, 2019

³⁵⁶ “Sweden’s march towards a cashless economy went into reverse”, *Quartz*, July 31, 2019

period the Swedish population increased by around 1 million, or approximately 11%, to 10.1 million inhabitants. **So it seems that even in Sweden, which is far from cash-savvy, cash has still an economic role to play.**

The ongoing coronavirus pandemic and the massive economic upheaval it has caused have greatly increased the pressure on cash, but hardly noticeable at the moment. Monetary policy opened a variety of monetary floodgates at a very early stage of the crisis in order to counteract the economic slump that was evident from the outset. Fiscal policymakers in many countries took up Mario Draghi's "whatever-it-takes" declaration and adopted rescue packages at previously unimagined levels. But even these measures had to be topped up again just a few weeks later.

With the cautious and gradual opening of the shops, normality slowly began to return from mid-April onwards. With it, the discussions about economic stimulus packages will become much more intense. It is therefore more likely that these discussions will - indirectly - increase the pressure on cash. Kenneth Rogoff, for example has once again brought his proposal of strongly negative nominal interest rates into the discussion.³⁵⁷ **In view of the deep economic distortions and huge budget deficits looming, it cannot be ruled out that the coronavirus will help the strongly negative nominal interest rates - and their negative side effects - to make a breakthrough after all.**

³⁵⁷ Rogoff, Kenneth: "[The Case for Deeply Negative Interest Rates](#)", Project Syndicate, May 4, 2020

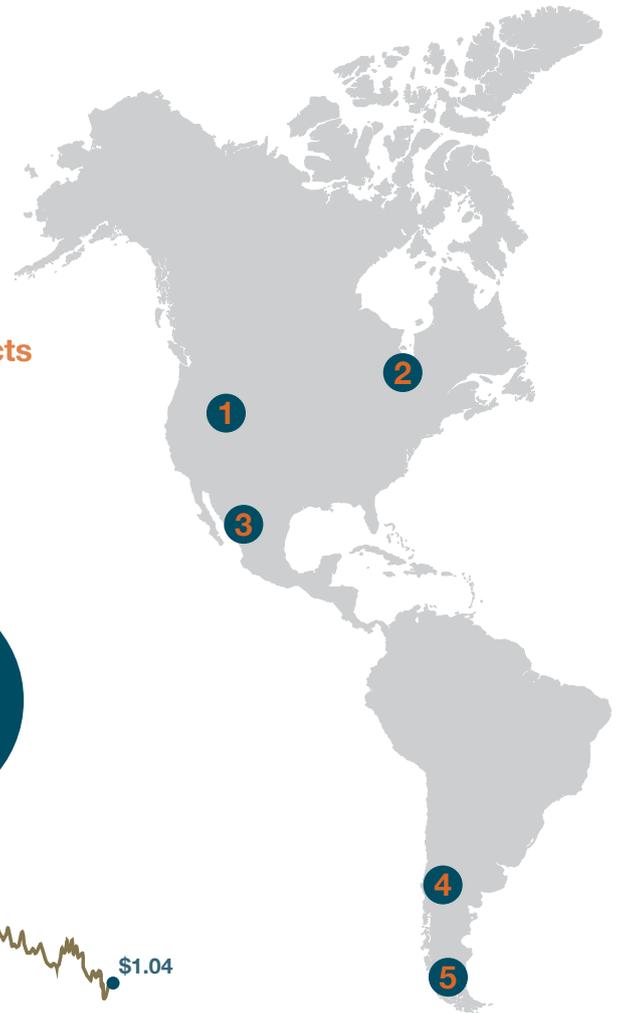
MUX

McEWEN MINING
ASSET RICH
GROWING VALUE

MARKET LIQUIDITY, LEVERAGE TO GOLD, SILVER & COPPER

Rob McEwen, CEO & Chief Owner

Invested \$164 Million
 Owns 20% MUX
 Salary \$1 / Year
 No Bonus, No Options

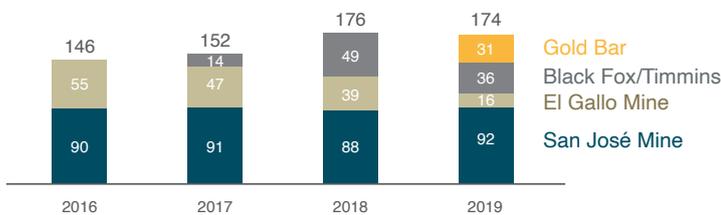


MUX Growing in Two of the World's Richest Gold Districts

1. Exploring & Producing - Cortez Trend, Nevada, US
2. Exploring & Producing - Timmins, CA
3. Producing & Extending Mine Life - MX
4. Copper Deposit, Big Optionality - AR
5. High Grades & Sustained Production - AR



ANNUAL PRODUCTION THOUSAND GEOS²



CORPORATE RESOURCE & RESERVE³

	Resources		Reserves
	Inferred	Measured & Indicated	Proven & Probable
GOLD	5,786 Koz	7,486 Koz	706 Koz
SILVER	150.3 Moz	108.9 Moz	7.4 Moz
COPPER	19.3 B lbs	10.2 B lbs	

¹ As at April 23, 2020 ² Gold / silver ratio 75:1 until 2018, 85:1 for 2019.

³ Reserves and Resources as of Jan 26, 2020. For complete details, visit www.mcewenmining.com/Operations/Reserves-and-Resources/default.aspx



CONTACT
 Mihaela Iancu,
 Investor Relations

1.866.441.0690 x320
 info@mcewenmining.com
 www.mcewenmining.com

The Plan B Model: The Holy Grail of Bitcoin Valuation?

“The high stock-to-flow ratio, the liquidity of the market, and its unique features as a monetary good set gold apart from all other asset classes and make it an efficient hedge against systematic market risk.”

In Gold We Trust report 2011, page 26

Key Takeaways

- The “Plan B” model for the development of Bitcoin gained worldwide recognition overnight. It estimates the price of Bitcoin using the stock-to-flow ratio, a proxy for the scarcity or hardness of money. Up to now, the stock-to-flow ratio has primarily been looked at more closely in the context of gold analysis.
- Historically, the stock-to-flow ratio has been an almost perfect exogenous regressor for the development of the price of Bitcoin, as the coefficient of determination (R^2) is 95%.
- According to the model, the price of Bitcoin should rise to USD 55,000 after the next “halving” in May. The problem with the model is that due to the regression to logarithmic numbers, the range within which the Bitcoin price can move without rejecting the model is very high.
- Mark Valek’s Exclusive Interview with “Plan B”

The Plan B Model: The Holy Grail of Bitcoin Valuation?

What is the “Stock-to-flow ratio”?

The Stock-to-Flow Ratio

The stock-to-flow ratio (SFR) is a ratio in the area of raw materials, which can ultimately be used for price modelling.

“Stock” refers to how much of a certain raw material is mined or would potentially be in stock if the entire stock were offered.

“Flow” stands for the production quantity within a certain period, usually within one year.

If these two figures are compared, you realize that this ratio can be used as a e of the constancy of the quantity of raw materials.

$$\frac{\text{Stock}}{\text{Flow}} = \frac{\text{Total Stock (Quantity Issued to Date)}}{\text{Annual Quantity Issued}}$$

An example: While the total amount of gold ever mined is about 190,000 tonnes (stock), the annual production is about 3,000 tonnes (flow). If you divide the stock by the flow, you get a stock-to-flow ratio of 63.3, which means that at the current production level, it would take more than 63 years to double the gold stock or rebuild the current stock.

So, the larger the number, the more constant is the raw material that is examined. While the “stock” is a given size and grows yearly exactly around the “flow”, the “flow” depends on various factors, such as the rarity, the price and the difficulty of extracting the raw material.

Since the article “Modeling Bitcoin's Value with Scarcity”³⁵⁸ appeared on the online platform Medium in March 2019, it has already been translated into over 25 languages and will soon spread worldwide. **But what exactly is it all about and what conclusions can be drawn from it? In the following article, we'll explore these and other questions.**

The basis for the entire model is the so-called stock-to-flow ratio. Regular readers of the *In Gold We Trust* report are familiar with this concept already for many years.³⁵⁹ For those who are not yet familiar with the concept or who would like to refresh their knowledge of it, please refer to the info box on the left.

The author of the article, who blogs under the pseudonym “Plan B”, dared to try to model the price of Bitcoin on the basis of the stock-to-flow ratio (SFR). The concept, which was originally applied to gold and other precious metals, hit the Bitcoin scene like a bomb. How did it come about that a concept for commodities could be applied to a cryptocurrency?

Bitcoin, Gold and Scarcity

Two main factors contribute to the value of gold – the most important precious metal for investors:

1. Relative Scarcity

How much gold is available depends on how much gold has been provided by Mother Nature and how easy or difficult it is to mine. For Bitcoin, the amount does not depend on exogenous factors, but on the computer code defined in the protocol, which limits the maximum amount of Bitcoins to 21 million pieces.

2. The Difficulty of Extraction

Extracting gold is complex, and therefore, expensive. The material wear and tear, energy consumption as well as the labor input of the extraction is high. Mining new Bitcoin is also costly. Hardware, software, specific know-how and above all a lot of electricity is needed to provide the network with computing power and thus to secure and operate it.

³⁵⁸ Plan B: “Modeling Bitcoin's Value with Scarcity”, Medium.com, March 22, 2019

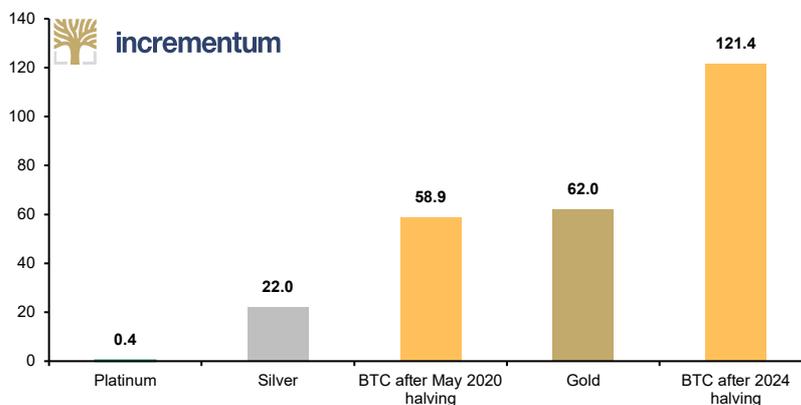
³⁵⁹ See “Stock-to-flow ratio distinguishes between gold and commodities”, *In Gold We Trust* report 2011; “The Stock-to-Flow Ratio as the Most Significant Reason for Gold's Monetary Importance”, *In Gold We Trust* report 2014

Bitcoin is the currency of resistance.

Max Keiser

Similar to gold, Bitcoin is both scarce and expensive to extract. Therefore, an analysis of the price development of Bitcoin with the SF model, which was originally designed for commodities, seems to be reasonable due to its similarity to gold.

Stock-to-flow ratios, 2020



Source: Medium Original Article, ZPX, Satoshi & Co. Research, Incrementum AG

The Quantitative Valuation of “Plan B”

A special feature of the Bitcoin protocol is that the code already determines how the Bitcoins offering – and thus the stock-to-flow ratio – will develop in the future.

Inflation rate and societal wellbeing are inversely related: the more reliably value can be stored across time, the more trust can be cultivated among market participants.

Robert Breedlove

The maximum number of Bitcoins is 21 million (maximum stock). The number of newly generated Bitcoins is also fixed (flow). However, the Bitcoin flow is not constant over time. Every 210,000 blocks, i. e. every four years, the so-called block-reward is halved. This is the number of Bitcoins that the successful miner receives for its validation services. Since Bitcoin is denominated to eight decimal places, the reward per block will arrive at 0 exactly after the 33rd halving. Based on a halving every four years, the last Bitcoin will therefore be mined in 2140.

Just a few days ago a halving took place for the third time in Bitcoin's history. Until two weeks ago miners received 12.5 Bitcoins per block, from now on only 6.25 Bitcoins.

Development of the “Block Rewards”

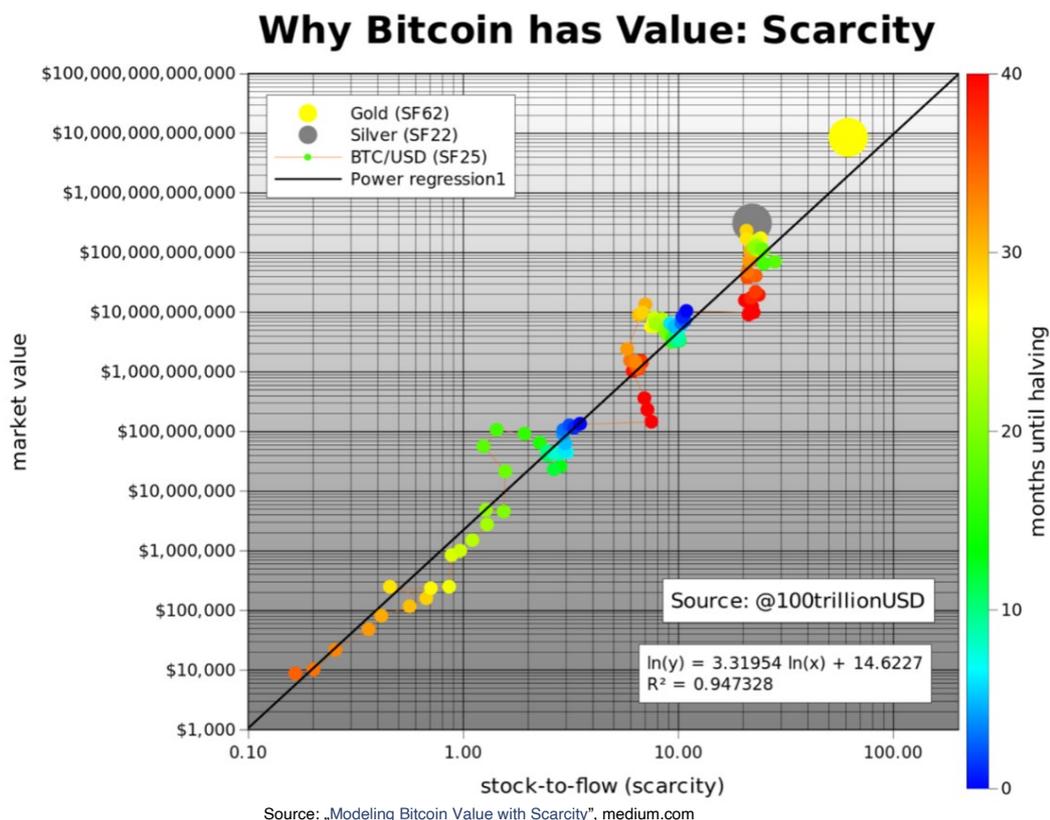
Period	Block Reward in BTC
Genesis Block – November 2012	50
November 2012 – July 2016	25
July 2016 – May 2020	12,5
May 2020 ~ May 2024	6,25
May 2024 – May 2028	3,125

Source: Incrementum AG, www.coindesk.com/bitcoin-halving-explainer

Plan B examined a total of 111 data points between December 2009 and February 2019 and determined the respective market capitalization of Bitcoin and the corresponding SFR. Then the author pulled the data and one thing was immediately apparent: **The higher the SFR, the greater the market capitalization.**

Let us take a closer look at the most important chart of the Plan B article below:

Plan B's famous chart



In Plan B's stock-to-flow chart, the small dots represent Bitcoin's historical price data over time. The large grey and yellow dots show the respective market capitalization of silver and gold and their respective SFR. The regression suggests what can be seen with the naked eye: a statistically significant relationship between SFR and the market capitalization of Bitcoin.³⁶⁰

Plan B argues that the correlation is so strong that the dominant driver for the price must be scarcity, or SFR. However, the author also acknowledges that other factors such as regulatory measures, hacks, and other news have an impact on the price; therefore, not all the data points are perfectly in line. The fact that the SFR of gold and silver also fits very well into the picture is a further validation of the model.

³⁶⁰ The results of the regression are as follows: R^2 0.95; F -Test: 2.3E-17; P -Value: 2.3E-17

Points of Criticism of the “Plan B” Model

- The model is based purely on the supply side (maximum number, Bitcoins per block, etc.) and does not consider the demand for Bitcoins.
- Regulatory measures, possible hacks, etc., i.e. (largely non-quantifiable) control variables, are not included or built into the model.
- Historical data is not a source of forecasts.
- The statistical correlation between the SFR and the price of Bitcoin does not infer a causality, only a correlation.
- If the model is correct, prices should already reflect this.
- At some point Bitcoin will become truly deflationary (the loss of BTC per year would exceed the annual mining production), resulting in a negative SFR. The model cannot predict what will happen to the price in this case.
- Lack of stationarity of the data.
- The high R^2 - value could be a consequence of the missing stationarity of the data.
- The empirical work of Plan B is not precisely documented, which makes it difficult to find methodological weaknesses.

Since the halvings have such a great influence on the SFR, Plan B has color-coded the months before and after a halving in the chart. Dark blue are the months in which a halving occurred, and red are the points shortly after the halving. The current SFR of ~25 has thus just recently doubled to ~50, which is already close to the SFR of gold.

Based on this model, the forecast market value for Bitcoin after halving in May 2020 is 1trn USD, which would correspond to a Bitcoin price of 55,000 USD. Due to the regression with the logarithmic values, however, high absolute deviations are possible in the meantime. Yet, in the medium term, the Bitcoin price must remain within the proposed price range of the model, provided the model continues to maintain its high statistical significance. A problem in using the model is the different possibilities of interpretation regarding the deviation of the Bitcoin price from the price predicted by the model. It is not clear when the model would have to be discarded.

Variants of the Plan B model

We dug a little deeper and found out that there are already several variants of the Plan B model.

- Due to the fact that the original model was based on figures up to December 2018, additional monthly data could be included in the model. In addition, historical data research made it possible to incorporate figures back to September 2009 into the model. These data extensions resulted in new price estimates for Bitcoin after the halving. These vary between 60,000 USD and 90,000 USD and are therefore higher than the value predicted by the original model.
- Another variant of the model is based purely on the data before November 2012, i.e. no halving has taken place before that date. This model would have anticipated a tenfold increase in the Bitcoin price for both halvings that already took place in 2012 and 2016. Using this "out-of-sample" variant of the model, one gets a price estimate of 100,000 USD after the next halving.
- Another interesting model is the so-called "time-based model", as it explains the increase in the value of Bitcoin over time with a different underlying causality. The model states that Bitcoin increases in value as more and more market participants know about Bitcoin, deal with it and take the step to buy it. The narrative for the increase in value is thus the adoption, but not the scarcity (SFR). The estimates of this model are more

conservative, and it is assumed that the price of Bitcoin will not break the 100,000 USD barrier until 2021-2028.

Overview of different SF-models

Model	The original model	Original model with extended data	The out of sample model	Time based model
Proposed value post 2020-halving	55,000 USD	Between 60,000 and 90,000 USD	100,000 USD	unclear Between 2021 and 2028: 100,000 USD
Special feature	The first rapidly spreading model for price evaluation of Bitcoin with scarcity as input factor.	Complements "the original" model with further data (older and younger).	Only uses data before November 2012, so no halving has occurred in the data set.	The reason for the price growth in this model is the progressive adaptation of Bitcoin.

Source: Plan B: [Podcast Stephan Livera Episode 67](#), Incrementum AG

It's all about relative supply curves – the supply curve for bullion is far more inelastic than is the case for paper money. It really is that simple.

David Rosenberg

Conclusion

The stock-to-flow model has shaped the crypto year 2019 like no other development. The accuracy with which the model traces price developments of the past is outstanding. It was also possible to observe how the model drove additional researchers and critics to take a closer look at the price development of Bitcoin. In the medium and long term, this invested human capital will contribute to a better understanding of Bitcoin and its adoption to a broader population. **The partly heavily criticized Model from Plan B will have the opportunity to prove itself as a forward-looking achievement starting this May – and it deserves exactly this opportunity.**

The Stock-to-Flow Model: Mark Valek's Exclusive Interview with "Plan B"



Plan B is blogging under a pseudonym. Who exactly is behind this baseball cap remains unknown. We also asked him some personal questions in this interview. His Twitter handle is: @100trillion USD.

Plan B, When Will You Show Yourself?

We arranged an interview with the father of the "stock-to-flow model". Plan B says that Bitcoin is here to stay. He also expects the price explosion of Bitcoin to be foreseen by his model. Why he is so sure about this? How does he deal with critics? Will he ever take off his cap and show his face?

Mark Valek: *Plan B, almost a year ago the publication of your model really shook up the entire crypto community. How do you deal with all this attention you and your model have received? What have you experienced this past year?*

Plan B: It has been a very interesting year since the publication of the article March 22, 2019. The paper was well received, and I gained valuable feedback from econometricians and math/stats people all over the world. I love the interaction with the community and the open source vision of sharing knowledge. I really enjoyed doing the podcasts. With 60k followers and a full-time job, I do have to make choices. It is almost impossible to read all the comments, DM's (Direct Messages), Telegram messages, WhatsApp messages, emails, and I hope everybody understands. I want to keep focused on analysis, investing, and writing more articles.

Mark Valek: *What you do for a living and why do you use a pseudonym?*

Plan B: I am both an analyst & investor at an investment office of a large institutional investor in the Netherlands. As a team we invest USD 50+bn AUM. My main focus is on mortgages, loans, and structured finance. I do not want my employer to have any negative consequences from my Bitcoin "hobby". Also, I consider it good operational security to remain anonymous.

Mark Valek: *Where did your interest in Bitcoin come from?*

Plan B: If you have seen the movie *The Big Short* (2015), that was my life from 2007-2008: CDO's (Collateralized Debt Obligations), ABS (Asset Backed Securities), and RMBS (Residential Mortgage Backed Securities) etc. The craziness of negative interest rates and QE (Quantitative Easing) forced me to rethink everything I knew about finance. So, I was actively looking for QE hedges in 2013 and found an article about Bitcoin on ZeroHedge. I read the whitepaper³⁶¹, was hooked and went down the rabbit hole.

Mark Valek: *Why did you start to model the value of Bitcoin?*

Plan B: I started modeling because I wanted to know what drives Bitcoin's price. I noticed that there was a lot of technical analysis, but not much statistics /

³⁶¹ Nakamoto, Satoshi: Bitcoin: "[A Peer-to-Peer Electronic Cash System](#)", bitcoin.org, undated

econometrics modeling. So, I tried to make a more fundamental model, based on Bitcoin value: it's scarcity.

Mark Valek: *In our In Gold We Trust reports we have been writing about the SFR of Gold and Silver for many years.³⁶² It is great that through your model this concept of scarcity has been introduced to an even greater community. In terms of terminology, however, we prefer to talk about constancy, rather than scarcity when talking about stock-to-flow. A higher SFR indicates a more constant quantity rather than a scarcer quantity of the good. Even though this is just a minor differentiation in terminology, we think that this could be helpful for a more intuitive understanding of the stock-to-flow concept. What are your thoughts in this respect?*

Plan B: Unforgeable scarcity (Nick Szabo) is a well know concept in the Bitcoin community, so I see stock-to-flow as a nice quantification of that concept. Frankly I think some people in the "commodity community" don't have a very good definition of scarcity. For example, I talked to a lot of commodities investors that think platinum is scarcer than gold because there is less platinum in the world than gold. I prefer the definition of scarcity that relates production (flow) to stock. You could also interpret this as inability of producers to influence stock (and thus price): with oil producers have much influence, and with gold less. Maybe your definition of "constancy" is the same? This is something we should discuss further.

Mark Valek: *Could you please explain to us the analogy regarding "the drunk and his dog" again and tell us the meaning for our readership?*

The Drunk & His Dog

The drunken sailor goes out with his dog on a leash, wanders around in a random fashion and the dog has to stay with him, but sometimes he is on the right, sometimes on the left, but he cannot go any further as he is on a leash. You don't know where the drunken sailor and the dog are going, but you do know they stay together.

Plan B: The drunk and his dog story is a popular story to explain cointegration. Correlation is about how two series move together. Cointegration is about two series staying together. So, the drunk walks a random unpredictable path, and his dog too, but the distance between the drunk and the dog is predictable, it is never larger than the leash. So, without knowing where the drunk or dog are going, we can predict they stay together. With stock-to-flow and Bitcoin it is special case of course, because we know where one of the two is going: SFR. Cointegration is used to test if correlation is spurious or real: no cointegration =

spurious. SFR and BTC are cointegrated, so they are likely (no guarantee) not spurious.

Mark Valek: *Your model has occasionally been criticized that it only explains the Bitcoin price in reference to Bitcoin supply. If this is even possible, how do you incorporate demand?*

Plan B: People that use the demand argument probably don't have a statistics or investing background. The argument is theoretically right (price is a function of

³⁶² See "[Stock-to-flow ratio distinguishes between gold and commodities](#)", *In Gold We Trust* report 2011; "[The Stock-to-Flow Ratio as the Most Significant Reason for Gold's Monetary Importance](#)", *In Gold We Trust* report 2014

supply and demand) but there are a lot of famous pricing models that do not use demand – or supply – as input and still give good predictions. Some examples of this are the Capital Asset Pricing Model (CAPM) and Black & Scholes model, as both price with only risk/volatility (standard deviation, etc.). The demand argument is really based on ignorance.

Mark Valek: *Let's now throw a new thought into the equation: The model tries to explain the price of Bitcoin in US dollar. We know, that measuring value in fiat money over time is difficult, as fiat currencies are designed to be permanently inflated. In our mind, the model implicitly does not take into account fiat money inflation. If say, – at least for the sake of a thought experiment – the US dollar would hyperinflate within the next years, we would expect the model to vastly underestimate the US dollar value of Bitcoins. What are your thoughts regarding the dollar-inflation in regard to SF model?*

Plan B: It is true that the SF model doesn't correct for inflation. If we would do that, we probably see not much difference anyway because from 2009-2019 inflation was low. And indeed, in my opinion the SF model predicts US dollar hyperinflation because Bitcoin in US dollar does this 10x every 4 years. Many people have problems with this thought, but for me it is not an improbable scenario, given negative interest rates and what central banks are doing with QE. They are going full Zimbabwe in my opinion.

Mark Valek: *What is the deal with the artist you commissioned?*

Plan B: The artist Petek was intrigued by the charts and she asked permission to paint it. It will be a unique painting with some special elements that are yet to be revealed. It is exciting to see that a lot of other people are inspired as well and are commissioning a similar SF painting. Her idea is that she will make a series of paintings using different colors and materials based on SF. I think Bitcoin is not only about programming and money but also about a movement and a revolution. Art and science are two sides of the same thing, they belong together.

Mark Valek: *What other projects are you currently working on?*

Plan B: I am cooperating with other Bitcoiners on research and writing more articles. I am working together with some investment funds, also traditional institutes, finding ways to include an exotic investment like Bitcoin in the existing asset mix. Also, I am doing chain-analytics, crunching the 300GB blockchain to find more patterns that can give insights and be used for proprietary trading, that is really uncharted territory.

Mark Valek: *(When) can we expect an outing of Plan B?*

Plan B: I think the chances of me going dark are higher than an outing. I have no desire to become a public figure. Especially when the model works, which I hope and expect of course. People that want to meet me know where to find me, through my network, and everybody can verify it is me by my cryptographic signature (like on the articles).

TSX.V: EMX
NYSE American: EMX
Frankfurt: 6E9

52-week High: \$2.77 / Low: \$1.44¹

EMX holds a 19.9% equity interest in the Rawhide Acquisition Holding LLC's Rawhide Gold-Silver mine, located within the prolific Walker Lane gold-silver belt of Nevada. The LLC distributes 50% of its taxable income to the LLC members on a quarterly basis.



EMX Royalty holds a 0.5% Net Smelter Royalty over Zijin Mining's 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.

- EMX Royalty Recovers Expenses from Its Partners Through Reimbursements, Operator Fees and Property Income
- Incoming Cash Flow from Production Royalties, Advance Royalty Payments, Milestone Payments, Management Fees and Annual Property Payments
- 83 Million Shares Outstanding and 90 Million Shares Fully Diluted^{*}
- Strong Balance Sheet^{**} Comprised of:
 - Cash - \$69 million[†]
 - Investments - \$5.5 million[†]
 - Debt - \$0[†]

[†] Canadian Dollars

^{*} As of March 31, 2020 ^{**} As of December 31, 2019



EMX Royalty holds a 1% gross smelter royalty over a portion of Nevada Gold Mines' Leeville (right), Four Corners, Carlin East and Turf 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 execution of the royalty generation business model supports global precious and base metals exploration programs leading to further expansion of an already sizeable royalty portfolio. The Company has exploration and royalty property portfolios in the United States, Canada, Sweden, Finland, Norway, Serbia, Australia, Turkey and Haiti.

Isabel Belger, Manager of Investor Relations for Europe
IBelger@EMXRoyalty.com | +49 178 4909039

Scott Close, Director of Investor Relations
SClose@EMXRoyalty.com | +1 303.973.8585

emxroyalty.com

Gold-Backed Tokens in 2020 – A Glimpse into The Future?

“True gold is never afraid of the crucible.”

Chinese Proverb

Key Takeaways

- Some argue that gold and crypto assets are in competition, where only one asset class will eventually emerge ‘victorious’. Yet, there are also many – us included – who see the potential in melding the two.
- There are currently over 70 gold-backed coins, and most likely, many of them will fail. It will take some time for the market leaders to truly emerge, gain widespread exposure, and thus secure the standing of gold-backed tokens as a store of value. This coming year will be pivotal in identifying which projects are going to take the lead in this endeavor.
- We review the following promising stablecoins: Tether Gold (XAUT), Pax Gold (PAXG), InfiniGold (PMGT), and CACHE Gold Token (CGT).

Gold is bitcoin without electricity.

Charlie Morris

If you don't believe it or don't get it, I don't have the time to try to convince you, sorry.

Satoshi Nakamoto

Stablecoins are important in the same way that a bridge is important. You may not care much about the bridge, but without it, the beautiful land beyond is much harder to get to.

Erik Voorhees

In many ways, gold and crypto come from opposite ends of the investment spectrum. Gold is universally acknowledged, widely held, and has a history of being a safe haven that is unparalleled. Crypto assets such as Bitcoin, Ethereum, and a whole host of other cryptocurrencies and tokens, on the other hand, are anything but universally established. They have yet to prove themselves as a safe haven in a true crisis; the crypto sector is highly volatile; and crypto's novel status all hinder crypto assets from being truly widely owned. **Mentioning that crypto assets are part of one's investment portfolio still elicits concerned looks in some polite circles.**

As different as these two asset classes are, however, they often attract a similar sort of attention from investors. Market participants that are suspicious of the current global fractional reserve financial system, exponentially rising debt levels, and increasingly predatory national governments have been looking for an insurance vehicle that sits outside the current financial ecosystem. **Crypto assets and physical gold held privately both offer safety where other traditional financial assets do not.**

With all of that said, one has to distinguish between the fundamental differences between private and public ledgers as well as between permissionless and permissioned crypto assets. The table below broadly describes the differences between these asset types.

	Private Blockchains	Public Blockchains
Levels of Access	Single Organisation	Anyone
Security	Approved participants only	Consensus mechanism
Speed	Faster transaction speeds	Slower transaction speeds
Participation	Permissioned, where identities are known	Permissionless, Anonymous

While many people have argued that gold and crypto assets are in competition, where only one asset class will eventually emerge 'victorious', there are many – us included – who see the potential in melding the two. An asset as universally well-known and trusted as gold, that gets transferred with modern technology between owners instantly online? Where assets can move globally around the clock every day of the year in a frictionless economy? What is there not to like?

Many have started projects hoping to be the first to successfully bring Midas' touch to the crypto world. **According to Goldscape.net, as of March 2020 there are more than 70 projects that are still in the race, while more than 30 have either failed or stalled since inception.**³⁶³ A clear leader has not yet emerged from those that are still in the running. We can only assume that finding an elegant and bulletproof technical solution might not be as simple as many have initially proposed.

³⁶³ See "A guide to gold-backed cryptocurrency", Goldscape.net, March 28, 2020

We are stuck with technology when what we really want is just stuff that works.

Douglas Adams

In last year's edition of the *In Gold We Trust* report, we touched on the numerous projects globally looking to launch gold-backed crypto assets.³⁶⁴ Gold-backed token projects that were covered last year included Digix Gold Tokens (DGX), AnthemGold, AgAu, Novem, and HelloGold.

In the following, we cover a select number of newer gold-backed assets that seem to be getting close to the holy grail of delivering the solution that many of us in the gold community are waiting for.

Tether Gold (XAUt)

Tether Gold (XAUt)³⁶⁵ is a relatively new product, released by Tether in January 2020. According to their whitepaper, TG Commodities Limited (Tether Gold) was set up as a new entity, with the aim of digitizing the value of gold using the new token, XAUt.³⁶⁶ This novel token hopes to give XAUt holders the ability to own digitally allocated gold, in small sums, that are highly transferable and with comparably low fees.

Crucial Questions for Gold-Backed Cryptocurrencies

1. Can the cryptocurrency be converted into physical gold on demand? How easy is the process?
2. Does the company disclose how it stores the gold?
3. Who is storing the gold that backs the cryptocurrency? Is that company trustworthy?
4. What is the total expense ratio for the tokenized shares of the gold fund? The most famous gold ETF, SPDR Gold Shares, has a management expense ratio (total fund costs / total fund assets) of only 0.40%.
5. What is the business model of the coin? How do the people who created the coin make money? If there is not a clear way that they are profiting, then be suspicious of indirect costs or high risk.

In terms of redeemability, XAUt holders will be able to redeem their tokens for the associated physical gold if they have a delivery address in Switzerland.

Alternatively, a holder can request that Tether Gold decide to attempt to sell the gold and take the proceeds from that sale.

Holders can only request for redemption if they have a minimum balance of 430 XAUt tokens, which is equivalent to 430 troy ounces of gold, or the maximum weight of an LBMA London Gold delivery bar.

Gold held by Tether Gold is allocated individually, where each XAUt represents ownership of one troy fine ounce of physical gold in a specific gold bar. They claim that holders will therefore obtain "undivided" ownership rights to the gold of the specified gold bar(s). The allocated gold is identifiable with a unique serial number, purity, and weight. At any time, XAUt holders can check the details of the gold bars associated with their address through Tether Gold's "look-up" website.

Tether Gold currently trades on BitFinex, Renrenbit, and FTX. It has a current circulation as of March 2020 of 22.4mn USD. XAUt tokens will initially be available on the ERC20 and TRC20 protocols, with others to follow. There are no storage or custody fees associated with holding XAUt. There is a 25 basis-point fee based on the value of gold to be redeemed (plus delivery).

Tether, a non-gold-backed USD stable coin, is currently the most widely used stablecoin. Therefore, any other cryptocurrency backed by

³⁶⁴ See "Gold vs. Bitcoin vs. Stablecoins", *In Gold We Trust* report 2019

³⁶⁵ See [Tether Gold](#)

³⁶⁶ See "Tether Gold - A Digital Token Backed by Physical Gold", Tether Gold, January 21, 2020

the Tether team has as an advantage of gaining widespread adoption as well. Tether Gold is definitely a token to keep an eye on going forward.

Pax Gold (PAXG)

Paxos³⁶⁷ has another project that hopes to leverage on both gold’s and crypto’s underlying characteristics. They note in their whitepaper that there is no investment-grade physical gold product that is both easy to own and easy to trade. While investors can currently own large quantities of physical, allocated, and investment-grade gold, storage is usually expensive, with the gold owned difficult to divide or move when needed. Due to this, physical gold is difficult to trade or leverage upon.

Gold that can be easily traded or leveraged, such as unallocated gold, gold ETFs, or gold futures, does not offer full ownership of the underlying metal. What is being traded is merely synthetic gold value, not “the real thing”. **According to Paxos, one has to sacrifice ownership in gold to be able to harness gold’s liquidity and fungibility.**

The advocates of public control cannot do without inflation. They need it in order to finance their policy of reckless spending and of lavishly subsidizing and bribing the voters.

Saifedean Ammous

According to their whitepaper, Paxos will be able to provide an innovative solution in Pax Gold (PAXG) that mitigates these fundamental tradeoffs.³⁶⁸ PAXG offers a product that digitises “real, physical gold of the highest quality”. When users purchase a PAXG token, they own an ounce in a London Bullion Market Association (LBMA) -accredited London Good Delivery bar, which are held in secure vaults around the world. These bars are typically around 400-430 troy ounces in weight. By tokenising these LBMA bars held securely and putting them on the blockchain, Paxos hopes to make ownership in the bars more accessible, with it now being possible to own fractions of this highly desirable and secure gold. **Redemption of physical gold bars requires a minimum balance of at least 430 PAXG, or 430 troy ounces.**

Just like Tether Gold, Pax Gold (PAXG) is relatively new, having been launched in Q3 of 2019. One troy ounce of gold backs each PAXG token, with each ounce linked to a serialized gold bar held in custody. PAXG is also built as an Ethereum-based ERC20 token, giving it portability across the Ethereum blockchain’s extensive network of wallets, exchanges, lenders, and other platforms.

Paxos claims that their product is unique for a number of reasons. Firstly, **Paxos is a regulated financial institution and qualified custodian regulated by the New York State Department of Financial Services (NYDFS).** Thus, Paxos claims that high standards of customer asset protection have to be upheld. Secondly, Paxos plans to leverage upon its relationships with large institutions in the gold market. Partnerships with top gold providers, vaults, and miners ensure Pax Gold is supported by the “highest quality gold and stored in some of the most reliable vaults in the world”. Lastly, Paxos believes that its previous success in

³⁶⁷ See [Pax Gold](#)

³⁶⁸ “[Pax Gold Whitepaper](#)”, Pax Gold, September 5, 2019

creating asset-backed tokens such as Paxos standard (PAX) and HUSD stands them in good stead.

PAXG currently trades on Triv Pro, Bithumb Global, Kraken, HitBTC, and itBit. As of April 30, 2020, PAXG has a circulation of 43.4 mn USD. There are no storage or custody fees associated with holding PAXG. There is a fee payable for creations and redemptions of PAXG tokens (0.03-1% based on volume tiers) in the Paxos wallet, with on-chain Ethereum transaction fees of 20 basis points (0.20%).

InfiniGold (PMGT)

InfiniGold³⁶⁹ has a unique digital gold token on a public blockchain that is the first to be backed by government-guaranteed gold. The token is named PMGT, an abbreviation for the Perth Mint Gold Token.³⁷⁰ It is a cryptographic token built on the Ethereum network using the ERC20 standard. InfiniGold hopes to allow users to conveniently trade and hold gold stored at The Perth Mint in Australia. PMGT was launched in Q3 2019.

The digitisation of gold via a public ledger will promote gold as a mainstream investment, enhance its accessibility, and offer greater liquidity and auditability.

Richard Hayes,
CEO of The Perth Mint

Every PMGT is a tokenised version of a GoldPass³⁷¹ certificate, tradeable on the Perth Mint's Goldpass app. GoldPass certificates are 100% backed by physical gold stored in The Perth Mint's vaults. **The Perth Mint is the custodian of the underlying physical gold that backs all GoldPass certificates, with every ounce of gold guaranteed by the Government of Western Australia.** It is these digital certificates that provide the 1:1 gold backing for PMGT. To summarise, InfiniGold values 1 PMGT to be fully equivalent to a 10z GoldPass certificate and 1 oz of pure physical gold. PMGT may be exchanged for GoldPass certificates. Equally GoldPass certificates may be exchanged for PMGT. In each direction the exchange rate is 1:1. The exchange is performed by InfiniGold, and no exchange fee applies.

PMGT hopes to offer better value compared to other gold products by having no management or storage fees. PMGT also maintains a strict 1:1 backing with GoldPass certificates and therefore with physical gold, in stark contrast to many gold products, which are often not fully backed. PMGT also has no on-chain fees, which compares favourably from a cost perspective to other digital assets such as PAXG.

PMGT is redeemable via GoldPass into a range of The Perth Mint's physical products, from small 10z cast bars to 400oz LBMA-accredited London Good Delivery bars. Currently, unallocated gold is the only product available to buy, sell and transfer on GoldPass. However additional metals such as silver and other products are expected to be made available in the near future. **Redemption fees into physical from this unallocated metal are specified on The Perth Mint's website.**

³⁶⁹ See [InfiniGold](#)

³⁷⁰ See [Perth Mint Gold Token](#)

³⁷¹ See [GoldPass](#)

Bitcoin, and the ideas behind it, will be a disrupter to the traditional notions of currency. In the end, currency will be better for it.

Edmund Moy, Director of the United States Mint

Any sufficiently advanced technology is equivalent to magic.

Arthur C. Clarke

PMGT currently trades on KuCoin exchange. As of May 14, there are currently approximately 217 oz of GoldPass digital gold certificates held by InfiniGold Custodians Pty Ltd. This is a circulation of roughly 370,000 USD. GoldPass is fully compliant with Australian Anti-Money Laundering and Counter-Terrorism Financing laws and regulations.

With no transaction, storage, or ongoing management fees, PMGT hopes to position itself as one of the most cost-effective gold assets and a competitive alternative to traditional gold products. The Perth Mint is also a reputable name in the bullion industry and serves as a strong confidence builder for PMGT adoption. Whether the model that InfiniGold employs will work depends on how well they are able to scale and achieve broad market buy-in.

CACHE Gold Token (CGT)

The CACHE Gold Token (CGT) is an asset-backed digital token developed by CACHE Private Limited.³⁷² **CACHE Private Limited was incorporated in Singapore to design and develop a transparent, freely tradable, fully redeemable gold token that aims to scale to millions of ounces of gold, equivalent to billions of US dollars in liquidity.**

CGT is a token backed by 1 gram of pure physical gold. CACHE states that it was built from the ground up to be transparent, redeemable, regulated, liquid, and open. According to CACHE's website, these attributes are essential if CGT is to scale and fulfil its target of becoming the go-to digital gold asset. CACHE is scheduled to go live in June 2020.

Similar to PAXG and XAUt, CGT gold is allocated, with specific serialised bars backing the tokens in circulation. **However, CGT differs by allowing individual parcels of smaller bars to be used in the system. A variety of 100g, 1kg, and 4000z London Good Delivery bars will be backing CACHE, with the inclusion of smaller bars increasing the ease with which users can redeem their gold.** Bars that are in the system are stored as "parcels" and can be viewed on CACHE's website, and individual bars stored at locations globally can be chosen for redemption. Redemptions can take place via taking delivery of parcels or by selling back bars to CACHE's network of gold dealers.

CACHE Gold differs from the other projects detailed by allowing redemptions to be done via trusted third parties. In this way, CACHE redemptions are comparably more distributed. **Allowing for dealers to bid for the CGT tokens to be redeemed also allows for decentralised price discovery to take place.**

CACHE has been granted license under the Precious Stones and Precious Metals Dealers (Prevention of Money Laundering and Terrorism Financing) Act (PSPM Act), passed by the Singapore Parliament in February 2019 in line with Financial

³⁷² See [CACHE Private Limited](#)

Action Task Force (FATF) recommendations. **The PSPM Act is enforced by the Ministry of Law in Singapore, which ensures that Singapore's legal framework is clear and transparent.**

Just like the other tokens mentioned above, CACHE Gold is an ERC20 token on the Ethereum blockchain. CACHE has a current pre-launch circulation of USD 1,220,000 as of the end of April.

CACHE charges a storage fee of 25 basis points per annum to cover the cost of storage in partner vaults. There is also a transfer fee of 10 basis points when tokens are transferred from one address to another.

Having a transparent setup allowing customers to view actual packages of bars in storage that are available for redemption is novel and welcome. Redemption from numerous locations globally greatly improves the redeemability of the CACHE gold token. In addition, bars as small as 100g are available for users, making this token more accessible than PAXG and Tether Gold. It has yet to be seen if CACHE is able to scale and overtake the other offerings in terms of liquidity and brand awareness. **We should definitely keep a close eye on this fully regulated entity based out of Singapore.**

Conclusion

If you think you are too small to make an impact, try spending the night in a room with a mosquito.

African proverb

As we mentioned in our *In Gold We Trust* report 2019, a gold-backed cryptocurrency promises to be digital gold: no weight and stable. It is still true that no one has yet figured out how to make a truly decentralized gold-backed stablecoin – in the sense that you have to trust someone to store the gold for you. **Similar to an exchange-traded gold fund, gold-backed stablecoins have some form of counterparty risk.**

However, with the recent projects that have arrived on the scene, a significant advantage has emerged where the gold that backs these digital assets is now allocated in serialized bars. In the case of PMGT, gold is not allocated but is guaranteed by the Western Australia Government. For PAXG and XAUt, gold is stored in the form of London Good Delivery Bars, with serial numbers of bars viewable on their respective websites. CGT on the other hand allows users to see images of the bars in custody, permitting redemptions of specific gold bar 'parcels'. **The gold-backed digital asset space has definitely moved towards being more trusted and transparent.**

Truth, like gold, is to be obtained not by its growth, but by washing away from it all that is not gold.

Leo Tolstoy

The gold-token projects we have presented above are managed by real companies. They are responsible for the systems put in place to keep their tokens backed by physical gold as claimed. Therefore, **the user has to trust that no state or private actor will be able to steal or confiscate the gold from the vaults in question.** All tokens mentioned are traded on Ethereum's public blockchain structure (XAUt also uses the Tron blockchain), which means the coins are susceptible to Ethereum's problems, such as scalability and security.

*Number one, cash is king...
number two, communicate...
number three, buy or bury the
competition.*

Jack Welch

Finally, there are currently over 70 gold-backed coins, and most likely, many of them will fail. It will take some time for the market leaders to truly emerge, gain widespread exposure, and thus secure the standing of gold-backed tokens as a store of value. This coming year will be pivotal in identifying which projects are going to take the lead in this endeavor. **If ever there was a time for a widely accepted alternative currency that acts as a store of value, 2020 with all its turmoil and the years ahead are probably it.**

Bitcoin vs. Gold – an Imagined Debate

In previous issues of the *In Gold We Trust* report we have already included several discussions on the subject of investing in gold and Bitcoin. Now, in the form of a (fictitious) argument between a proponent of gold investments (Mr. Goldfinger) and a proponent of the cryptocurrency Bitcoin (Ms. Nakamoto), we want to discuss some often-debated points such as the similarities, differences, and opportunities offered by these two investment forms. **We wish you an informative read!**



Gold has fascinated humanity for thousands of years.
Credit: [Unsplash.com](https://unsplash.com)

Ms. Nakamoto: Dear Mr. Goldfinger, I am pleased that we have met here today. I am quite curious if I can convince you that there are some parallels between gold and Bitcoin, and that Bitcoin definitely has a place in the market or will become much more important.

Mr. Goldfinger: Thanks for the invitation! As you know, as a rather conservative investor I am very critical of the crypto world, but I am always open to a good argument.

Ms. Nakamoto: This is a good basis on which we can build our conversation. Let us start by discussing the differences and similarities between Bitcoin and gold. What are your thoughts?

Mr. Goldfinger: That's a great idea! While I did notice that there is a huge trend towards digitalization these days, it stops with me when it comes to the investment of value. This is because gold is a precious metal. You can touch it and it has always imposed an almost mystical fascination on people— especially my wife.

Ms. Nakamoto: Sure, but there is a fundamental difference. gold is a chemical element, it exists physically, it can be touched as you say, and admittedly it does have rather interesting properties. But Bitcoin on the other hand, is an open protocol that only exists digitally as bits and bytes. Bitcoin is ultimately a groundbreaking innovation and has managed to successfully give digital information scarcity for the first time!

Mr. Goldfinger: What does that mean?

Ms. Nakamoto: For example, if you send someone an email, you are not actually transferring your own data. You send a copy of your data. Ultimately the data will be available to both you and the recipient afterwards. Until the invention of Bitcoin and the associated blockchain technology, it was not possible to make digital information definitively transferable, i.e. that it "goes from me to you and is no longer with me afterwards".

Mr. Goldfinger: Okay, I'm following so far. I can even concede that this is indeed a groundbreaking invention. But how do I know this transmission will work safely? Everything on the Internet is hackable!

Ms. Nakamoto: The inventor of Bitcoin created a very intelligent reward system for the people involved in securing the network. These so-called "miners" fulfill the task of verifying that each transaction is valid and is only actually executed once. The same Bitcoin can never be spent twice simultaneously. With the computing power provided by the miners, they ultimately make the network secure. In return, for compensation they receive newly mined Bitcoins. The more miners are involved, the more difficult it becomes for miners to conspire to validate a fraudulent transaction.

Mr. Goldfinger: Okay, I can imagine that Bitcoins can be transmitted relatively safely over the Bitcoin network. I have never transferred a Bitcoin, but surely someone by now would have noticed if a secure transmission was compromised?

Bitcoin is considered to be hack-proof because the Bitcoin blockchain is constantly being monitored by the entire network. Therefore, attacks on the blockchain itself are highly improbable.

BitPanda.com

Ms. Nakamoto: Exactly! Since the network was established, every single transaction has been transferred securely.

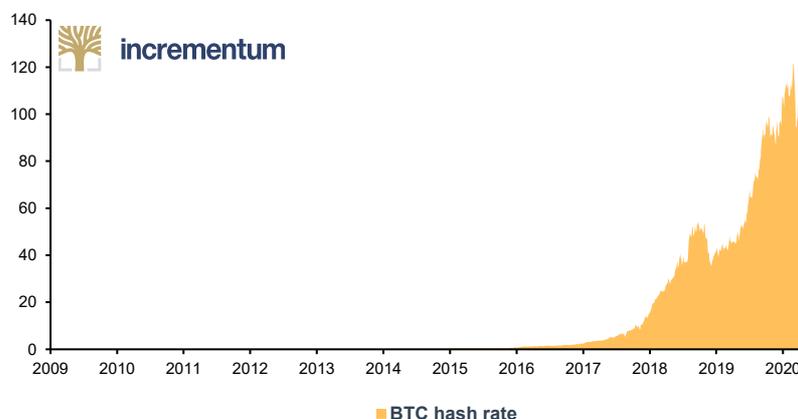
Mr. Goldfinger: Still, why exactly would Bitcoin prevail? There are supposedly thousands of such cryptocurrencies in existence today! Whereas the element gold only exists once, guaranteed!

Ms. Nakamoto: Well, I have to admit, 100% I can't rule out the possibility that there won't be another crypto currency at some point.

Mr. Goldfinger: You see!

Ms. Nakamoto: Regardless of this, since the launch of Bitcoin, the likelihood of another cryptocurrency becoming established as a store of value has already decreased significantly. This is primarily due to the enormous spread of its network and thus the high level of Bitcoin security. The computing power that secures the Bitcoin network is now gigantic. No other cryptocurrency has even come close to achieving similar computing power. This can be observed by looking at Bitcoins hashrate.

BTC hash rate, in EH/s, 01/2009-04/2020



Source: blockchain.com, Incrementum AG

Mr. Goldfinger: Okay, so you're claiming I can transmit Bitcoins safely and securely on the blockchain because the most processing power is behind the Bitcoin network. But this security method is extremely power consuming! Isn't that a disaster in these times of global climate change?

Ms. Nakamoto: I am sure we could spend a very long time debating this specific topic, but I think the most important point is that the electricity used to produce Bitcoin is often excess electricity that would otherwise be wasted.

Mr. Goldfinger: What do you mean? The power used to operate the Bitcoin network must be taken from someone else!

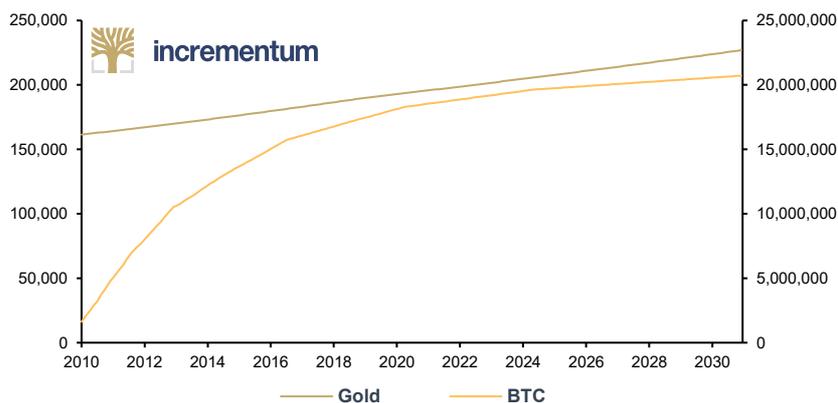
If the Bitcoin system were a country, its electricity consumption would put it in 43rd place in the world - between Switzerland and the Czech Republic, and the trend is growing.

Zeit.de

Ms. Nakamoto: It is well known that electricity is very difficult to store and can only be transported over long distances with huge losses in power. To mine Bitcoin economically, it is essential to use the cheapest sources of electricity. These are usually remote hydroelectric power plants, as there is often no way to store the electricity. Therefore, many of the Bitcoin farms are located in Scandinavia and Iceland, for example. In both of these places there is large surplus of electricity and it is cheap to use hydroelectric power. Various electricity suppliers have already recognized this and are using Bitcoin mining in some cases to deal with the surplus of electricity. In places with electricity shortages you couldn't even consider mining, because the electricity prices are too high making mining not cost effective. Even at an average electricity price point it is still not possible to mine economically!

Mr. Goldfinger: Wow, I really didn't know that. Still, why invest in Bitcoin now? With gold, I know there's a finite amount on earth. So, gold will always be worth something. But Bitcoin is so speculative. And it pays no interest, either.

Stock of Gold over time (lhs), in tonnes, and BTC (rhs), in number of coins, 01/2010-12/2030



Source: Incrementum AG

Ms. Nakamoto: Okay, let's get this straight. Both gold and Bitcoin are two investments that yield no interest. Both are "unproductive" assets whose value originates in the investment itself. Shares are invested in order to participate in the success of the company. Or, via government bonds, one participates to a certain extent in the development of the entire economy.

Mr. Goldfinger: I understand your argument, but I would still not consider gold and Bitcoin to be equivalent. This is because gold is strong and stable. Gold is only available in limited quantities and is therefore valuable. Every year the amount of gold mined grows very steadily by about 1.5 percent. Even after large price increases, mining companies have not been able to expand their production significantly. Central banks, on the other hand, have been siphoning off vast amounts of money since the financial crisis, amounts that I can no longer even imagine because of the many zeros. Surely, they will go bankrupt at some point!

Ms. Nakamoto: On that point we are in complete agreement. The number of Bitcoin cannot be increased arbitrarily at will! Gold and Bitcoin could therefore be two ways of protecting against the dangers of the central banking system.

Mr. Goldfinger: But with digital currencies, you could also add the numbers zero and one to somewhere in the code and thus create new "currency".

Ms. Nakamoto: [Laughs] I'm so glad you brought that up. You're kind enough to play into my hands. In fact, Bitcoin will become even "stronger" than gold over time, because the maximum number of Bitcoins available is exactly 21 million. That's all there is, and that's all there will ever be, the Bitcoin protocol stipulates this. Every four years the inflation rate of Bitcoin is therefore halved. In May of this year, Bitcoin's inflation rate has fallen roughly to that of gold and in the future Bitcoin will be even "stronger", even less inflationary than gold. Simply changing a few numbers in the code is absolutely impossible. There would have to be a 95% approval of the miners to do this. But Bitcoin thrives on the fact that it is a scarce commodity, so broad approval for such a change is almost impossible.

Mr. Goldfinger: But what about the opportunity then to just create a new cryptocurrency? I've heard that one could basically just copy Bitcoin, and everyone could create their own version. Isn't that called hard fork? Wouldn't that just double the maximum number of Bitcoins in seconds?

Ms. Nakamoto: Technically, while this sounds quite simple in theory, it is extremely unlikely that a copy of Bitcoin would be widely adopted:



Bitcoin is a relatively new technology. Is it becoming the gold of the digital world?
Credit: [Unsplash.com](https://unsplash.com)

What is a Hard Fork?

Simply put: a fork is the further development of a software. A hard-fork, i.e. a backward-compatible change to the rules on the blockchain, results in a blockchain becoming two blockchains. At the time the hard fork is published, the blockchain users have to decide whether they want to stay with the old blockchain or whether they want to switch to the new one. This decision must be made actively. A hard fork always leads to a split, but the blocks remain the same until the split.

First of all, the survival of a new cryptocurrency depends on whether there is any interest in it at all. Why would Bitcoin investors, who probably also trust Bitcoin because the system has limited inflation, want to switch to a new cryptocurrency system? There has to be added value here. If there is not, the hard fork will be very difficult. This has been seen with all Bitcoin hard forks so far. Secondly, the Miners who secure the system would have to go along with it and make their computing power available to the new Bitcoin version in the future. But the Miners don't do that, because they have a far greater incentive to mine the most valuable asset. Without high computing power this "new version" of Bitcoin would be very insecure and thus is not an attractive investment.

Mr. Goldfinger: Okay. You know, I keep hearing that Bitcoin has a scaling problem. If you want to use it as a widespread currency it's way too expensive, right?

Ms. Nakamoto: You are correct, there is currently a scaling problem that is caused by the size and decentralization of the Bitcoin network. There is a trade-off between the security of the network and the speed of transactions. One perspective is that Bitcoin does not have to become a mass payment medium to be valuable.

This is true for gold as well. The smaller the quantity of gold, the higher the transaction costs in terms of the price difference between buying and selling. It is questionable whether one should really invest in gold if one only wants to buy 1 gram of gold. With larger quantities of gold, the transaction costs are hardly significant. From a cost perspective, gold is therefore well suited as a store of value for larger investment amounts. Bitcoin can be viewed in the exact same way. From a cost point of view Bitcoin is store of value for larger amounts, i.e. digital gold, but it admittedly can be a volatile one.

The “Scalability” Problem of Bitcoin

Bitcoin's current version allows for a maximum of seven transactions per second. If Bitcoin really wants to be used as a means of payment in the long term, at some point that rate will be too little.

Mr. Goldfinger: Interesting. But Bitcoin's ultimate claim was to be the advanced electronic payment system. Is that now unfulfilled because of this scaling problem?

Ms. Nakamoto: Quite correct. The title of the so-called white paper was even "Bitcoin: A Peer-to-Peer Electronic Cash System"³⁷³. And there are intensive efforts to fulfill this claim. There are various approaches to enabling more transactions per second. Hard forks are just one approach, which we have already seen with Bitcoin Cash, for example. Other possibilities exist in the areas of off-chain transactions, such as the Lightning-Network. There, transactions outside the blockchain are processed quickly and securely. In any case, thousands of programmers worldwide are working on the solution to this issue. There is an incredible amount of human capital behind this, which is also responsible for the fact that the hurdles that have been overcome so far have been handled quite effectively. If the scaling problem is actually still being resolved, it would not only be digital gold, but also a strong digital currency! So, another difference between gold and Bitcoin is that Bitcoin can be used as a means of payment and a store of value at the same time. This is a huge advantage of Bitcoin over gold, because gold is hardly suitable as a means of payment.

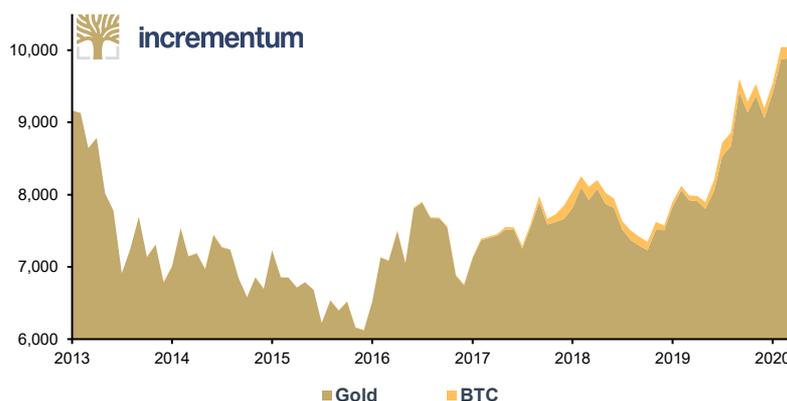
Mr. Goldfinger: Well, I must strongly object here. In the days of the classic gold standard, gold was indeed used as a means of payment! Today's central banks tend to overlook the period from 1870-1914, when there was slight deflation and very high growth rates. But I think that is a different debate. In any case, I don't understand why you, as a Bitcoin fan, keep talking about Bitcoin being a store of value like gold, considering the high level of volatility?

Ms. Nakamoto: I think I have already been able to give you some solid arguments, such as limited inflation or the security of the system through the hashrate. I would

³⁷³ Nakamoto, Satoshi: Bitcoin: "[A Peer-to-Peer Electronic Cash System](#)", bitcoin.org, undated

also like to highlight the fact that Bitcoin is still in its early stages. The market capitalization as of May 16, 2020, at roughly USD 180 bn, is only a fraction of that of gold. The significant price fluctuations are therefore also offset by an exorbitantly high potential profit. In fact, Bitcoin is an extremely asymmetric asset class, as Bitcoin either succeeds in the medium term and asserts itself as a global digital store of value or - for whatever reason - fails and becomes worthless.

Market capitalization of Gold and BTC, in USD bn, 01/2013-04/2020

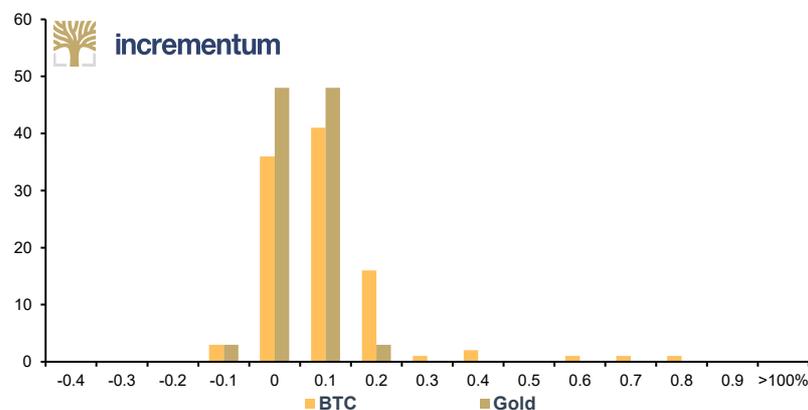


Source: coinmarketcap.com, Reuters Eikon, World Gold Council, Incrementum AG

Mr. Goldfinger: Hmm, I never thought of it that way. Bitcoin has a different payout profile than gold. I mean, gold really can't drop to zero, or do you disagree with me on this point?

Ms. Nakamoto: No, we are in agreement on this! Gold cannot become worthless. But the appreciation potential of gold is of course limited, since gold is known to everyone. Bitcoin is still extremely small and very young. The Internet has only been around for 30 years and Bitcoin for only 10 years. The vision is that Bitcoin will become the universal and digital value standard in an increasingly digitalized world. Very little of this has been taken into account so far. Why shouldn't the central banks hold digital assets in 10 years? They are already thinking about digital currencies today, why shouldn't they invest in "digital gold" at that point in

BTC and Gold: Distribution of monthly returns



Source: yahoo.com/finance, Incrementum AG

time? When Bitcoin becomes established as the strongest digital currency, the central banks will hold Bitcoin as a currency reserve in addition to gold. I don't think that's so far-fetched. The world is changing!

Mr. Goldfinger: Okay. Assuming you have piqued my interest, what would your investment advice be? I'll tell you one thing right off the bat. I certainly won't sell my gold, at least not all of it!

Ms. Nakamoto: There are indeed crypto enthusiasts who swear by cryptocurrencies and have invested all their savings. This is of course extremely risky! On top of that, things usually turn out the way they're supposed to! They buy in euphoria and sell in panic. But it is precisely the asymmetric payout profile that makes a small addition of Bitcoin interesting. And the high volatility can be used to your advantage through rule-based rebalancing!

Mr. Goldfinger: Well, it seems that Gold and Bitcoin are more alike than one might think, don't they? Together the two asset classes form a thoroughly dynamic duo.

In fact, this is the innovative investment strategy that Incrementum makes use of. Learn more at: <http://www.noninflatable.com>.



Stability Meets Innovation

More Information:
www.incrementum.li

 **incrementum**

The advertisement features a dark blue background with a glowing Bitcoin logo and several gold bars. The text 'Stability Meets Innovation' is prominently displayed in white. Below it, the website 'www.incrementum.li' is provided. The Incrementum logo, which consists of a stylized tree icon, is positioned to the left of the word 'incrementum'.



**Committed to safety.
Leaders in innovation.
A legacy of responsibility.**



Silver's Silver Lining

“Everyone’s looking for gold. So, I’ll be the one collecting the silver.”

Rehan Khan, A Tudor Turk

Key Takeaways

- Silver is unloved, unwanted, and mocked. In other words, for the prudent and contrarian-minded investor, there has rarely been a better time than now to invest in silver.
- Silver investors have several supply constraints working in their favor. Of the eight sources of silver supply, only two are not in a state of near-preordained stagnation or contraction.
- There is also the intriguing possibility that one source of supply flips and becomes a source of demand, as happened with gold. That source is government.
- The gold-silver ratio indicates that the present day offers history’s greatest discount on one of humanity’s most important and useful metals.
- Silver will begin its inflationary journey sometime in the near future, perhaps after one more great deflationary credit and debt default cycle, moving toward the gold-silver ratio reached at the end of previous inflationary frameworks.
- We will be surprised if the decade or two ahead are not some of best years in silver’s long history.

To many people miss the silver lining because they're expecting gold.

Maurice Setter

If everybody's thinking the same thing, then nobody's thinking.

George S. Patton Jr.

Silver is unloved, unwanted, and mocked. Its industrial demand? Stagnant, courtesy of one of the poorest periods of economic expansion of the last 150 years. Decorative demand? Stationary, a result of real income growth falling woefully off its post-World War 2 trend. And what of price? Sorrowful – by one measure its value has not been lower in over 300 years. By another measure, 5000 years. **In other words, for the prudent and contrarian-minded investor, there has rarely been a better time to be attracted to silver.**

Silver has been one of humanity's most important metals and remains so to this day. Silver has been one of humanity's most important metals and remains so to this day. Historically it never attained the level of either bronze or iron, each of which have entire epochs named after them. Nor did it ever manage to outshine its aureate brother's reputation in the monetary realm, even if silver was far more convenient in daily commerce. Even today, in terms of industry, copper is more important, while in the field of finance, gold retains its kingly crown. But just because silver is not *the* answer to questions posed by the economic and monetary realms, does not mean it is not one of the answers, nor does it preclude the metal from prospering handsomely. **Indeed, the fundamental and financial outlook for silver with respect to supply, demand, and price might be better than that for gold.**

Silver/S&P 500 ratio (log), 01/1971-04/2020



Source: Crescat Capital LLC, Tavi Costa, Reuters Eikon, Incrementum AG

Unloved, unwanted, and mocked. By everybody. But not for much longer, we believe. We will be surprised if the decade or two ahead are not some of best years in silver's long history.

Supply

Silver investors have several supply constraints working in their favor:

Firstly, silver mine supply is price inelastic, because 75% of it comes from non-silver mines (e.g. copper, gold).³⁷⁴ When the price of silver rises, the mines that produce the supermajority of the white metal will not automatically make it their priority to increase supply.

Humanity appreciates truth about as much as a squirrel appreciates silver.

Vernon Howard

Secondly, these non-silver mines have been reducing capital expenditures for almost a decade, with *pre-Covid-19* forecasts predicting further contraction. Post-Covid-19? Investment to explore, expand, or sustain mining operations will be that much more difficult to fund.

Thirdly, industrial scrap and recycled photographic film, which when combined account for 12% of total annual supply, are capped by a depressed economy and in secular decline, respectively.

Overall, of all sources of silver supply, only two, recycled jewelry and coins, are not in a state of near-preordained stagnation or contraction, – and these two respond to price increases, which the silver investor will, of course, enjoy.

There is also the intriguing possibility that one source of supply flips and becomes a source of demand, as happened with gold. That source is government.

Overall Supply

Too many people miss the silver lining because they're expecting gold.

Maurice Setter

The casual precious metal investor often gives short shrift to supply, and that is fair. Gold and silver have, relative to other commodities, unusually high levels of above-ground stock, so annual supply fluctuations are not a pressing concern.³⁷⁵ Still, silver has some unique characteristics as well as several trends moving into planetary alignment in the metal's favor that need to be appreciated by the serious investor.

The supply of silver does not only come from mines. Over the past 30 years between 14 and 30% of total supply came from other sources, including government sales, recycled scrap, and producers hedging future supply. Government sales, as recently as 2006, contributed almost 10% of supply. As recently as 2011 a quarter of all supply came from just recycled scraps of photographic film, jewelry, silverware, and industrial leftovers. Though headlines reasonably focus on mine supply, the discerning silver investor will understand these other critical supply sources as well.

³⁷⁴ All supply and demand figures are our own calculations and represent industry consensus estimates. They are drawn from industry associations, commodity consultancies, investment banks, and departments of government.

³⁷⁵ See "[Regression theorem explains why gold equals money](#)", in *Gold We Trust* report 2011; "[The Stock-to-Flow Ratio as the Most Significant Reason for Gold's Monetary Importance](#)", in *Gold We Trust* report 2014

Mine Supply

Silver's By-Product Nature

Perhaps the most important fact to appreciate about silver mine supply is that approximately 75% of it is price inelastic. This admittedly unusual behavior by an economic good is due to silver's by-product nature.

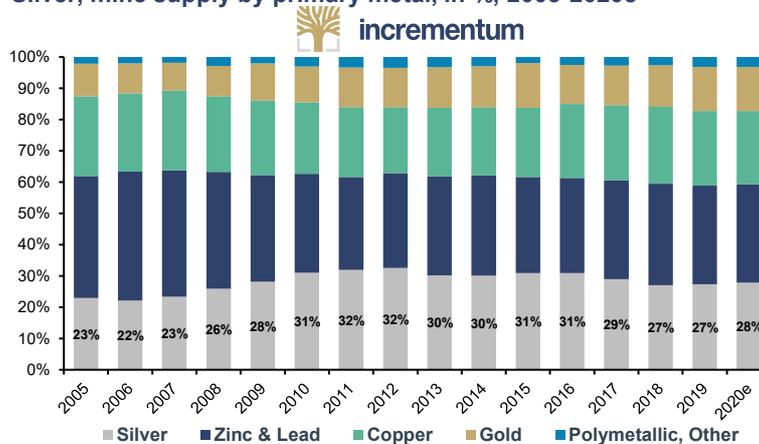
Gold and silver and sunshine is rising up.

Noel Gallagher

The supermajority of silver mine supply is obtained with the primary economic goal of producing another metal for as long and as cheaply as possible. The silver by-product mining company will optimize its facilities and mine plan with the production of other metals (e.g. zinc-lead) top of mind. Silver? It will be of secondary or tertiary concern. Whereas a primary-silver miner will see lower-grade portions of the property become economically viable when there is a sustained price increase, the by-product producer may not even be active where the silver concentrate could be harvested.

Since 1990 mines whose raison d'être is silver have accounted for only between 16% and 32% of annual mine supply. More recently, over the past 15 years, primary silver mines contributed 28%, on average, to total annual mine supply. The rest comes from zinc-lead mines, which have contributed, on average, 34% of the total, as well as primary copper mines (24%), gold operations (12%), along with miscellaneous other polymetallic mines (3%).

Silver, mine supply by primary metal, in %, 2005-2020e



Source: The Silver Institute, Incrementum AG

Roughly speaking, three out of every four silver producers will not automatically seek to produce more silver if prices rise.

By-Product Capital Underinvestment

The main thrust of this detour into silver's mine supply is not merely to share trivia but to draw attention to the industry's classic, centuries-old cycle of capital underinvestment and consequent price boom.

The commodity cycle follows the following path. Prices rise, which encourages guarded capital expenditures in existing projects. Prices rise further, which loosens up austere accounting departments and encourages investment in new developments. Prices rise yet higher, and the accounting department – now

staffed by interns because the original employees took early retirement – rubber stamps ghastly decisions to develop any hill with a patina of glitter.

Prices peak, then fall.

All that glisters is not gold; Often have you heard that told. Many a man his life hath sold, But my outside to behold. Gilded tombs do worms enfold.

The Merchant of Venice

Producers begin to halt exploration until the “temporary” volatility passes. Prices continue to fall. Producers cathartically fire people randomly – including random individuals on the street – while pulling funds for the development of new projects. Prices continue their contemptuous fall; producers finally capitulate and reduce capital expenditures on existing projects while looking for an entirely other line of employment – horticulture perhaps. **The point, hopefully, survives the exaggerated illustration.**

Whereas earlier the focus was on the future, the priority becomes surviving till tomorrow. Sustainability is sacrificed on the altar of “high-grading”, because at such low prices there may be no tomorrow. **Capital expenditures fall and stay low for years.**

One day prices rise. But is the supply readily available? No, it is not. In late 2019, S&P Global Intelligence told us where we are in the cycle:

*“[The 2020] 6.4% year-over-year reduction in capex follows an expected five-year high of almost US\$85 billion in 2019. In 2020, capex levels will retreat to those last seen in 2018; however, the number of projects expected to begin construction in 2020 is lower than in 2018. Therefore, the majority of capex will be contributed from those projects already under construction or in production. The outlook to 2022 is currently for **a gradual continued capex reduction**. This will likely evolve, however, as miners make decisions to finance new projects and expansions based on market conditions.”³⁷⁶*

Utilizing the data from the S&P report, since 2012, when the copper, gold and zinc industries spent just under USD 75bn on capital expenditure, miners have only cut back on investments. By 2016 the three main sources of silver mine supply were spending just north of USD 42bn in capital expenditure. During the economic deflation years of 2017-18 that figure rose, so that by 2019 the three metals had received USD 54bn of cap-ex. But according to S&P, that level was expected to drop each year thereafter to USD 37bn by 2021. And that was before market conditions further deteriorated, due to the Covid-19 crisis.

³⁷⁶ [“Capital Expenditure In The Mining Industry To Drop By US\\$5.4B In 2020”](#), S&P Global Market Intelligence, December 4, 2019; emphasis added

Capital expenditures, in USD mn, 2010-2022e



Source: S&P Global Market Intelligence, Incrementum AG

Heading into 2020, the consensus analyst forecast was that silver mine supply had reached a plateau. **We would not be surprised if mine supply – already seven years into its cap-ex diet, only to be informed in 2020 that “now begins intermittent fasting” – did not begin to fall outright going forward.** Already for 2020 the Silver Institute’s *World Silver Survey 2020*, released in April, predicts a 5% reduction year-over-year, approximately a 40mn-ounce contraction.³⁷⁷

Country Supply Not a Risk Despite Mexico News

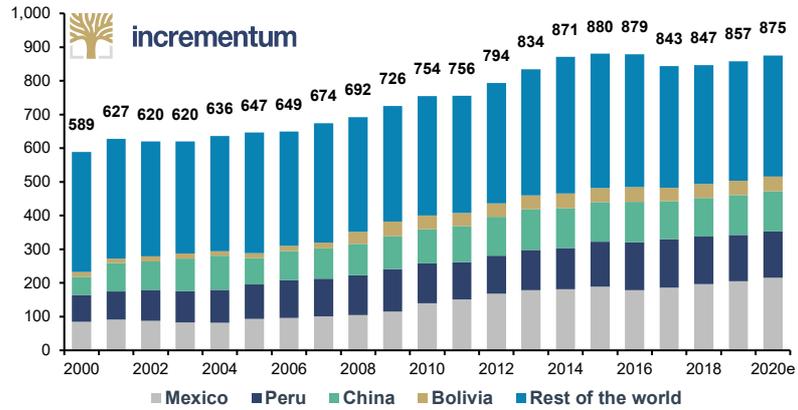
Silver, unlike either platinum or palladium, is not heavily concentrated in any particular country or region. That might not appear to be the case after Mexico made headlines this year with its April decision not to exempt mining as an essential service from its broad effort to reduce virus transmissibility.³⁷⁸ After all, Mexico is the world’s largest supplier of silver mine supply, with just over one out of every five ounces coming from the country.

But although Mexico has gained a greater market share over the past couple of decades – growing from the mid-teens in the early 1990s to over 20% presently – the rest of the supply has broadened out. In 1990 it took just 14 countries to produce 90% of global silver mine supply; a decade later just 13. The same country count held true as recently as 2010. But entering into 2020, silver supply had broadened out, and now the top 20 countries produce only 80% of mine supply.

The best time to buy is when blood is running in the streets.
Nathaniel M. Rothschild

³⁷⁷ See “[World Silver Survey 2020](#)”, The Silver Institute, April 2020
³⁷⁸ See “[Mexico mining suspension to hit silver supply](#)”, *Mining Journal*, April 1, 2020

Silver, Mine supply by country, in troy ounces mn, 2000-2020e



Source: The Silver Institute, Incrementum AG

So, though 2020 does provide an interesting exception, silver is unlikely to suffer any mine supply shortages due to country-specific upheavals, as might be the case with platinum, where just under three out of every four ounces come from South Africa, or palladium, where the same percentage holds true if we combine South African and Russian production.

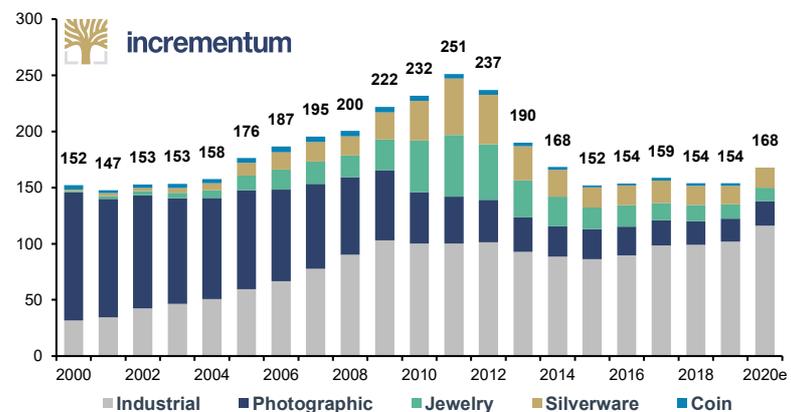
Recycling Supply

Never say never because limits, like fears, are often just an illusion.

Michael Jordan

Just as with mining volumes, the scrap and recycling segment of silver supply is set up for a shortage. Looking back at the past three decades, we can observe that, on average, 19% of total supply came from scrap and recycling. During the 1990s the average annual contribution was 131mn oz, or 20%. The absolute volume rose in the 2000s to 174mn oz, but the proportion did not change. The 2010s saw a modest increase in the annual average to 185mn oz and a decrease in the proportion to 18%. **Thus, the casual silver investor will assume that nothing special had or will take place in secondary supply. That investor would be wrong.**

Silver, secondary supply, recycling source, in troy ounces mn, 2000-2020e



Source: The Silver Institute, Incrementum AG

Government Supply, a Free Out-of-the-Money Call Option

Central bank sales and purchases in the gold market get all the publicity. But there has been an important development over the past three decades that long-term investors in silver should take note of. Specifically, this pool of potential supply has been drained. **Over the past five years government sales of silver have averaged 0mn oz per year. Only if one digs to the right of decimal does it become apparent that indeed some sales are taking place. This was not always the case.**

During the 1990s, net government sales of silver averaged 14mn oz per year, or 2% of total annual supply. That may not seem like a tremendous amount, but it was nonetheless unhelpful for the silver price. More important was what happened next.

What we may be witnessing is not just the end of the Cold War, or the passing of a particular period of post-war history, but the end of history as such... That is, the end point of mankind's ideological evolution and the universalization of Western liberal democracy as the final form of human government.
Francis Fukuyama

Between 2000 and 2005 the ministries of finance, departments of treasury, and central banks decided collectively that history had ended. In central banking circles it was known as “the Great Moderation”, an era of unusual calmness across financial markets and macroeconomics. A 2002 research paper by James Stock and Mark Watson offered three possible explanations for the tranquility:

“The first category is changes in the structure of the economy. Candidate structural changes include the shift in output from goods to services, information-technology-led improvements in inventory management, and innovations in financial markets that facilitate intertemporal smoothing of consumption and investment. The second category is improved policy, in particular improved monetary policy, and the third category is good luck, that is, reductions in the variance of exogenous structural shocks.”³⁷⁹

Well, the reader will not be surprised that the technocrats liked the second option the most; the Great Moderation was their doing. Throw in the socioeconomic tailwinds of a successfully concluded Cold War and the elevation of China to the World Trade Organization in 2000, and there was nothing standing in the way of a cooperative, well-ordered, and technocratically overseen future. **Thus, at the cusp of the new millennium it was time to cast off the anachronisms and vestiges of a monetary era gone by – what use, then, gold and silver?**

Gordon Brown is (somewhat unfairly) emblematic of this unfortunate misreading of human nature. As Britain’s Chancellor of the Exchequer he sold around 400 tonnes, or more than half, of the country’s gold reserves between 1999 and 2002.³⁸⁰ It does not seem quite fair to single out Brown, as other countries were doing precisely the same thing. According to a contemporary report by the UK Treasury, “*The Swiss are in the process of selling around 1300 tonnes, the Dutch have sold around 800 tonnes and Belgium has sold around 1000*

³⁷⁹ Stock, James H. and Watson, Mark W.: “[Has the Business Cycle Changed and Why?](#)”, *NBER Macroeconomics Annual 2002*, Vol. 17, 2003, pp. 159-218; here p. 162

³⁸⁰ “[Review of the sale of part of the UK gold reserves](#)”, HM Treasury, October 2002

*With the Hopes that our World is
built on they were utterly out of
touch, /
They denied that the Moon was
Stilton; they denied she was even
Dutch; /
They denied that Wishes were
Horses; they denied that a Pig
had Wings; /
So we worshipped the Gods of
the Market Who promised these
beautiful things.*

Rudyard Kipling

*Then the Gods of the Market
tumbled, and their smooth-
tongued wizards withdrew, /
And the hearts of the meanest
were humbled and began to
believe it was true, /
That All is not Gold that Glitters.*

Rudyard Kipling

tonnes.”³⁸¹ But the British tabloids have a way with words, and “Brown’s Bottom” serves as a cringeworthy example of selling at the bottom.

Silver does not have anyone like Brown to point a finger at, but between 2000 and 2004 governments were seduced by the Great Moderation to sell, on average, 67mn oz a year, or 8% of annual total supply. The short-termism continued with 77mn oz sold on average in 2005 and 2006. The Great Financial Crisis reintroduced history and brought an end to both globalization and the Great Moderation. **If only those in charge of our national treasuries had read their Kipling.**

Now, unlike gold, which was now being bought, central banks continued to sell silver but now at a substantially reduced pace. From 2007 to 2011, despite silver prices hitting their nominal peak, sales by governments averaged only 29mn oz per year, or just 3%. Since then governments have sold 12mn oz *in total* and effectively nothing each of the past five years.

But let us raise the tantalizing possibility that governments will, in the coming decade, add to their reserves with silver and not just gold.

Countries like China, India, Mexico, the United States, Russia, and Poland – each with healthy silver deposits and/or historical use of silver as a monetary metal, are possible candidates. The reader may protest that this is not central bank orthodoxy. But why does the monetary order of the future need to mimic the existing one?

First, political trends do not seem to favor the establishment’s incumbency, as evidenced by the elections of the past six years in Europe and North and South America. The coronavirus only promises additional volatility at the ballot box. With new people may come new ideas.

Second, central banks have suffered a reputational loss over the past dozen years. By their own self-chosen measure – inflation – they have failed to achieve that which is their charge, despite dreaming up the most lurid of monetary Frankensteins.

Third, plenty of “impossible” financial events have come to pass with unnerving, White Queen six-impossible-things-before-breakfast regularity: negative nominal interest rates, flash crashes, negative oil, 100-year Argentinian bonds being oversubscribed, etc.

Fourth, silver has been a holding of central authorities for more than 250 generations, and as late as 1991-92 governments on net added to their stock of silver.

Fifth, silver is absurdly cheap.

³⁸¹ “Review of the sale of part of the UK gold reserves”, HM Treasury, October 2002, p. 3

Since you have failed to achieve, even in the modest task that was your charge, since you have stolen my money, and since you have unrepentantly betrayed my trust, I have no choice but to tell these bums that they should do whatever is necessary to recover their money from you,

**Jeffrey Lebowski,
 The Big Lebowski**

At a minimum, be assured in knowing that government will not be contributing 5 to 10% more supply each year going forward. And, take the free option that they might be buying.

Hardship Recycling to Return with High Prices

Recycled silver has historically been driven by price and economic hardship. Should silver prices rise quickly and beyond some unseen psychological nominal value, holders of jewelry and silverware will enter the marketplace to sell.

The holding of wealth in silver and gold jewelry is primarily non-Western in nature – China, Southeast Asia, South Asia, and the Middle East are where this practice mostly holds sway. With silver prices unsatisfyingly low – not only as denominated in US dollars and euros but also in Indian rupee and Chinese yuan – decorative silver will not be redeemed in order to make a profit.

Conversely, in the West, silver is returned to the market primarily through economic hardship. It will not come as a surprise to silver investors that hardship visits us all and that the silver market will witness the return of coins, silverware, and jewelry over the coming years. But how much silver?

The last time the world fell into something approximating the socioeconomic outlines of 2020 was from 2008 to 2012, when first the Great Financial Crisis and then the European sovereign debt crisis occurred. During that five-year span, jewelry, silverware, and coins were cashed in at historic volumes in a confluence of hardship and high prices. On average 78mn oz were turned in every year, the equivalent of 8% of annual supply. For context, the five-year periods prior and after averaged 28 and 47mn oz, respectively.

In that context the silver market may be looking at an additional 30 to 40mn oz in annual supply for as long as the economic hardship continues and if silver prices rally strongly.

Photographic Film No Longer a Supply Source

During the 1990s the lion's share of silver recycling (75%) came from the recycling of photographic film. But that use of silver fell into decline with the advent of digital technology. Today that proportion is down to under 15%.

During the five-year period bookended by the two financial crises (2008-12), photographic scrap contributed on average 5% of total supply. Going forward, silver investors can expect only half that proportion, or less.

Industrial Scrap is Price-Inelastic and Restrained

The most important source of secondary supply of silver is the industrial sector. After averaging 4% of total supply in the 1990s, it has risen to 9% and 96mn oz over the past decade. Will there be much supply coming from this sector during the next price surge? No, because this scrap supply is not as sensitive to price as it is to industrial activity. And industrial activity has been poor and is set to get poorer.

You wouldn't cancel your insurance policy in the middle of a hurricane, and you shouldn't sell silver when it takes a tumble. Like any insurance, silver's value will pay out over time, not day by day.

Howard Ruff

*Some things in life are bad
They can really make you mad
Other things just make you
swear and curse
When you're chewing on life's
gristle, don't grumble, give a
whistle and this'll help things
turn out for the best
And....*

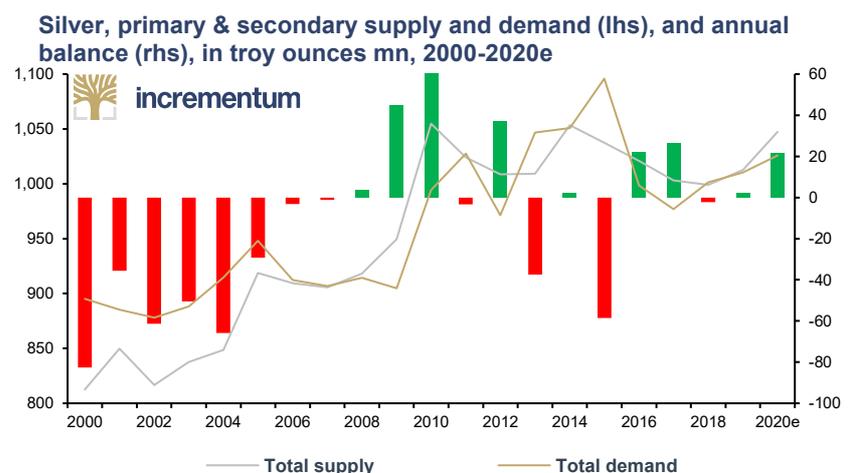
*Always look on the bright side of
life,
Always look on the right side of
life,
C'mon Brian, cheer up!*
Monty Python

The silver investor will not be surprised to hear that the past dozen years have been very humble in terms of growth. Yes, growth has been positive, but that does not mean it was good. We have all heard the explanations: debt, deflation, demographics, even drugs and deaths of despair. Whatever the underlying causes, this economic period was well off trend compared to what was understood to be normal growth pre-2008. And industrial activity mirrors this depressed broader picture. Over the immediate term the economic destruction wrought in early 2020 will reduce industrial output and thus the sector's scrap supply. **Over the medium term we believe there can be no growth in this supply source until the global economy rebounds.**

Demand

There are three broad categories of silver demand, and two of them have suffered terribly for the past dozen years. Industrial demand has effectively exhibited no growth for the same reason that global trade has deteriorated, foreign direct investment has decayed, and economic growth has declined: the crisis of 2008 has yet to be resolved. Decorative demand has similarly gone nowhere, because real incomes, while rising, are doing so at approximately one-seventh the speed of the post-WW2 trend. **And now we have 2020, a year destined to destroy industrial and decorative demand. It all sounds rather depressing, but it is not.**

The silver investor will be entering a bombed-out market experiencing its final washout. As was the case after the last two global depressions (the Long Depression of 1873-1896 and the Great Depression of 1929-1947), a true golden age of activity, progress, manufacturing, construction, and real wealth lie on the other side of the present economic malaise. **We expect industrial and decorative demand for silver to surge in this new golden age.**



Of the three broad demand categories, only investment demand has performed admirably since 2008. That is expected to continue, as in the near future governments will likely implement regulatory frameworks that legislate capital

market returns below inflation (i.e. financial repression). **We expect silver investment demand to be a star performer during this period.**

Overall Demand

Annual silver demand falls into three broad categories: industrial, financial and ornamental. Just over half (55%) of consumption is assigned for use in the modern economy due to silver's remarkable chemical properties. Among metals it leads in its ability to reflect light and conduct heat and electricity. It even has antimicrobial properties!

The financial component (20%) needs little introduction to the reader.

Silver served as the monetary standard across human civilizations, taking on the role from copper several millennia ago and only relinquishing it to gold a century and a half ago.

The metal's ornamental use (25%), in the form of jewelry and silverware, synthesizes the industrial and financial realms, simultaneously practical and protective.

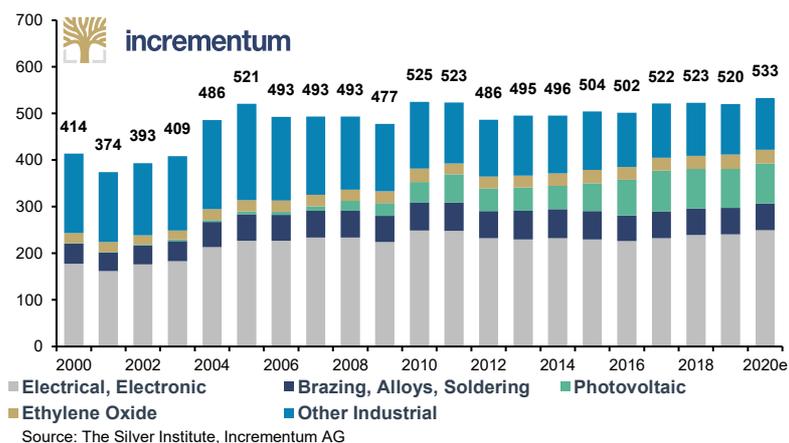
Industrial Demand

Today most demand is driven by industry. Considering that much of the world just exited the longest uninterrupted period of expansion of the post-WW2 period (2009-2019), the silver investor would be forgiven for thinking that silver industrial demand is quite high. It is not. In fact it is quite weak. Or, to reorient the perspective, **there is tremendous room for improvement in the consumption of silver by the manufacturing, construction, and power-generation sectors once the world exits the depression it has now found itself in.**

By common consent of the nations gold & silver are the only true measure of value. They are the necessary regulators of trade.

Helen McCulloch

Silver, industrial demand, by end use, in troy ounces mn, 2000-2020e



Lost Decade Held Silver Demand Back

Depression is not a 2020 phenomenon that came about with the spread of the coronavirus. It started a dozen years earlier, in 2008. There are two common protests against using the word *depression* to describe the past dozen years.

First, the up-front contraction that first year was not catastrophic, and did not produce dust bowls, bread lines, widespread unemployment, bank failures, and persistent deflation. But a terrible economic period does not have to resemble the 1930s to be considered a depression.³⁸²

A depression is persistent below-trend growth. The phenomenon is defined by the long-term lack of economic upside rather than by the immediate downside. Recessions *are* defined by the severity of the contraction, because the post-WW2 experience has been one of cyclical recovery. This second part of the process – recovery – has come to be taken for granted. What happens when there is no recovery? **That is a depression.**

There is a difference between a recession, consecutive quarters of negative growth and just very, very low growth in a persistent way for a protracted period of time. I think we are more in the latter category. That, I think is trend growth that has slowed down, and this has to be understood. I can't give you a number of conjectures, but I think it's more like we're becoming like Japan. This is what we have to worry about also from the policy perspective.

Lucrezia Reichlin

There has been one other depression since the 1930s, which affected approximately half the world. At the time it went by the name the *LDC Debt Crisis*³⁸³, but over time it became more popularly known as the Latin American debt crisis (though the crisis was not just in Latin America). From 1981 to 1990-91 these countries could not grow no matter what economic policy was attempted, be it austerity, deficit spending, open internationalization, or disengagement with global trade. **Political solutions by the left did not work. Nor did solutions from the right.**

The period is referred to as Africa's and Latin America's "lost decade". Lost not because the economies contracted without end but because for every incomplete recovery (i.e. "reflation") there was a subsequent ratcheting down that only reduced future economic potential. For a decade whatever growth occurred was unwound.

The term *lost decade* may sound familiar outside of the African and Latin American experience. If one merely adds an s, the reference is obvious: Japan. Here again one can observe that a depression does not have to resemble the great one to produce a terrible malaise.

The second most common protest concerning the *depression* label being applied to the past decade is that there was growth after 2008. But the implicit assumption is that positive numbers are, well, positive. They are only so if the dividing line between the acceptable and unacceptable is zero. Sometimes positives are actually negative, and one can observe this in the area of industrial production.

Industrial Production Confirms Silver Demand Depression

Industrial production comprises the manufacturing, mining, oil, and power generation sectors of the economy. These are precisely the segments where silver industrial demand is predominately found.

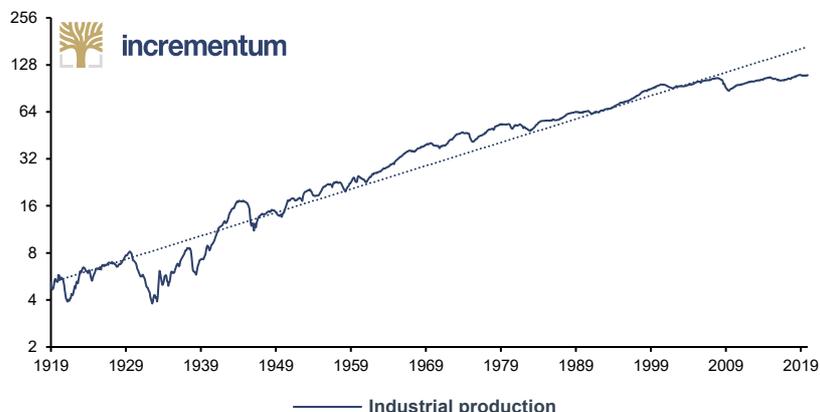
At the end of 2019 industrial production in the United States had grown 4.1% since December 2007. Not per month, in total. Canada, from March 2006 through the end of 2019, grew only 6.1%. France? Just 1.0% since

³⁸² We recommend reading the following excellent article: Kalinowski, Emil: "[The Silent Depression: Trundling Is the New Booming](#)", *Enterprising Investor*, February 11, 2020

³⁸³ LDC for "less-developed countries"

March 2010. Germany? The engine of the European economy is 0.9% larger at the end of December 2019 than it was in January 2007.

USA: Industrial production (log), 01/1919-12/2019

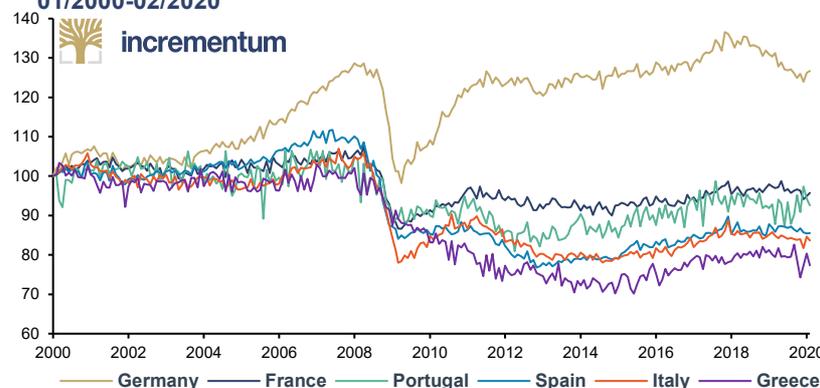


Source: Federal Reserve St. Louis, Incrementum AG

*We live in a non-linear world.
...Rate of change is everything.
Hoping to get close to 3% every
so often is a disaster.*
Jeffrey P. Snider

It's not that the advanced economies are losing this industrial production to developing economies, resulting in no net difference at the global scale. Brazil's industrial production has experienced a gruesome 15.8% decline since the end of 2011. Russia's index has grown from the 97 registered in January 2008 to 111 in December 2019, or just 1.1% per year.

Standardized Industrial Production Index, indexed 01/2000 = 100, 01/2000-02/2020



Source: Reuters Eikon, Incrementum AG

All told, the composite industrial production index of the Organization for Economic Cooperation and Development (OECD) for 35 countries shows a total growth of 3.5% from January 2008 through December 2019. Total. Not per month or even per year.

Two countries not in the OECD list are India and China. India has grown at a relatively rapid pace since 2008, and yet it too has not grown rapidly enough to avoid falling behind its 60-year trend. Since 2011 its upward trajectory has had a decidedly sideways flavor to it. A similar experience can be observed in China.

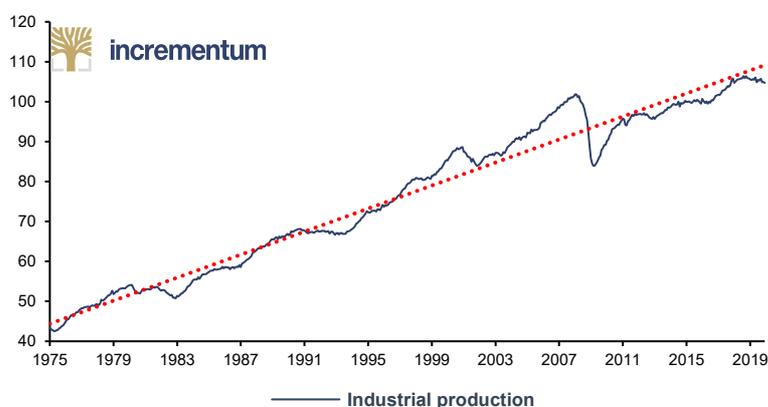
I don't think we're facing a business cycle at present. I think we are facing a long period of structural adjustment before the major economies in the world can grow at the rates they did before the crisis.

Mervyn A. King

Rapid growth in industrial production, but not rapid enough to keep from falling off its 30-year trend (the country also inflected after 2011).

How do these rates of growth compare to our contemporary examples of depression-level growth? From January 1978 to December 1989 Japan compounded its industrial production sector at an annual growth rate (CAGR) of 4.3%. Since? In January 1990 Japan's industrial production index was scored at 103.5 points. By December 2019 it was at 98.9 points. That is a depression. If we use Brazil as representative of the LDC Debt Crisis we observe the same. From January 1975 to December 1980 Brazil grew at 6.2 CAGR. During its lost decade that feel to just a 1.4 CAGR.

OECD 35 nations: Industrial production, 01/1975-12/2019



Source: OECD, Incrementum AG

The following change in pace should have a familiar ring to it. From 1990 to 2005 silver industrial demand grew from 218 to 521mn oz, a CAGR of 6.0%. Since then? Zero. Industrial demand was 520mn oz in 2019. Actually it is a bit worse than that because, had it not been for the heavily subsidized photovoltaic sector's growth, all other industrial uses of silver – including traditional electrical, electronics, brazing, alloys, soldering – contracted 1.2% per year from 2005 to 2019 (compared to growth of 5.9 CAGR from 1990 to 2005).

The last dozen years have been a “lost decade” for silver industrial demand. Unlike Japan’s or the African and Latin American Debt Crisis, this lost decade is global. We are in the midst of only the third such economic global depression in the past 150 years, with the Long Depression of 1873-1896 and the Great Depression 1929-1947 as examples to draw from. What followed each of those experiences? **True golden ages of productivity, expansion, manufacturing, and construction. That lies ahead of us too, somewhere over the horizon. We expect silver demand to explode higher in this golden era.**

Rationalization of the Solar Panel Industry

Photovoltaic (solar panel) growth saved industrial production, such as it was. **The photovoltaic story is a hopeful one for the future. It highlights silver's remarkable conductive properties.**

From around zero in 1990 the industry's silver usage grew to 1mn oz by 2000, or 0.1% of total demand. From there the industry took off as a result of government subsidies. First, in Europe, most prominently in Germany but also along the Mediterranean, subsidies were offered to grow the proportion of electrical power sourced from nontraditional sources such as the sun and wind. As a result, by 2005 the draw on silver had risen to 6mn oz and was now 0.6% of total demand.

Every cloud has its silver lining but it is sometimes a little difficult to get it to the mint.

Don Marquis

In a healthy, ever-expanding world of international trade and credit growth, this spectacular pace might have continued without interruption for some time. But when the 2008 crisis struck, renewable power subsidization was an expensive experiment at a time when other social priorities were demanding attention. Europe began to pull back on its generous programs just as the price of silver was peaking and the cost to government was running beyond the pale in budgetary erms. Still, by 2011 the new industry's silver use had grown to 60mn oz and drew a remarkable 5.9% of total demand.

The photovoltaic sector would have dropped more precipitously than it did had it not been for Japan's 2011 triple disaster (earthquake-tsunami-reactor meltdown). Tokyo took the subsidization baton from Europe and for the next several years funded solar panel manufacturing and construction and kept silver demand in this sector afloat. But in 2014 they too began to pull back due to prohibitive costs. At the time photovoltaic demand was at 50mn oz, or 4.8% of total demand.

The basic problem that 2008 kicked off was the crisis of interdependence. Everybody believed interdependence was wonderful, exports were great; let's do more. And they suddenly discovered that the sub-prime crisis spread so quickly through the system they couldn't control it. And then it was discovered that the exporting countries couldn't maintain their exports. And as a result of this there was a kind of global economic slowdown that's not been solved to this point.

George Friedman

Just in time, here came China, which wanted to make an impressive move in a burgeoning industry with tremendous global promise. Over the next few years a torrent of subsidies was offered in the construction of solar utility plants and panel manufacturing. By 2017 solar silver demand had reached 89mn oz, or 9.1% of all demand.

For those who did not follow the sector with more than a passing interest, the entire 2000-17 expansion by the industry appeared to be a logical progression of a world acceding to the green revolution. In conjunction with climate change conferences and the development of mass-market electric cars, the shift to photovoltaics made sense, on the surface at least. Underneath, however, **the industry had been surviving on wildly generous subsidies and a miraculous coincidence of finding a government to carry it along just as the previous one ran out of patience or money or both.**

In 2018 the good fortune came to an end, if for only the time being (the sector does hold much promise, after all). That year even China – the league leader in overcapacity – announced widespread cuts to subsidies, forcing industry rationalization. Silver demand from solar panels fell in both 2018 and 2019 to the mid-80mn oz level, or 8% of total demand.

Prior to the virus wreaking havoc on the global economy, the consensus forecast was for the photovoltaic sector to tread water and not recover its previous heights in either absolute or relative terms until 2026.

Out of difficulties grow miracles.
Jean de la Bruyere

It all sounds rather depressing, but it is not. It *was* depressing. And it may continue to be so a bit longer. But there, right ahead of us, once this socioeconomic malaise is resolved, once this silent depression is overcome – much as the Long and Great Depressions were conquered – there is an absolutely astounding boom in new technology, manufacturing, construction, and trade that silver will capitalize on. **Solar panels will be a strong component of this, no doubt, after having gone through this necessary rightsizing. The future is very bright, if not immediately, and silver is going to take part in it.**

Character, like a photograph, develops in darkness.
Yousuf Karsh

Photography

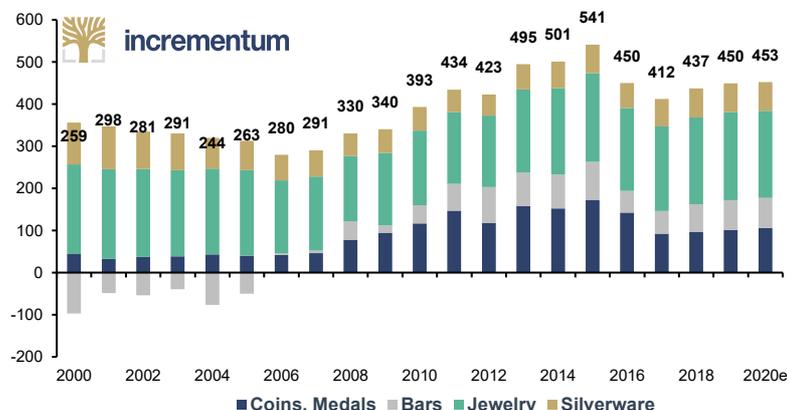
Unfortunately one industry that will not be joining this great boom is the photographic sector. There has been a photon handoff between traditional film photography and the photovoltaic industry. Rising from 168mn oz in 1990 to 231mn oz in 1999, photographic silver has been in decline ever since. Down to 185mn oz by 2004 and to 87mn oz by 2009, the sector only consumed 40mn oz by 2019. **What good news there is, is that the vast majority of demand destruction is behind us.** Prior to 2020 the consensus outlook was that the sector would only lose an additional 4mn oz by 2024. The segment holding the bridge against the inevitable digital onslaught is the hospital X-ray, which still relies a good deal on film, rather than digital photography.

Everything is temporary if you give it enough time.
Jewel

Jewelry

The story of jewelry end-use is similar to what was discussed in the industrial demand section. Jewelry demand increased tremendously, from 91mn oz in 1990 to 208mn oz in 1999, as wealth was shared broadly and real incomes rose. Then, from 2000 to 2004, something happened. Whether it was the recession in the United States or the euro currency drawing the energy out of peripheral Europe, growth rates stagnated and so did jewelry consumption, averaging 209mn oz a year.

Silver, ornamental demand, by end use, in troy ounces mn, 2000-2020e



Source: The Silver Institute, Incrementum AG

From there real incomes for the advanced economies suffered with first the 2008-09 recession and then the 2011-12 European crisis. During those years jewelry silver demand fell to 169mn oz per year. The recovery brought demand back to where the industry stood at the beginning of 2000, at just a nose-ring over 200mn oz a year.

Real Incomes Insufficient to Drive Ornamental Demand Higher

If real incomes drive luxury purchases, then it is no wonder the past two decades have been so languid. **The growth in real income since 2007 has been one-seventh of what it was in the post-WW2 era.**³⁸⁴

If we examine the rate of growth in real gross domestic product per capita for all countries, with data from 1950 through 2018,³⁸⁵ we can observe that a plurality of countries (45%), accounting for a majority of economic activity (65%), are trailing their post-WW2 growth trends. What is the difference in dollar terms? As of 2018 the median deterioration in real GDP per capita relative to where the 1950-2007 trend implied these countries would be was 10,000 US dollars.

This does not mean there has not been any growth; there has. The individuals in these countries are wealthier than they were in 2007. But they are poorer relative to what society had come to expect as normal growth over the course of three generations. **Once real incomes begin rising again, as they will once this depression is resolved, we can expect a boom in jewelry demand.**

Silverware

It is with sadness that this report must announce that it is no longer customary to dine with fine porcelain and the family sterling silver tableware set. Utensils once universally referred to as “silverware” are now called *flatware*. We can hear 19th century Victorians turning in their graves.

Doubling from 62mn oz in 1990 to 120mn oz in 1999, the industry has seen silver demand decline back to the 60s, with a dip into the 50s during the economically difficult 2008-12 period. The 2019 figure was estimated to be 69mn oz. We will likely see a dip back into the 50s because of the recent economic strife.

Investment Demand

Industrial demand has been disappointing, silverware's growth rests with the popularity of *Downton Abbey*, while jewelry demand has been stagnant and photography has been in secular decline. Well, at least there has been one standout performer during the entirety of this period and one that will continue to support the metal as we go through a difficult adjustment both with respect to this virus but also, more broadly, as long as we continue to suffer the consequences of 2008-09.

Yes we do understand the importance of tradition and history. We just don't give it power over us.

**Martha Levinson,
Downton Abbey**

³⁸⁴ Our calculations based on the [Maddison Project Database](#) and World Bank data.

³⁸⁵ The latest available, as 2019 was not yet finalized, though also conservative as the 2019 global economy was slowing from 2018.

Trading silver is a tough way to make an easy living.

Rich Ross

I think the main continuity across the populist uprising is that they're all democracy movements. They're all people who correctly, actually, who correctly see that structures have been built up over the last half century that remove certain questions from the scrutiny of the voters and deliver them to regulatory bodies, bureaucracies, courts.

Christopher Caldwell

Investment demand across coins, medals, and bars was actually negative for most of the 1990s and early 2000s. From 1990 to 2004 investment demand was a net negative on average at 43mn oz each year. In 2006 the SLV exchange-traded fund³⁸⁶ was introduced; and in conjunction with perceptive investors who noticed the then five-year decline in the dollar as well as a burgeoning housing bubble, demand for safe-haven silver turned positive, at 49mn oz. From 2008 to 2012 demand exploded higher to 162mn oz per year, on average, or 17% of total demand. Demand then rose for a few years, then fell; and entering 2020 the number stood at 172mn oz or 17% of total demand.

Silver as a beneficiary of monetary and fiscal policy?

As we have extensively elaborated in the previous chapter, central banks are creating money at a pace that is reserved for total war, or legendary vanity projects like Versailles or the Great Pyramid of Giza. And they are doing so on top of a dozen years of emergency, 'out of thin air' central bank policies that have little to show besides ephemeral stock prices (at least the Franks have 800 hectares of land landscaped in the classic French formal garden style).

Yes, in their defense the central banking community can retort that, "It would have been worse without us". That is an interesting discussion for academics but not a political campaign banner ("It could be worse!") under which politicians can hope to thrive.

Gone soon will be the era of allowing the monetary technocracy free reign. Why? Because the virus is accelerating trends already in place. The radicals, outsiders, populists, and authoritarians will redouble their efforts to take down the establishment by claiming they have plans and solutions. Helicopter-like plans. Universal ones. "Modern", they will say. Some of these Visigoths will come into power. Where they do not, it will very likely be because the establishment will adopt their policies, platforms, and proposals.

The virus is ushering in an era when the ministries of finance create inflation by regulation and by statute (in the hope of creating economic activity, but most importantly, in the desire to escape deflation). By financial repression, by capital controls.

In 2011 Carmen M. Reinhart and M. Belen Sbrancia published "The Liquidation of Government Debt",³⁸⁷ a paper that explains how governments have historically rid themselves of excessive debt burdens. **Someone must always pay for debt. And determining which segment of society – be it the central or local government, the rich (savers) or poor households (usually debtors), businesses, or foreigners – will pay is what the next decade will be about.**

³⁸⁶ iShares Silver Trust

³⁸⁷ Reinhart, Carmen M. and Sbrancia, Belen M.: "The Liquidation of Government Debt", NBER Working Paper Series, No. 16893, March 2011

Reinhart and Sbrancia list five ways to resolve debt, and the first two have already been tried for the past decade-plus: economic growth and fiscal austerity. The former did not work; the latter was not popular. That leaves three possibilities.

The first is a quick burst of inflation. From the rip-the-Band-Aid-right-off school, this is the quickest of all solutions, assuming one can control it. The voting citizenry generally is not enamored of this plan, and the politicians unlucky enough to find themselves in democracies know it.

The second is outright default, which is the preferred method if the debts are due to foreigners. For countries with large foreign-denominated currency debts and healthy domestic sources of demand (to ride out the likely multi-year boycott of funding by international creditors), this is an option.

The last is financial repression, a series of policies, laws and regulations that keep capital corralled onshore, with nominal rates of return low (by law) and inflation rates higher. This was the policy implemented after WW2 by most of the advanced economies. **It seems to be the most likely path a majority of countries will take over the coming years.**

Silver and gold have their value from the matter itself, they have first this privilege, that the value of them cannot be altered by the power of one, nor of a few commonwealths, as being a common measure of the commodities of all places.

Thomas Hobbes

In each of these eventualities silver investment is a method of opting out of the solutions offered (forced?) to the citizenry. Silver, like gold, is a currency that is nobody's liability. It is internationally recognized, accepted, and liquid. For as long as this disorder continues, for as long as the risk of currency debasement rises, silver investment demand will increase. And once that time passes, we can expect a long tail of continued purchases as the memory remains a permanent part of the lives of all who will experience the coming years, much in the same way as the Great Depression framed the worldview of its survivors.

The Gold-Silver Ratio

It is weil warit they have sorrow, that buyes it with their silver.

Scottish Proverb

Most precious metal investors will be buying gold. They'll be on gold here, all the way up, all the way up, all the way up, with gold in their portfolio. Where can they go from there? Where? Nowhere. Exactly. What the prudent investor does is, if they need that extra push over the cliff, you know what they do? Silver. **Silver is going to outperform its big brother in the coming years.**

The Mount Everest of Paper Leverage

As explained in earlier portions of this chapter the fundamental setup for silver is pregnant with possibilities, with supply constrained and demand bottoming out. Unfortunately, fundamentals are not enough, as we still inhabit a grossly financialized era with leveraged, unallocated speculators determining the metal's price.

Money is emotional... Because all value is subjective, money is worth what people feel it's worth. They accept it in exchange for goods and services because they have faith in it. Economics is closer to religion than science. Without millions of individual citizens believing in a currency, money is colored paper.

Likewise, citizens have to believe that if they extend a loan to the US government they're get their money back or they don't make the loan in the first place. So confidence isn't a side issue. It's the only issue.

The Mandibles

Although gold and silver are not by nature money, money is by nature gold and silver.

Karl Marx

Generally, the greater the stigma or revulsion, the better the bargain.

Seth Klarman

Macquarie Research, in their year-end “Commodities Comment” review, estimated the market value of commodities based on the fundamentals.³⁸⁸ Crude oil and steel were in the top tier, worth USD 2.4trn and USD 1.4trn, respectively. Natural gas and thermal coal made up the second tier at USD 0.5trn and USD 0.4trn each. Tier three included iron ore, gold, metallurgical coal, copper, and aluminum ranging from USD 0.2trn at the high end to USD 0.1trn at the low. Where silver enters the picture is tier four, along with zinc, nickel, lead, titanium, and palladium. These metals account for between USD 0.03trn and USD 0.01trn. Tiny.

Where it becomes bizarre is in the financial derivative structure each of these commodities supports. Crude oil is now in a class of its own with USD 35trn in derivative value resting atop USD 2.4trn in real product. Tier two belongs only to gold at USD 11trn. Next is copper with 6.0trn, steel USD 3.3trn, and then out of the blue comes silver at USD 2.4trn. **Thus the 13th largest commodity by value supports the 5th largest financial web of derivatives by make-believe. This reminded us of the wonderful book *The Mandibles*:**

“Of course, for professional traders on the stock exchange, money had always been imaginary – just as notional, just as easy come and easy go, as the points in a video game. Wage earners like Willing's other thought money was real. Because the work was real, and the time was real, it seemed inconceivable that what the work and the time had converted into would be gossamer. They had been promised that they could store the work and the time, later to exchange it, if only for other people's work, and other people's time. But money was just an idea, and most people did not understand that natural forces also acted on the abstract: evaporation, flood, fire and erosion: seepage, leakage, and decay. Most people liked the prospect of justice, and confused what was appealing with what was available.”³⁸⁹

This puts silver's financial-to-fundamental ratio at over 140, which is far and away the largest derivatives ratio in the space. The next closest are nickel and gold, which both sport ratios in the 60s. Comparing silver to oil, relative to the size of their underlying fundamentals, the metal is 10 times more exposed to derivative paper.

Largest Discount on Silver in the History of Human Civilization

As we have established in previous *In Gold We Trust* reports, sooner or later we can expect silver to continue to follow the path blazed by gold. Silver, however, has a beta, a little bit of extra volatility attached to it that will push it over the cliff. This is known as the gold-to-silver ratio, which just so happens to be signaling that silver has never been this (relatively) cheap.

³⁸⁸ Price, T., Lloyd, V. et al.: “Commodities Compendium: Being constructive”, Macquarie, December 12, 2019
³⁸⁹ Wikipedia entry: “[The Mandibles](#)”

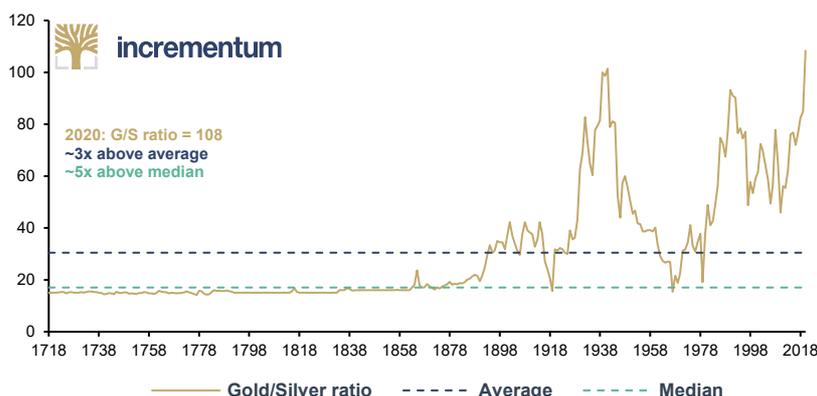
Silver has also been the monetary standard of almost every country in the world, including China and Saudi Arabia in the twentieth century, Great Britain in the seventeenth, and Biblical Egypt.

William L. Silber

“Never” is not an exaggeration. James U. Blanchard, in his 1995 book *How to Profit from the Coming Silver Bonanza*, samples the ratio’s value stretching back into the mists of time. The earliest long-term estimate, 2.5 to 1, comes from the era of Menes, in ancient Egypt, circa 3200 BC. Some 500 years later, Hammurabi’s rule in Mesopotamia saw the ratio at 6 to 1. From there Blanchard’s data becomes more regular and includes Lydian king Croesus (13.33), whom Herodotus credits with the first use of gold and silver coin; Xenophon (11.66); Caesar (7.5); and Constantine (10.5). In more recent days, Blanchard estimates medieval England and medieval Italy at 11.1 and 12.6 silver pieces to gold, respectively.

From there we can turn to the regular, annual estimate as calculated by Lawrence H. Officer and Samuel H. Williamson at MeasuringWorth.com, who provide 333 years of continuous data. For the year 2019 the ratio averaged 86, the seventh highest ratio ever recorded; or to rephrase, **silver was cheaper only six percent of the time in recorded financial history.**

300 years of Gold/Silver ratio, 1718-2020



Source: Nick Laird, goldchartsrus.com, Incrementum AG

333-year distribution of the Gold/Silver ratio		
Measures	Actual data	Inverse Gaussian distribution
Minimum	14.14	14.02
Maximum	99.76	∞
Mean	28.19	28.19
Mode	≈14.620	14.65
Median	15.80	17.19
Std Dev	20.31	38.83
Skewness	1.61	8.22
Kurtosis	4.60	115.55
1%	14.42	14.29
5%	14.65	14.48
10%	14.83	14.66
15%	14.94	14.85
20%	15.04	15.05
25%	15.13	15.27
30%	15.26	15.53
35%	15.37	15.83
40%	15.50	16.20
45%	15.65	16.64
50%	15.80	17.19
55%	15.96	17.89
60%	18.64	18.80
65%	27.04	20.01
70%	32.22	21.69
75%	35.80	24.11
80%	39.15	27.84
85%	51.68	34.07
90%	66.27	46.08
95%	74.78	76.73
99%	89.83	199.64

Source: Measuringworth, Emil Kalinowski, Incrementum AG

The unusually elevated ratio holds even if we drill into monthly data. Since 1968, when the gold price began to trade freely again on markets, the average monthly ratio has spent 80% of the time between 30 and 80, with a median of 58. **For the month of March 2020, the ratio recorded a new all-time record of 107. For some context, the second highest recorded month was February 1991, at only 97.**

Sleep on a bed of silver and dream of gold.

Lithuanian Proverb

So, not to belabor the point, this is history's greatest discount on one of humanity's most important and useful metals. Before offering some estimates of where this ratio might come back to, let us explain why the ratio moved so far out of the norm in the first place.

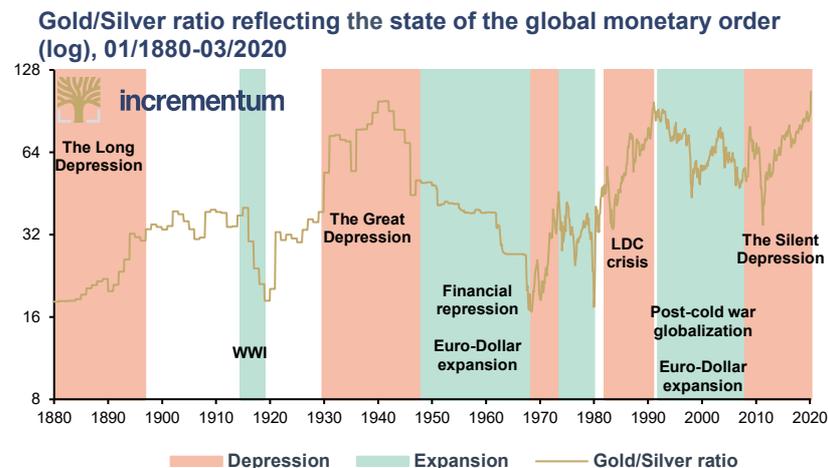
Global Monetary Conditions of Deflation

What is the fair price of silver? It is whatever the fair price of gold is, adjusted for the monetary condition of the global financial order.

During periods of inflation and monetary proliferation, silver will outpace the value of gold in rate-of-change terms, and the gold-silver ratio will decrease.

During eras of disinflation, deflation, and monetary destruction the reverse

happens and the ratio rises. This has been the pattern for 150 years (at least), since the Long Depression of 1873-1896, as the graph shows.



What is very unusual about present circumstances – back in '08 and '09, was that the amount of money is falling. And the reason is very simple. It's that 95% of our money supply or more comprises bank deposits. And if banks, because they now realize they were overleveraged, try to reduce their lending activity, that will have the automatic effect of reducing the other side of the balance sheet. So, deposits will go down. That is why their money supply is contracting.

Mervyn A. King

Today's ratio is at vertiginous heights because the global monetary order is characterized by disinflation, deflation, and monetary destruction. This runs counter to the implicit assumption that central bank creation of dollars, euros, yen, francs, and pounds signals a shocking expansion in liquidity and money. That assumption is not wrong – it *was* shocking. **But there was, and is, something orders of magnitude larger that moves in the opposite direction: the collective balance sheet of financial corporations.**

Why have central bank policies not sent inflation on a Zimbabwean-path to the moon? It is because advanced-economy, reserve-currency central banks are not central to the modern-day money supply. **The offshore, off-balance-sheet, off-the-regulatory-radar network of private financial institutions is central to today's money supply.**

“Most of the money in circulation is created, not by the printing presses of the Bank of England, but by the commercial banks themselves... And in the modern economy, those bank deposits are mostly created by commercial banks themselves.”³⁹⁰

Most people believe that because the central bank creates notes and coins, it also manages money broadly. But the notes and coins are only one layer of money, sometimes referred to as Mo. There are more layers – some countries report M2, or even M3. **The reader can be assured that even M3 is many integers short.**

“It follows from the propositions I have so far stated that inflation is always and everywhere a monetary phenomenon in the sense that it is and can be

³⁹⁰ McLeay, Michael, Amar Radia and Ryland, Thomas: *“Money creation in the modern economy”*, Quarterly Bulletin 2014 Q1, Bank of England, March 14, 2014, p. 25

produced only by a more rapid increase in the quantity of money than in output.”³⁹¹

When confidence collapses in the private sector, this is deflationary – but when confidence collapses in the public sector, this is inflationary.

Daniel J. Want

It is in these higher-level Ms (M100? M∞?) that private financial institutions possess great latitude to create money. They do not create notes and coins; that would be illegal. Instead their monetary format is the accounting balance, the ledger entry. This M∞ is called credit, loans, borrowings, investments, swaps, futures, forwards, swaptions, cross-currency basis swaps, credit default swaps, pay-in-kind toggle notes, and any manner of financial product imaginable that will be accepted by a counterparty. **The commercial banks’ tools are neither the printing press nor the mint but applied mathematics, computer science, statistics, economic theory, expected volatility and – most importantly – imagination.**

“Because I think if you try and explain the financial system with some kind of flow chart or even worse, a mathematical model, most people are just baffled. But if you tell them the story of why we have banks, why money is mostly bank money, why there is a bond market, what the stock market is and where it came from, then it all starts becoming more intelligible.”³⁹²

[W]here does the Fed fit in? It doesn't, maybe apart from psychology. There is no money in monetary policy, and there isn't even money in this modern money multiplication.

Jeffrey P. Snider

That is why the creation of trillions of dollars, yen, euros, francs, and pounds has resulted in falling inflation rates. That is why, despite amassing the greatest latitude of operation in modern monetary history, central banks in the United States, Japan, Europe, and China have been unable to achieve their self-appointed targets for inflation. That is why metal, energy, and agricultural commodities have been falling in nominal value since 2011, when the second once-in-four-generations liquidity crisis *in four years* confirmed that *“there is no money in monetary policy”*.³⁹³

As the following quote from Robert V. Roosa, an official at the US Department of the Treasury during the Kennedy Administration, demonstrates, **central banks lost control of the money supply 60 years ago:**

“For from the early sixties onward there was virtually no control over the worldwide supply and use of dollars. ... the enormous expansion in markets for U.S. dollars offshore, and the new networks of interbank relations that made possible the creation of additional supplies of dollars outside the United States and beyond the control of the Federal Reserve.”³⁹⁴

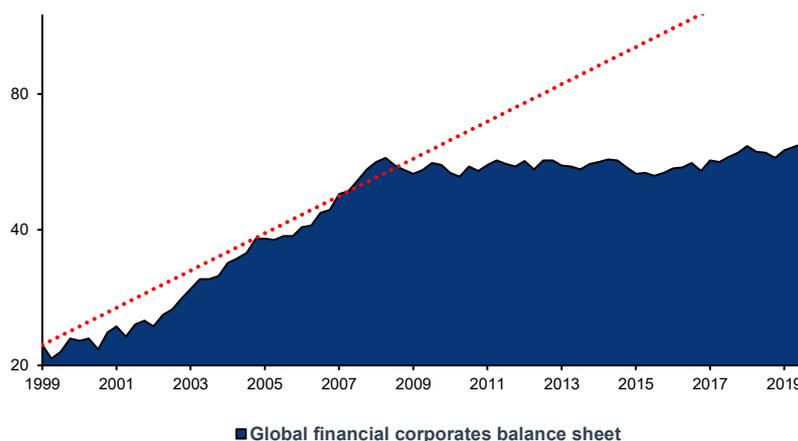
And the silver investor can be assured that the “networks of interbank relations” did not stand still over the intervening years but instead evolved into what may be

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³⁹¹ Friedman, Milton: “The Counter-Revolution in Monetary Theory”, *IEA Occasional Paper*, No. 33, 1970, p. 11
³⁹² Ferguson, Niall: “A Historical Perspective on Populist Politics”, *Real Vision Television*, March 29, 2019
³⁹³ Snider, Jeffrey: “There Is No Money In Monetary Policy at the Moment”, *RealClear Markets*, July 14, 2017
³⁹⁴ Roosa, Robert V.: “Exchange Rate Arrangements in the Eighties”, published in: Federal Reserve Bank of Boston: *The International Monetary System: Forty Years After Bretton Woods Conference*, proceedings of a conference held in May 1984, Conference Series No. 28, May 1984, p. 107

the most complex human system of “nonlinearity, emergence, spontaneous order, adaptation, and feedback loops,”³⁹⁵ in existence today.

It may still be hard to believe that balance sheets of commercial banks are stagnating. In the 12 years leading up to 2007, these banks grew exponentially. In the 12 years since they are either smaller, unchanged, or modestly higher. This phenomenon has occurred globally and explains the deflationary pressure within the financial system.

Global financial corporates balance sheet (log), in USD tn, Q1/1999-Q4/2019



Source: IIF, Emil Kalinowski, Incrementum AG

It is no wonder, then, that the gold-silver ratio surged to all-time daily-close highs of 120-1 during March. Deflationary pressure was ever-present that month. **The elevated nature of the ratio will continue for as long as destruction of modern money continues. We expect that to be for as long as central banks are given free reign. However, there are reports from various parts of the world that this era is coming to an end. And thus, by implication, the ratio will be falling again.**

Player Three Is Entering the Game

In stages, over the past dozen years, different segments of the financial system stopped believing there was any “money in monetary policy”: in Japan, sometime in the early 2000s. In the advanced economies, in 2011. In emerging markets, during 2014-16. Politicians are in this group of nonbelievers as well, but prior to 2020 it was convenient to let things be. The virus has, however, thrust them center stage with their citizenry looking on expectantly. That is why **over the coming years, out of self-preservation, politicians will take power away from central banks.**

One can begin to see the faint outlines of this coming paradigm change in Indonesia, Britain, and New Zealand, with India not far behind. In April, Bank Indonesia bought debt directly from the government, bypassing the private markets. The central bank’s involvement is “capped” at 30% for sharia bond

If there is a rifle hanging on the wall in act one, it must be fired in the next act. Otherwise it has no business being there.

Anton Chekov

³⁹⁵ Wikipedia entry: [Complex system](#)

auctions and 25% for conventional government debt auctions. According to *The Jakarta Post*:

*“[Bank Indonesia] acts as the last resort when the market is unable to absorb all of the offers,” Perry told reporters during a regular media briefing on Wednesday. “We projected that most of the bonds would be absorbed by the market and the central bank would only buy a small portion of them.”*³⁹⁶

What Indonesia is doing is simple. In a time of national emergency it is announcing that Jakarta will borrow from local, private pools of wealth (e.g. pension funds, household savings) at rates of interest that it is comfortable with, of its own choosing, and not the market's. If the economy recovers smartly then there is nothing further to discuss. But if it struggles to recover for years, how will Jakarta finance itself if trade, tourism, and remittances fall sharply?

Joining Bank Indonesia is none other than the grande dame of central banking lore, the “Old Lady of Threadneedle Street”, the Bank of England:

*“The UK has become the first country to embrace the monetary financing of government to fund the immediate cost of fighting coronavirus, with the Bank of England agreeing to a Treasury demand to directly finance the state’s spending needs on a temporary basis. This direct monetary financing of government would be ‘temporary and short-term’, the Treasury said in its statement. ‘As well as temporarily smoothing government cash flows, the W & M Facility supports market function by minimising the immediate impact of raising additional funding in gilt and sterling money markets,’ it added. It said any drawings on this facility would be repaid as soon as possible before the end of the year.”*³⁹⁷

Not too far behind are New Zealand and India. **In late April New Zealand central bank governor Adrian Orr made a number of stark comments:**

- According to Bloomberg, “he remains open minded about buying the nation’s debt directly from the state, as the central bank mulls more policy responses to tackle the coronavirus crisis.”
- “Direct monetization, I know, has been heresy, taboo for a long time, but it’s only a long time in our lifetime.”
- “It’s not a mysterious issue. It’s just not how we’ve run business.”
- Direct debt monetization comes with “as many risks as opportunities,” as Orr talked about the potential for high inflation if a central bank isn’t independent.
- “There’s no free lunch, but you shouldn’t rule any option out”, he added.³⁹⁸

India has a similar break-glass-in-case-of-emergency policy to the one in Britain. According to Bloomberg,

³⁹⁶ [“Bank Indonesia buys \\$108m of government bonds at auction, first time since rule change”](#), The Jakarta Post, April 23, 2020

³⁹⁷ [“Bank of England to directly finance UK government’s extra spending”](#), Financial Times, April 9, 2020

³⁹⁸ [“Debt Monetization Creeps Closer by the Day in New Zealand”](#), Bloomberg, April 21, 2020

"[W]hile it is banned from buying straight from the government, legislation passed in 2018 has an 'escape clause' that allows the RBI to participate directly in primary auctions if the fiscal deficit is expected to be 0.5 percentage points above the targeted shortfall for the year."³⁹⁹

What is left unspoken but naturally flows from the first point is that, should capital flows protest these purchases and commensurate non-market rates of return, then the government will sideline markets entirely, implement capital controls, and compel participation through legislation.

You know, if baseball umpires were on the front page of the sports section every week, you'd know something was desperately wrong with the game.

Jim Grant

In mid-April, speaking at a briefing on the regional economic outlook, Changyong Rhee, the International Monetary Fund's (IMF) director of the Asia and Pacific Department endorsed capital controls. Acknowledging them as an exceptional and temporary measure, he said, *"I think there is room for capital flow measures ... as a prerequisite for many Asian economies to use more aggressive domestic policies to prevent large, lasting impacts on their economic structure."*⁴⁰⁰

Rhee is not speaking out of turn but in keeping with his boss, Kristalina Georgieva, who in mid-February wrote an editorial in *The Financial Times* saying that the IMF plans to *"reassess the costs and benefits of four tools – monetary policy, macroprudential policy, exchange rate interventions and capital flow measures – to help stabilise economies exposed to domestic and external shocks."*⁴⁰¹

That is the difference between 2008-19 and 2020 forward. Whereas previously inflation targeting was an academic exercise by "tenured" individuals with appointments, going forward, individuals facing the voting public must be able to "guarantee" inflation, to eat away at "total war"-like levels of debt issuance.

Consider the actions by Indonesia, India, New Zealand, Britain, and the IMF as the nose of the inflationary camel poking into the tent.

Timeline and Price Ranges

We believe that we are at the end of a deflationary interpretation of our global monetary system. The proximate trigger for the phase transition is the passing of the inflationary baton from the central bank to the central authority. **The balance of probabilities suggests silver will begin its inflationary journey sometime in the near future, perhaps after one more great deflationary credit and debt default cycle, heading towards gold-silver ratios reached at the end of previous inflationary frameworks.**

[Modern Monetary Theory], for those not in the know, being that fair monetary wind, available at the press of a button, that will achieve what ten years of extraordinary monetary policy failed to achieve – a high level of broad inflation.

Russell Napier

³⁹⁹ "Debt Monetization Creeps Closer to Global Investors' Wary Relief", Bloomberg, April 28, 2020

⁴⁰⁰ "Asia's growth to grind to halt for first time in 60 years, warns IMF", Financial Times, April 16, 2020

⁴⁰¹ Georgieva, Kristalina: "We Are Rethinking Our Advice to Emerging Markets", Financial Times, February 18, 2020

Some targets to consider. In 2011, at the peak of the perceived efficacy of quantitative easing, the gold-silver ratio averaged 44. In 1980, the last year of the 1970s inflation, the ratio averaged 30. In 1968, the last year of the price-fixing London Gold Pool, the ratio averaged 18. **Each of these three points represents the end of an inflationary interpretation of the monetary paradigm in place at the time.**

The Gold/Silver ratio of the modern era, 01/1960-04/2020



Source: World Bank, Wheaton Precious Metals, Incrementum AG

What might a future silver price look like? The current gold price is about USD 1,700, with silver at USD 17. If we apply the 2011 ratio at 30, silver would be worth USD 56 today. The 1980 ratio (20) would send an ounce of silver to USD 85.

Gold price	Gold/Silver ratios	Silver price							
		10	15	20	30	40	50	75	100
	1,000	100	67	50	33	25	20	13	10
	1,100	110	73	55	37	28	22	15	11
	1,200	120	80	60	40	30	24	16	12
	1,300	130	87	65	43	33	26	17	13
	1,400	140	93	70	47	35	28	19	14
	1,500	150	100	75	50	38	30	20	15
	1,600	160	107	80	53	40	32	21	16
	1,700	170	113	85	57	43	34	23	17
	1,800	180	120	90	60	45	36	24	18
	1,900	190	127	95	63	48	38	25	19
	2,000	200	133	100	67	50	40	27	20
	2,100	210	140	105	70	53	42	28	21
	2,200	220	147	110	73	55	44	29	22
	2,300	230	153	115	77	58	46	31	23
	2,400	240	160	120	80	60	48	32	24

Source: Incrementum AG

Silver Linings' has proved a golden opportunity for me.
Anupam Kher

How long will it take? We do not know, of course. The post-WW2 journey lasted 23 years. The post-Cold War trip took two decades. The post-Bretton Woods jaunt? A short seven years. **We do not know what the future holds, but we would be surprised if, in retrospect, silver will not have proven to be a wise investment for the next generation.**



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Mining Stocks: The Party Has Begun

“Never be the first to arrive at a party or the last to go home and never, never be both.”

David Brown

Key Takeaways

- We remain firmly convinced that the cruel four-year bear market has resulted in the majority of mining companies now being on a more solid foundation. Producers are now leaner; they have reduced their indebtedness and will benefit more from rising gold prices in the future.
- Weak energy prices and strong USD vs. weak local currencies provide further tailwind.
- Major gold miners have broken out on high volume. Generalist investors are slowly entering the sector again.
- We believe that M&A will continue to be an important driver. Of the entire mining sector, gold is perhaps the most fragmented, and we believe that the gold industry and its investors would reap significant benefits from consolidation.
- Throughout history, the gold-to-silver ratio has traded at much lower levels. A decrease in the GSR, down to 40 or 50 over the next several years, will juice the cash-flow generation of silver producers.
- There are still few sectors that are more underweighted by the investment community than the mining sector.

Opportunity is missed by most because it is dressed in overalls and looks like work.

Thomas A. Edison

All we need is just a little patience.

Guns N' Roses

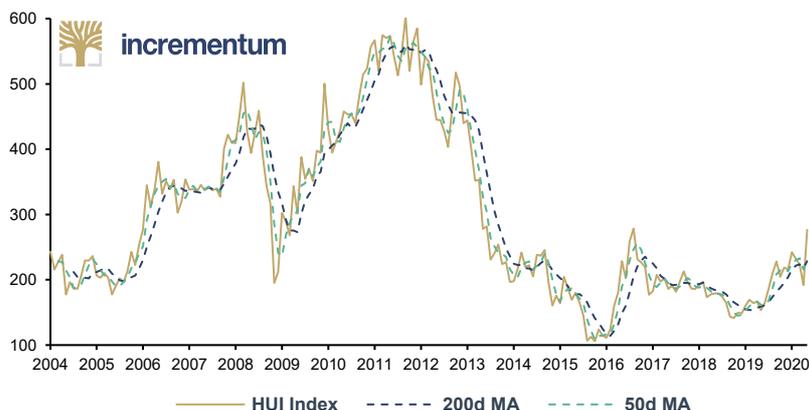
Whether we're talking about socks or stocks, I like buying quality merchandise when it is marked down.

Warren Buffett

This year we have again devoted considerably more space to the mining sector than in previous years.⁴⁰² This is due to the value proposition of the miners and the incredibly bullish macroeconomic backdrop for gold. Before delving into some of the notable talking points in the mining sector, it is worth quickly reviewing key developments in the mining industry since the end of the last bear market (2015) over a long-term horizon and over the course of 2019, along with key economic considerations.

Following a humbling bear market, investing in the sector felt akin to attempting to catching a falling knife – or maybe a falling chainsaw – with what was essentially a continuous drawdown beginning in the second half of 2011, to the bottom in late 2015. This period has caused interested investors to avoid this sector to this day. Investors, generally speaking, are not especially patient and want immediate gratification. Unfortunately for them, extreme patience and strong nerves are vital in the mining industry.

HUI Index, 01/2004-05/2020



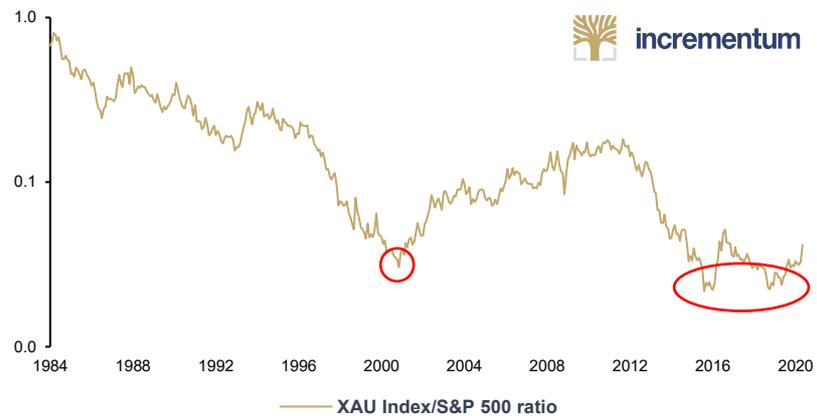
Source: Reuters Eikon, Incrementum AG

Like most bull markets, gold started off very slowly in 2016 and did not really gain steam until mid-2019. However, the first 8 months of 2016 were truly spectacular for gold and silver stocks alike. The HUI Gold BUGS Index peaked at roughly 284 in early August of that year (a 153% increase in just over 8 months). At the time, the gold price was below the USD 1,350/oz. level, while silver was pushing USD 20-21/oz., with both metals failing to breach key resistance levels. From mid-2016 to mid-2019, the gold price moved like molasses, taking 3 years to break the 2016 peak, despite vastly improved fundamentals.

Prior to looking further at the performance in recent years, it is worth briefly taking a look from a longer-term perspective. The next chart depicts the performance of the mining stocks (XAU Index) in relation to equity markets (S&P 500) and clearly illustrates how low the gold stocks are trading relative to the broader equity market.

⁴⁰² See "Precious Metals Shares – More Than a Silver Lining?", In *Gold We Trust* report 2018, "Gold Mining Stocks –After the Creative Destruction, a Bull Market?", In *Gold We Trust* report 2019

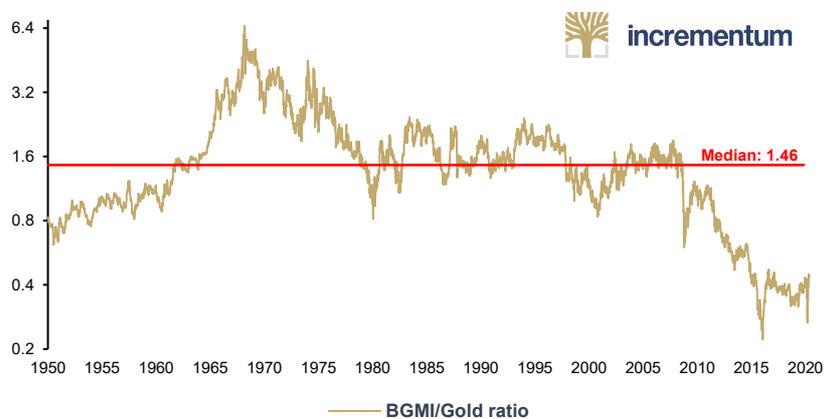
XAU Index/S&P 500 ratio (log), 01/1984-05/2020



Source: Reuters Eikon, Incrementum AG

This underperformance of mining stocks is particularly apparent if we make an even longer-term comparison. The oldest available gold mining index, the Barron’s Gold Mining Index (BGMI), is currently de facto the lowest in 78 years relative to gold. In addition, the current value is miles below the long-term median of 1.46x.

BGMI/Gold ratio (log), 01/1950-05/2020



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

Gains are overrated. Avoiding loss is underrated.

D. Muthukrishnan

Despite fantastic performance in the past weeks, the 2016 peak in the HUI at 284 points has yet to be defended on a sustained basis. The HUI initially peaked in late August/early September 2019 slightly above the 235 level, as the gold price was trading at roughly USD 1,550/oz. This is worth noting because, if today the market traded similarly to 2016, the HUI should have, at the very least, breached the 325 level. The additional USD 200/oz. translated into significant margin and cash flow expansion (as the number of oz. produced x USD 200/oz = additional pre-tax income), meaning the equivalent level is closer to 350–400.

I love it when people always say I'm always 'too early'. You can be late to a bull market – it's an escalator on the way up. You can't be late to a bear market – because it's an elevator going straight down.

Dave Rosenberg

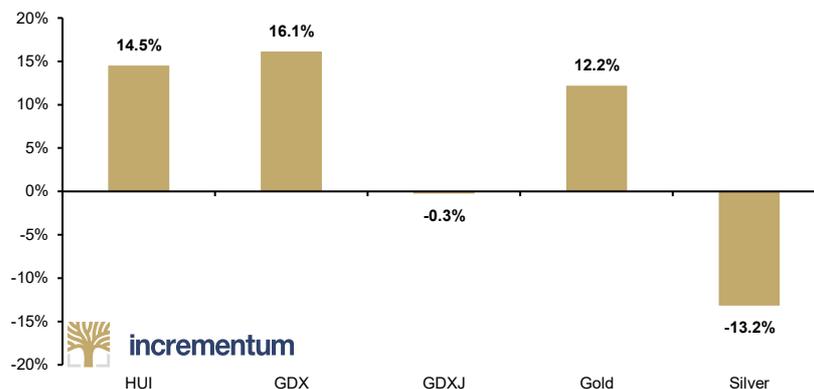
I guess what I'm trying to say is that if I can change and you can change, everybody can change!

Rocky Balboa

The relative performance of the HUI should not be compared to that of 2016 (as mining stocks were starting from absolute bargain basement prices), but the absolute levels reached are worth comparison and indicate how truly underpriced the gold complex remained at year end 2019 into early 2020. One would think that a USD 200-350/oz. increase in the gold price would translate to much higher prices in the gold stocks due to considerably higher profits, but through 2019 and through the first quarter of 2020, this has yet to be the case. As this report is published well into the year, it is also worth taking a brief look at the performance YTD.

In 2020, gold stocks rose, sold off due to liquidity issues resulting in margin calls, then started to rally, a trend that will continue in the second half of 2020, once mining operations are no longer suspended. **Cash flow generation from many companies will be remarkable in the next quarters, which might cause a rerating of many gold and silver stocks.**

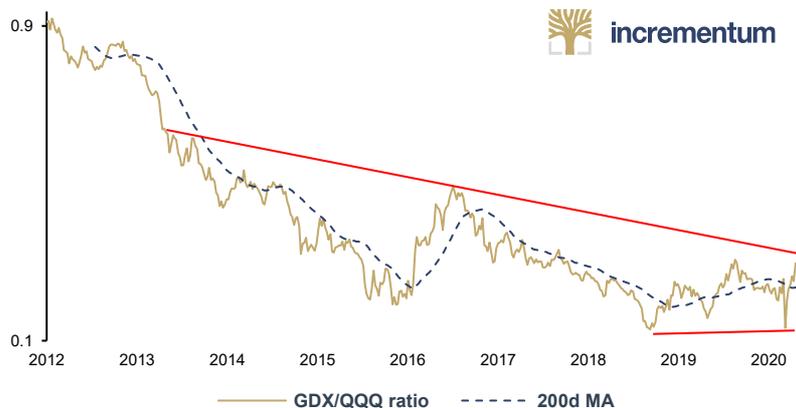
HUI, GDX, GDXJ, Gold & Silver, ytd performance



Source: Reuters Eikon (as of May 14, 2020), Incrementum AG

Most importantly for us is the fact that a sector rotation is currently proceeding, slowly but surely. If we have a look at the relative strength of mining stocks (GDX) versus the leading sector in the stock market – technology stocks (QQQ) – we see that miners have gradually increased relative strength. This illustrates that the value proposition of the mining sector is recognized and that the technical situation of the sector has greatly improved recently.

GDX/QQQ (Nasdaq ETF) ratio, 01/2012-05/2020



Source: Reuters Eikon, Incrementum AG

2019: Year in Review

While the general sentiment for gold and silver remained bleak through the first half of 2019, this was not the case in the second half, as the cracks in the financial system became very apparent. Gold did its job in 2019, breaking through the USD 1,350/oz. resistance level as it became obvious that the Federal Reserve and other major central banks would have to become more dovish again.

This time around will be better. The printing – and it will be printing this time, not QE – will cause gold to rise both in real and nominal terms. There is no better environment for gold miners.

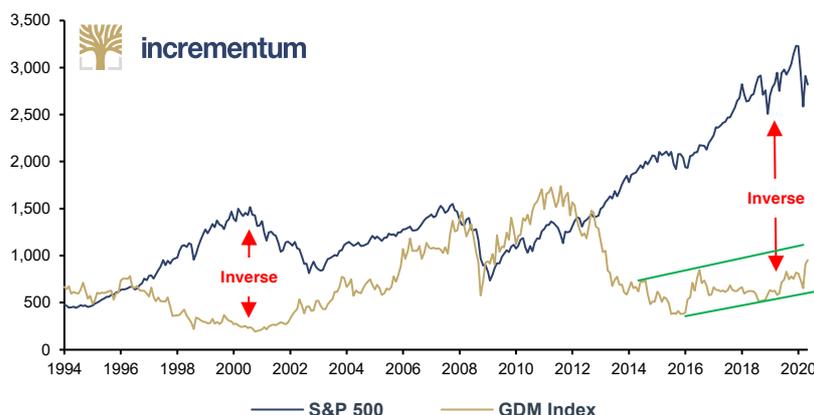
Dan Oliver

Those who knew just a fair amount about the banking system also knew the problems that surfaced in 2008 were never resolved, they had only grown more severe. We were not surprised when the repo market seized up in September 2019, when banks with excess reserves would not lend to one another even on an overnight basis. The fact that banks did not trust each other overnight meant big trouble ahead due to liquidity and solvency issues. This continued until March 2020, when Covid-19 pricked the everything bubble and QE Infinity and record fiscal stimulus flooded the entire system with liquidity.

For gold stock investors, if it was not already clear that the bull market had started in early 2016, it now became obvious. The NYSE Arca Gold Miners Index (GDM)⁴⁰³ has established a long base that can also be regarded as a colossal cup-and-handle pattern.

⁴⁰³ The Gold Miners ETF (GDX) is designed to track the GDM.

GDM Index & S&P 500, 01/1994-05/2020



Source: Reuters Eikon, Incrementum AG

In the past, we often experienced rallies in gold stocks that were marked by low volume. When the price of a security appreciates with low volume, it does not usually have staying power. “Volume must confirm the trend” is one of the pillars of Dow Theory. Prior to the breakout in the gold price in 2019, volume started to pick up in many of the largest producers and royalty companies. Now we can see that the mining sector is back in the limelight, with recent volumes picking up significantly.

GDX closing price (lhs), and GDX volume (rhs), in bn, 01/2015-04/2020



Source: Reuters Eikon, Incrementum AG

The world as we have created it is a process of our thinking. It cannot be changed without changing our thinking.

Albert Einstein

As the bull market in precious metals progresses, the gold-to-silver ratio (GSR) contracts. This is especially the case when the GSR gets extremely elevated. At the end of 2019, the GSR stood at 85:1. Through early 2020, it continued to rise and do so substantially, due to margin calls and forced liquidation, hitting a peak of 125:1. This presents not only an even better buying opportunity in silver relative to gold, but also bargains in mining companies that derive or will derive a healthy proportion of revenue from silver relative to total revenue. **It seems that the market is already anticipating a reversal of the GS-ratio, as the silver mining stocks (shown as SIL⁴⁰⁴) have already made higher lows.**

⁴⁰⁴ Global X Silver Miners ETF (SIL)

SIL (lhs), and Gold/Silver ratio (inverted, rhs), 01/2011-05/2020



Source: Reuters Eikon, Incrementum AG

Themes for 2020 and Beyond

Mergers & Acquisitions

The history of M&A debacles in the sector still resonates in the collective conscience of investors; therefore, a high bar for reserves sets a higher level of capital discipline and lowers the risk of dilutive M&A transactions.

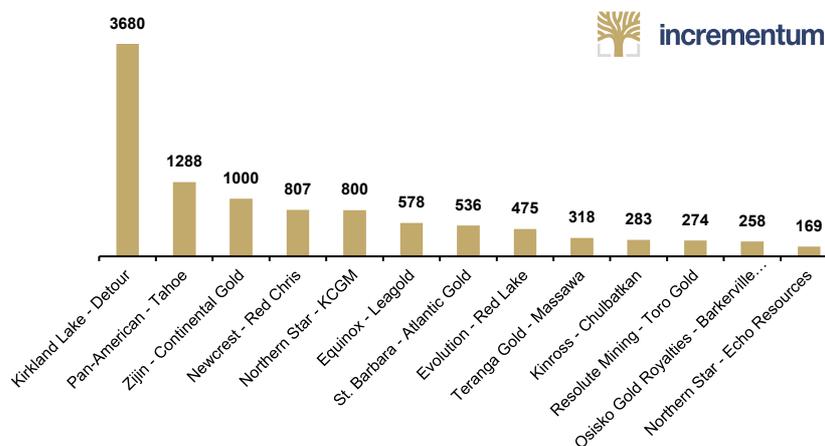
Brent Cook

Mergers and acquisitions (M&A) have been common over the last several years, but the number and US dollar value of deals have increased dramatically only since 2018, highlighted by the Barrick-Randgold mega-deal. This arguably kicked off the round of very large deals in 2019, a theme that will persist for the next quarters. This trend has hit a temporary snag due to the Covid-19 outbreak, as the companies involved in discussions have not been able to complete proper due diligence. Despite this, a number of smaller to moderately sized deals were announced recently, for example the acquisition of TMAC by Shandong Gold or the merger of equals between SSR Mining and Alacer Gold.

There were a number of deals announced or completed in 2019 that were done at historically low premiums. They included all-stock transactions, which allowed for value creation for both sets of shareholders. The mega-deals in 2018 and 2019, which created the number 1 and 2 gold producers globally and also happened to feature the first and second largest reserve bases, were both done more or less as mergers of equals.

Some notable deals in addition to the USD 10bn Newmont-Goldcorp deal are as follows:

M&A deals, announced and completed, in USD mn, 2019



Source: Bloomberg, Incrementum AG

Unlike a large number of deals completed in 2010-2013, in which massive premiums were offered, recent M&A activity has been far more reasonable, and this looks to be the trend going forward. Not without a premium, deals are likely to see much smaller premiums with the possible exception of acquisitions of single-asset companies (which have an asset of scale with a low cost structure or located in Tier-I mining jurisdictions), advanced stage development companies (those which will soon make a construction decision or have already commenced construction), and exploration companies which are sitting on a sizeable deposit with strong economics. Beyond that, unlike 2010 and 2011, most deals in 2018 and 2019 make sense in terms of synergies and value creation.

The storms come and go, the waves crash overhead, the big fish eat the little fish, and I keep on paddling.

Varys, Game of Thrones

Increased M&A activity typically takes place before or early in a bull market as well as the end of the bull market. Right now, **we are still in the early stages, so there is plenty of time for companies to destroy value by grossly overpaying for acquisitions.** We can only hope most companies have learned their lesson.

There are two primary reasons why M&A has picked up. Among these are the fact that institutional money has entered the space but is currently primarily investing in companies of scale such as Newmont and Barrick as well as the large royalty companies. As the bull market progresses, money will move into smaller producers but this will start with the larger producers. In a sense, having a larger production base is better, which goes against the thinking in lean years (like 2014 and 2015), when the focus was on low-cost high-quality ounces.

As an industry, this means transforming their reputation as efficient 'converters of dirt' to prominent builders of both economic and societal capital.

PWC

...it is clear that the industry isn't finding enough (economic and socially acceptable) gold to replace what it mines...

As a consequence the gold price has to rise (to stimulate more exploration and make more projects economic) or we have to either to be smarter/more efficient at exploration

Richard Schodde

As a result, many companies realize that they can reward shareholders by growing into a mid-tier or senior producer through M&A. Even if they have to overpay a bit relative to Net Asset value to obtain scale, the company will earn a higher multiple in the market, rewarding shareholders. A dearth of moderate- to large-scale gold exploration and development projects has also led a number of companies to engage in M&A to replace depleted reserves and resources. This is crucial for the survival of the business. Underground mines, generally speaking, have far more exploration upside relative to constrained open-pit mines that do not have nearby satellite deposits.

Large companies are essentially forced to engage in M&A, not to grow production and cash flow but rather so that they will be able to maintain production levels into the distant future. When it comes to junior and mid-tier producers, the objective is often output growth. Quality development assets are acquired by the larger mid-tier producers and senior producer as they look to the future with plans to replace production as mines become depleted.

This activity is akin to pharmaceutical M&A. That industry sees more M&A than any other, largely due to patents that limit the number of years a drug can remain profitable. Like mining, pharma/biotech is very capital-intensive. It does not appear that way in financial statements; but practically speaking, heavy investments in research and development are the same as exploration costs in the mining industry.

Mid-tier companies can also grow by exploring or entering into joint venture projects in regions that are perceived to be riskier, geopolitically speaking, such as Colombia and Bolivia, or countries that remain largely unexplored, such as Nicaragua. The first two countries have been encouraging foreign investment, while the latter has significant potential. Lastly, because the sector as whole is trading at a discount relative to where gold is – and more importantly, where it is heading – **smart companies, with management teams that understand the macro environment, are eager to grow output while prices are still relatively cheap.**

Potential acquirers over the next 12–24 months: Newcrest Mining, Evolution Mining, OceanaGold, Fresnillo (MAG – for the remaining 44% interest in Juanicipio), Kirkland Lake Gold, Barrick, Newmont, Alamos Gold, SSR Mining, Torex Gold, Kinross, Equinox, B2Gold.

Attractive takeover targets: Lundin Gold, Pretium Resources, K92 Mining, Victoria Gold, Great Bear Resources, Lion One Metals, Gold Standard Ventures, Silvercrest Metals, B2Gold, Wesdome, Osisko Mining, Torex Gold. Based on our research, there will also likely be consolidation in the royalty space.

Peak Gold (& Silver)?

There has been incessant talk since 2015–2016 regarding peak gold and silver.⁴⁰⁵ From our point of view, these claims seem to be exaggerated, as there are so many variables that need to be accounted for, such as a lack of major technological advances, gold prices that have not moved substantially higher for a long time, and the growing probability that there will be no more world-class discoveries. However, markets are incredibly dynamic, so it is unlikely that we have peaked.

On the one hand, world-class discoveries (those of a scale $\geq 350k$ oz. production p.a.; with long mine life [≥ 20 -Yrs]; and in the lowest half, and ideally the lowest quartile, of the industry cost curve) are becoming increasingly rare, with the average grade of both gold and silver deposits continuing to fall. On the other hand, there are very large tracts of land that have yet to be properly explored around the world. Such tracts tend to be in riskier jurisdictions. For example, Randgold (now part of Barrick), became a top-15 gold producer globally by focusing on riskier jurisdictions in Africa, i.e. in the Democratic Republic of Congo (DRC).

As the price of gold rises, previously uneconomic deposits suddenly become economic. There is a large group of these deposits that have been identified and advanced but fail to generate a reasonable rate of return at anything less than USD 2,000–2,500/oz. Au. Any mining company worth its salt requires a minimum 20% after-tax internal rate of return in a base case scenario, i.e. when gold or silver prices are 15–25% below the prevailing spot price using a USD 1,200–1,300/oz. gold price deck.

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

Jim Grant

As the bull market progresses, a gold price of USD 2,000 could become the base case price level upon which production decisions are made.

There are already a number of world-class discoveries that either need a higher gold price to warrant construction, are having trouble in the permitting process, or are facing political or community opposition. This is the case for a number of potentially Tier 1 gold assets: Pascua-Lama (800-850k oz. Au + 26-36m oz. Ag p.a. – the largest silver mine in the world), Pan American's Navidad (15-22m oz. Ag p.a.) and Escobal (18-21m oz. Ag p.a.), as well as for existing mining operation on care and maintenance: Northern Dynasty's Pebble Project (362k oz. Au + 1.8m oz. Ag p.a.) and Chesapeake Gold's Metates Project (738k oz. Au p.a. + 15-25m oz. Ag p.a.).

Economics is driven by scarcity and technology creates abundance.

Jeff Booth

There are also potential further technological advances in the extraction of gold and silver. If we look back 4 or 5 decades, the advent of heap-leach mining/processing drastically increased gold output. This took what was previously unrecoverable metal or that with extremely low recovery rates and allowed it to be recovered economically. The same thing could happen with extremely low-grade material that is far from being economic using today's

⁴⁰⁵ See "Mine production: Historic gold production in South Africa – a prime example of "peak gold"?", In *Gold We Trust* report 2009; "Mining production", In *Gold We Trust* report 2010; "Gold mining shares", In *Gold We Trust* report 2012; "Precious Metals Shares – More Than a Silver Lining?", In *Gold We Trust* report 2018; "Gold Mining Stocks – After the Creative Destruction, a Bull Market?", In *Gold We Trust* report 2019

technology. Innovations have caused very material disruptions in the mining industry in the past, and there is no reason why that will not occur again.

Margin Expansion

In the course of the last bear market, mining companies worked hard at reducing costs. Initially companies were able to dramatically cut costs because they had become too fat in the good years. The first focus was on reducing extremely bloated mine-site and corporate G&A levels. Next, companies cut exploration to the bone. By and large, all but the larger and best-capitalized gold companies eliminated greenfield exploration entirely, and brownfield exploration budgets were slashed to a minimum. Expansion projects were put on hold, and sustaining capital investment was deferred as long as possible. When gold companies started to grow again via resource and/or output expansion, they remained lean, and most of them are still lean today. In the latter part of 2019, lower energy prices and favorable FX rates led to lower costs (and expanded margins), which should remain a theme through 2021.

Non-US gold miners can be seen (among other things) as spread plays on the FX. In this most recent crisis – the economic collapse associated with the Covid virus and all the money printing that is going along with it – there has been some debate about which monetary instrument will prevail. There are naturally the gold bulls who argue that the money printing will amount to the devaluation across all currencies. But there are also those who point out that the emergency deleveraging taking place around the world will drive intense demand for the Dollar. Both arguments have merit.

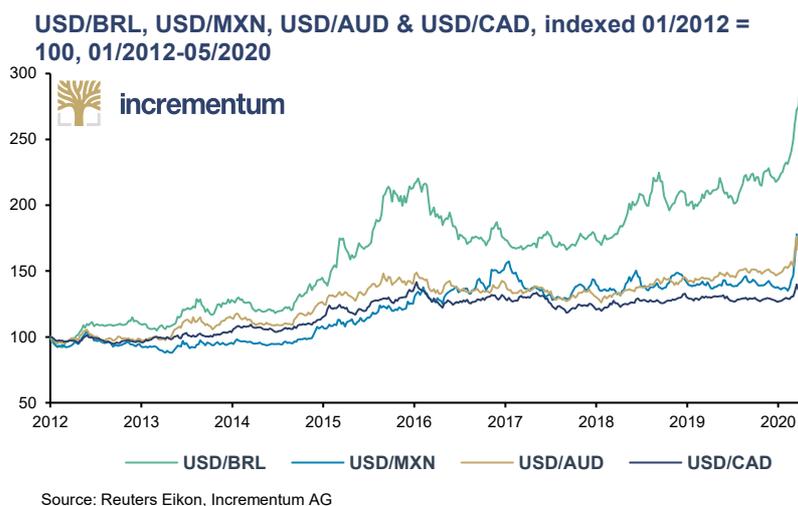
Doug Pollitt

Taking Advantage of the FX Rate

Most gold companies are headquartered in Canada but have operations spanning the globe. The currencies of Canada, Australia, Brazil, Mexico, and most other countries have weakened considerably against the US dollar, especially the “commodity currencies” (CAD, AUD). As these currencies weakened against the US dollar, the price of gold in those currencies increased while input costs remained flat. Also, companies keep the majority or at least a large portion of their cash position in US dollars. This was especially true of the Australian dollar, which, in part sparked M&A among Australia-based producers.

Newcrest Mining, Australia’s largest gold producer and one of the largest producers in the world, bought the Red Chris Mine in Canada for a bit over USD 800mn. Northern Star Resources acquired a 50% interest in the KGCM super-pit from Newmont for USD 800mn (in addition to its acquisition of Echo Resources). Other companies, including Evolution Mining (Red Lake assets from Newmont), Resolute Mining, and St. Barbara also made acquisitions that were advantaged by FX rates.

The following chart highlights the performance of the USD vs. CAD, AUD, MXN and BRL. The upward trend of the USD compared to most world currencies has been unabated. **The gold price, and all commodity prices for that matter, are priced in US dollars; and thus a weakening local currency sent the price of gold much higher while at the same time keeping costs the same but lower relative to the US dollar.**



Other Input Costs

Oil, gasoline, and diesel are experiencing a tremendous fall in price as global supply outstrips demand. Generally speaking, oil and oil-derived products such as gasoline and diesel account for 20–25% of underground mining operating costs. For open-pit mines, energy costs amount to 20–35% of OPEX. In other words, mining operations should see downward pressure on operating costs, while open-pit operations should see a double-digit decrease in OPEX.

Technological Innovation

Over the last couple of years and for the foreseeable future, technological advances and disruptions in the industry have played and will play an important role in many aspects of mining.⁴⁰⁶ The implementation of automation, among other things, will increase efficiency, lower costs, and improve worker safety. For example, autonomous truck “drivers” do not get fatigued, a problem that is responsible for over half of surface-haul truck accidents. Underground mines are using increasingly popular remotely controlled loading, hauling, and dumping (LHD) machines. Larger mines have moved from the pilot phase to standard use of LHD machines.

The most advanced underground mine in term of automation managed by Sandvik’s Automine Multi Fleetsystem,⁴⁰⁷ where operations are supervised by a single worker. This system allows a fleet of up to five LHDs to be operated autonomously, >700m below the surface in a rather constrained area while utilizing designated passing bays to maintain traffic flow. Further, a similar system is used in the production levels to feed the ore passes. Sandvik has also implemented a mission control system, which manages underground ore handling logistics without human intervention from the surface and across the company. There are many automated operations that are unified in a group strategy. These include underground drill rigs controlled from the surface during shift changes, automated underground and open-pit haulage trucks, a fully autonomous backfill

Tech-enabled transformation opens up a whole new horizon of possibilities. It equips companies with novel levers, tools, and opportunities to improve safety, productivity, and ways of working. The rewards will be far-reaching for companies that commit to it and approach it wisely.

McKinsey

⁴⁰⁶ See „Gold Mining: Disruptive Innovation at Its Core”, In Gold We Trust report 2019
⁴⁰⁷ Sandvik: AutoMine® equipment automation and teleoperation systems

Yeah, Mr. White! Yeah, Science!

**Jesse Pinkman,
Breaking Bad**

*The sky is the limit to what
technology can do for the mining
sector.*

Vince Gerrie

*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

system, remote-controlled open-pit drills, and autonomous drilling of development and production blastholes by multiple units controlled by a single remote operator.

There are other companies that are striving to develop potentially game-changing technologies. One in particular, well into the pilot stage, is a new underground mine development and operating system called “Muckahi”⁴⁰⁸. Early results have been very encouraging, and in 2019 all the individual elements successfully tested; but 2020 will really show the viability of Muckahi, as all the components will be tested as an integrated system at an existing underground operation.

The benefits if this system is feasible would be a definite game changer in the industry. The primary objectives are to greatly reduce the time between the start of construction and the generation of revenue (by up to 60%) and also reduce capital investment and operating costs by as much as 30%.

Muckahi is expected to accomplish these objectives by the following means:

- Continuous material handling of ore from the stope to the shaft or surface (conveyors vs. LHDs and trucks)
- Batch transport of personnel, supplies, and development waste in “two-lane tunnels” that are half the size of conventional tunnels
- Decline tunnels that are 4 times as steep and in turn 1/4th the length of conventional decline tunnels
- An all-electric mine that is easily automated
- Fewer processes from the stope to the processing plant, which means lower capital and operating costs and less complexity
- Smaller, shorter tunnels necessarily mean reduced capex and more rapid access to ore.

As we already described in last year’s *In Gold We Trust* report, exploration is where the use of technology can be really beneficial to the mining industry.⁴⁰⁹ This is largely being driven by AI, although new technology is also being applied to a variety of other applications in the mining sector. To date, there have not been any game-changing breakthroughs on the exploration front, but there have been some very encouraging developments. GoldSpot Discoveries, a company that we introduced last year, is greatly increasing its success of exploration, making great strides over the past months. It leverages AI to reduce capital risk while working to increase success rates in resource exploration. It combines proprietary technology with traditional domain expertise and makes full use of historically unutilized data to better comprehend resource property potential.

According to a highly interesting report by McKinsey⁴¹⁰, innovations in organic exploration will provide an opportunity for companies to not

⁴⁰⁸ See Torex Gold: [Muckahi Mining System](#), December 2019

⁴⁰⁹ See “[Gold Mining: Disruptive Innovation at Its Core](#)”, In *Gold We Trust* report 2019

⁴¹⁰ See “[Can the gold industry return to the golden age](#)”, McKinsey & Company, April 12, 2019

only expand their reserve bases but also build a unique source of competitive advantage relative to their peers. This is especially the case given that the mining industry is at least a decade behind the oil and gas industry, as data collection in the course of drilling, horizontal drilling, fracturing, and 3D seismic analysis has fundamentally changed the way oil exploration is done. With lead times from discovery to first production averaging 20 years and exploration costs at historic highs, the mining industry is searching for technologies that will disrupt their current exploration business model and aid new discoveries.

Once a new technology rolls over you, if you're not part of the steamroller, you're part of the road.

Stewart Brand

The authors of the study come to the conclusion that various new technologies will help reducing the cost of early stage exploration.

These include the use of drones, coupled with high-resolution cameras, to allow tens of thousands of data points to be generated and ingested to create 3D geographical models; and new high-resolution direct current (DC) resistivity surveys, allowing for spacing with higher resolution compared to traditional induced polarization (IP) surveys. Moreover, continued innovation in the mining industry can, in part, explain why the lost-time incident rate (LTIR) has been on the decline over recent quarters and years. With the implementation of increased automation to complete a variety of tasks, safety has also improved. **This is important, because mining remains one of the most dangerous industries.**

ESG

Mining companies are becoming increasingly focused on reducing CO₂ emissions, with many making progress and setting more aggressive goals going forward. They are also supporting local communities, and they have realized that it is in the best interest of all stakeholders to give back to society.

Our experience shows that active mitigation of ESG risks creates long-term shareholder value.

Namrata Thapar

ESG is of course much broader than just reducing CO₂ emissions. It also includes, for example, water use, interactions with workers, and relations with local communities. Those mining operators with high ESG ratings have also tended to have superior returns, though it is very difficult to attribute the outperformance to ESG in particular. But the outperformance does make sense, as portfolio and fund managers may be more willing to invest in companies they view as sustainable.

Giving back to local communities and to a company's workers reduces the probability that there will be labour strikes or illegal mine blockades (both of which have been problems in the recent past) and in turn actually lowers the risk to mining operations. As ESG ratings becomes more important in the public eye, it is likely that banks and other financial institutions will be more willing to originate loans or provide lines of credit if the company is viewed in a favourable light.

Building a Gold and Silver Stock Portfolio

Although many of our readers are interested in gold, they do not yet have any significant experience in investing in mining stocks. **For that reason, we would like to give you a brief orientation on the way, in which we describe our most important selection criteria for stock selections.**

The investment goal of buying physical gold is to maintain one's purchasing power (capital preservation). This can be thought of insurance, in that you hope it does not pay out but are prepared if it does. **On the other hand, gold stocks & silver stocks, ETFs, and mining funds are for capital appreciation.** Due to our positive gold price outlook, we might be headed toward a period that could rival the 1979-1980 bull market but over a more prolonged span of time.

Without deviation from the norm, progress is not possible.

Frank Zappa

But investing in gold and silver stocks is risky, in fact mining is one of the riskiest (but also most exciting) industries in the world. There is a way to diversify operational and geopolitical risk. One could simply buy an ETF such as the GDX. The problem with nearly all ETF's, however, is that there is always significant exposure to subpar companies. Therefore, we clearly favour well managed active mining funds.⁴¹¹

Another way to mitigate your risk/reward-ratio is the royalty and streaming business sector, which usually keeps up with the indices during bull markets (providing leverage), while outperforming mining operators in bear markets. This is likely due in part to the fact that bear markets provide this niche with more opportunities to create shareholder value.

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.

Pierre Lassonde

Royalty and streaming companies have such remarkable business models that they should be at the core of any precious metals portfolio or resource portfolio in general. Furthermore, because a lot of precious metal streaming interests are on gold and silver byproducts from copper or polymetallic mines, tremendous value can be created even at higher metal prices, as is the case today. There are many companies with primary copper or polymetallic mines that want to improve their balance sheets or find cheap capital to aid in M&A. In such a case, a company could stream gold or silver byproduct by selling it to a streaming company at a much more attractive cost of capital than it would have otherwise been able to get.

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

Royalty and streaming companies diversify away a lot of risk from mining by having a wide-ranging portfolio of assets and far more revenue streams than mining operators. These companies have either no operating costs or low and fixed operating costs. For royalties, there are no operating costs, and streaming has a low ongoing fixed price or a price with fixed margins, i.e. the ongoing per ounce payment is equal to, say, 20% of the spot price. Just as important, if not more so, is the fact that there are no ongoing capital costs

⁴¹¹ Last year Baker Steel and Incrementum agreed on a collaboration which enables investors to take advantage of Baker Steel's award-winning management approach and Incrementum's macro expertise through a dedicated share class of a Baker Steel Fund. [Further information can be found on our webpage.](#)

except that required for new deals (growth). Royalty and streaming financing also allow the company to participate in the exploration upside (mine life extensions, project expansion) without having to spend a single dollar. Lastly, companies based in Canada do not have to pay tax on income generated by a stream, as long as it is held in an offshore subsidiary and the mine is not located in Canada. **The advantages in a nutshell:**

- No or Low-Fixed Operating Costs and Little Overhead
- No Ongoing Capital Costs
- Participation in Exploration and Production Upside at No Cost
- Tax Advantages

As for investing in the next group, senior producers (those which produce in excess of 1m oz. p.a.), the largest and most diversified have a long history of delivering on guidance and paying dividends. **Therefore, royalty and streaming companies and senior producers are the core of a portfolio for more conservative investors and also have more limited risk-return profiles.** Investing in sub-1m oz. producers requires more due diligence.

It is hard to imagine a more stupid or more dangerous way of making decisions than by putting those decisions in the hands of people who pay no price for being wrong.

Thomas Sowell

Having the right people (management team, chairman of the board) tends to maximize shareholder value. A good amount of time should go into researching a company's management team, but simply looking at the company's past successes is not sufficient. Thus, looking at an executive's biography on the website of the company they currently work for just is not enough, because it will highlight only the person's successes. It is more important to go through the entire career, paying attention to failures. **Moreover, if someone like Robert Friedland or Ross Beaty is highly involved with a company and holds a material interest, that in itself is a great starting point.** Of course, additional due diligence is necessary, but making sure of the participation of the right people de-risks a potential investment by a fair amount.

Some people want it to happen, some wish it would happen, and others make it happen.

Michael Jordan

Another important qualitative aspect is the breakdown of ownership: material investments from founders or the chairman; material investments by highly successful investors and entrepreneurs like Eric Sprott or Pierre Lassonde; investment by other companies, which is especially notable if there are multiple mid-tier and senior producers involved; and of course management ownership. It is also worth looking into executive compensation, as those management teams that are at least partially compensated with stock or stock options have their interests more aligned with shareholders.

Only after doing this research one should look at a company's assets and the quality thereof. But again, if you have the right people, there is a good chance the quality of the portfolio will increase over time, either via successful exploration efforts or select acquisitions.

One of our favourite valuation tools are price to net asset value (P/NAV) and enterprise value to operating cash flow (EV/OCF). Depending on the size of the company, whether it has superior assets, and its cost

structure, companies of a certain size typically trade with the following P/NAV multiples:

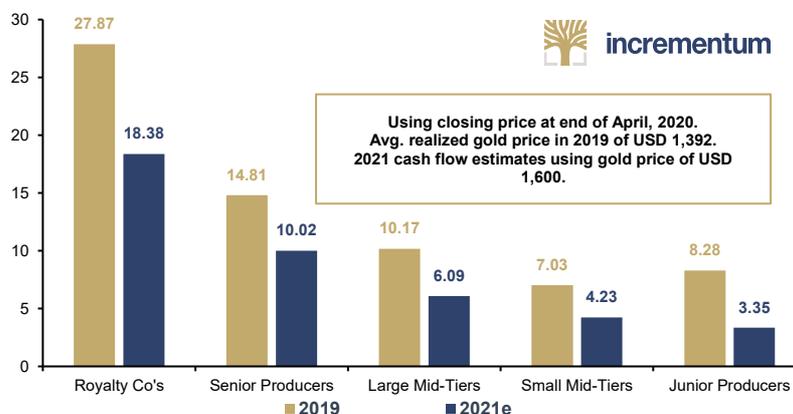
- **Royalty & streaming companies:** 1.50x to 2.60x NAV for the largest companies, due to their superior business model. 1.0x to 2.0x NAV for mid-tier companies. 0.75x to 1.50x NAV for junior royalty and streaming companies
- **Senior gold producers:** (production >1mn oz. Au) 1.50x to 2.25x NAV
- **Large mid-tier producers:** (production 500,000–1mn oz. Au): 1.20x-to-1.80x NAV
- **Smaller mid-tier producers:** (225,000 oz.–500,000 oz. with at least three operations): 1.0x – 1.40x NAV
- **Junior producers & development companies:** (up to 225,000 oz. Au): 0.65x-1.10x NAV

What is a cynic? A man who knows the price of everything and the value of nothing.

Oscar Wilde

Regarding cash flow multiples, the following chart illustrates where the 2019 price-to-cash-flow ratio (P/CF) and the estimate for the 2021 P/CF multiples are trending for large and small companies. 2021 estimates are used instead of 2020, as estimates are fractured due to government-mandated shutdown of mining operations in some regions globally. The prices used for each category are as of the close on April 23, 2020. The average gold price in 2019 was USD 1,392/oz., with a price on the last trading day of the year of USD 1,514/oz. Forward-looking cash flow estimates for 2021 are based on a gold price of USD 1,600/oz.

P/CF ratios, 2019 and 2021e



Source: Company data, Reuters Eikon, Incrementum AG

The Ultimate Answer to Life, The Universe and Everything is...42!

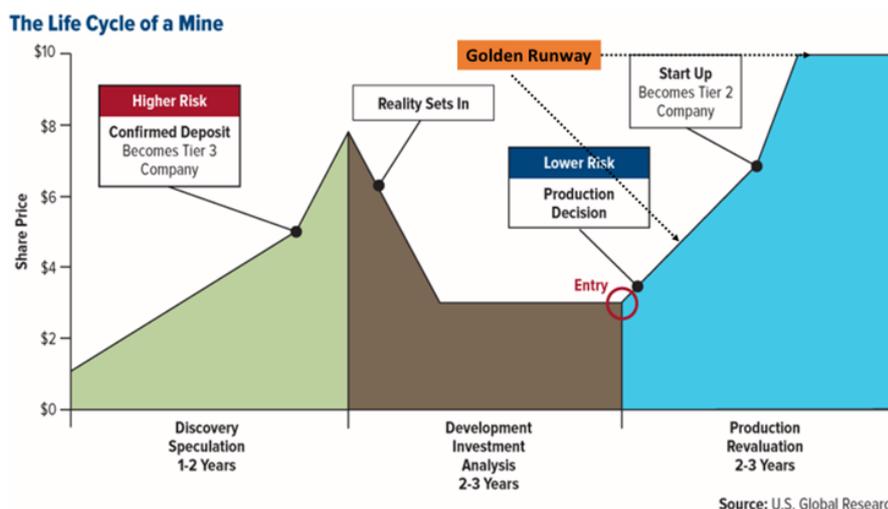
Douglas Adams

There is no magic number when it comes to the number of holdings one should have in a precious metals portfolio. This is, of course, after an investor owns physical gold and silver. The ideal number of holdings in a portfolio varies, but from our experience as well as others in the industry, something in the neighborhood of 8 to 15 holdings is a level that has been proven effective. If it is closer to 8, then these should be primarily producers; and the closer to 15, the larger the number of development and exploration companies. Again, this is all dependent on an investor's objectives. The number of companies should also be dependent on the amount of time one is willing to dedicate to each company every month. **Generally speaking, an investor should be willing to spend 60-**

90 minutes per month on every holding he has. Otherwise, well managed mining funds are probably the better option.

When designing a precious metals portfolio, the investor has to meet his or her investment objectives and risk tolerance. Those on the more conservative side will of course place the most emphasis on royalty and streaming companies and senior producers, with a couple large mid-tier producers. Those who tend to be moderately aggressive may also include large and small high-growth mid-tier producers and junior explorer.

Another thing we have discovered over the course of our investment careers that has proven to be highly successful, is investing in those companies that are nearing the pre-production sweet spot (PPSS). If the price has not moved materially, these tend to be great investments after construction has commenced. To already be in the PPSS is obviously ideal, as the project has been further de-risked.



Are we now in a different investment environment? With a rising US dollar, falling inflation expectations and a cratering oil price, gold and gold miners turned out to be better portfolio diversifiers than bonds. This odd behavior may be a signal that after a decade of unconventional monetary policies, investors are now switching towards “real assets” for diversification.

GaveKal

In short, the managerial and financial aspects of any company are of the utmost importance. Once they are checked off, the quality of the assets and a company’s ability to obtain financing are also important and very much worth taking into account. While it may seem a bit odd and counterintuitive, the valuation aspect is actually the easiest part. When it comes to building an ideal mining portfolio – especially as long as the GSR remains above 90 or 100 – identifying and investing in quality silver stocks will add returns that may be currently unattractive but will become more obvious as the bull market progresses.

If you construct your portfolio right or simply invest in high-quality names at fair prices, you should see excellent returns. High volatility will, however, continue to be the case, and investors can either use it to their advantage or let it scare them out near the short-term bottom. **One either needs to be able embrace volatility or to ignore the mining sector altogether.**

Conclusion

The great financial success stories are people who had cash to buy at the bottom.

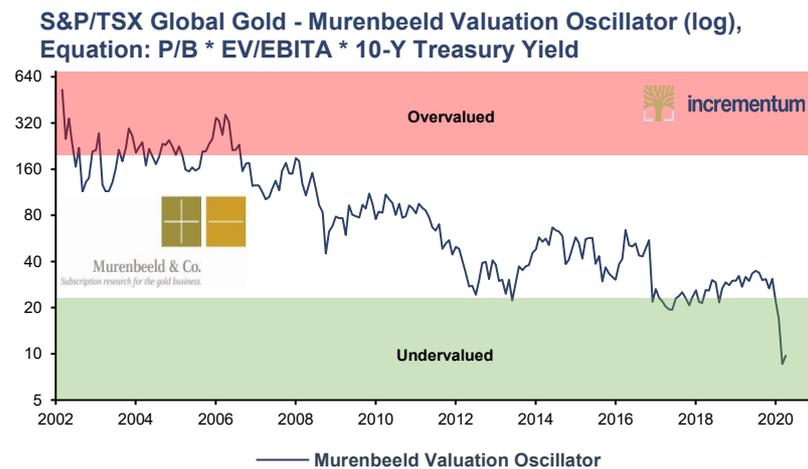
Russell Napier

For CEOs and management teams ready to take on the challenge, this new era could truly be a golden age.

McKinsey

We remain firmly convinced that the cruel four-year bear market has resulted in the majority of mining companies now being on a more solid foundation. Producers are now leaner; they have reduced their immense indebtedness and will benefit more from rising gold prices in the future.

As an added bonus, and unlike in the previous bull market from 2001-2011, companies have started to return capital to their shareholders if they are unable to reinvest the capital at a higher rate of return. This was almost unheard of just 10 years ago, with the exception of the largest producers paying small dividends. Today we are seeing companies of all sizes paying dividends or buying back stock. There are more and more companies that peg their payout ratio to a percentage of operating cash flow. **From a valuation perspective the industry has never been better regarding what you get versus what you pay.**⁴¹²



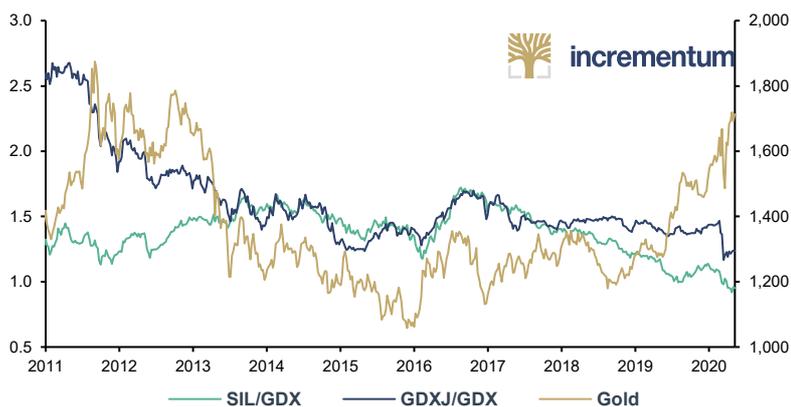
We believe that M&A will continue to be an important driver. Of the entire mining sector, gold is perhaps the most fragmented, and we believe that the gold industry and its investors would reap significant benefits from consolidation. Our friends at Pollitt & Co. estimate that 25 companies are responsible for only 45% of total gold production, while 50% of the world's iron ore and copper production comes from four and 10 companies, respectively.⁴¹³ Technical talents also appear to be thin on the ground but we do see a lot of positive signs recently. However, an internal study by “Resource Capital Fund” states that of 107 mining projects that made it from feasibility study to commissioning, not one came in under budget. **On average they were 38% over budget and the median was 28% over budget.**⁴¹⁴

The hypothesis we have put forward in previous years is that gold bull markets must always be confirmed by mining stocks. If we analyse the

⁴¹² This great chart was provided by our friends at Murenbeeld & Co. Readers of the In Gold We Trust report can subscribe for an exclusive free trial under the following link: <https://bit.ly/Murenbeeld-Incrementum>
⁴¹³ Pollitt, Douglas. “Gold companies = gold bullion? What everyone seems to want...” Pollitt & Co., October 2018
⁴¹⁴ Harris, Paul. “Want investors? Do a better job!”, *Mining Journal*, April 29, 2019

dynamics within the mining sector, it seems that risk appetite has not really picked up yet. The GDXJ Index has shown strength relative to the GDX in 2016, but since 2017, juniors underperform again.⁴¹⁵ If we compare silver mining stocks, as represented by „Silver Miners ETF“ (SIL)⁴¹⁶, with the GDX, we see that there is still less momentum. We consider a strong outperformance of the silver miners against the broad gold mining index to be a reliable trend confirmation indicator.

SIL/GDX ratio & GDXJ/GDX ratio (lhs), and Gold (rhs), in USD, 01/2011-05/2020

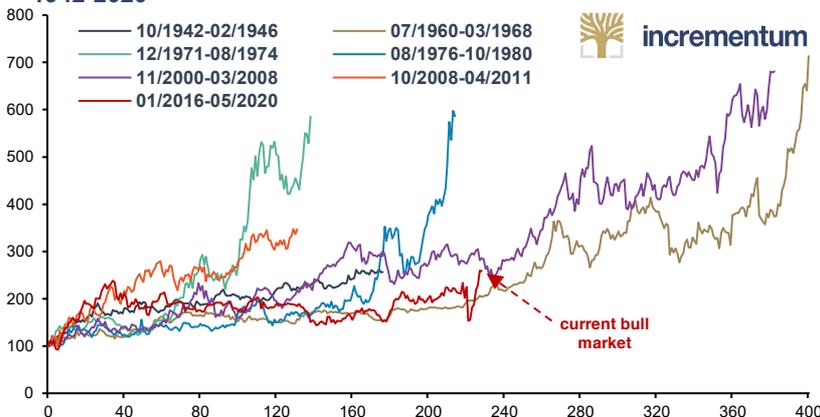


Source: Reuters Eikon, InCREMENTUM AG

Patterns repeat because human nature hasn't changed for thousand of years.
Jesse Livermore

Now let's take a look at one of last year's In Gold We Trust report's most popular charts. The chart shows all bull markets of the Barron's Gold Mining Index (BGMI) since 1942. The current upward trend is still relatively weak compared to previous bull markets. If we are really at the beginning of a pronounced trend phase at the mines – as we assume – there should still be sufficient upside potential. In addition, one can see that every bull market always ended with a parabolic upward trend that lasted 9 months on average and at least doubled the price.

BGMI bull markets, indexed 100 = start of bull market cycle, 1942-2020



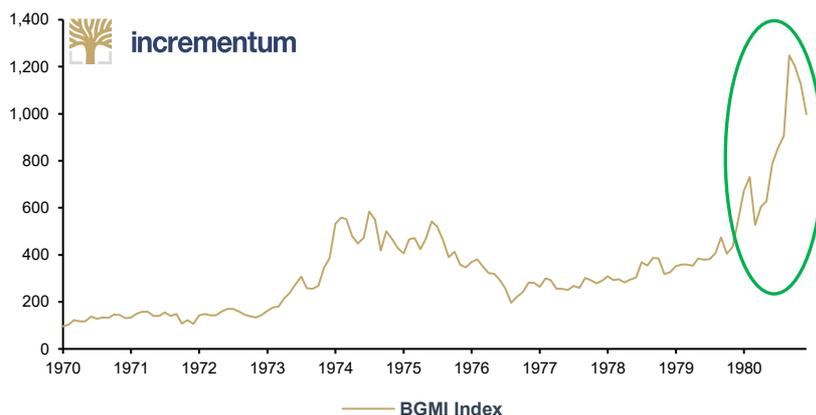
Source: TheDailyGold.com, Nick Laird, goldchartsrus.com, InCREMENTUM AG

⁴¹⁵ The GDX primarily represents large-cap gold producers, while the GDXJ includes the riskier junior and small-cap stocks and has a significantly higher beta. A rise in the ratio indicates that the smaller junior stocks are showing relative strength, which in turn signals an increasing risk appetite on the part of investors.

⁴¹⁶ [Global X Silver Miners ETF \(SIL\)](#)

The current environment presents us with a potential once in a lifetime investment opportunity. If we look back to the 1970s, the BGMI gold index did extremely well, but it was really the junior exploration companies and the smaller producers that produced incredible returns, especially in the latter part of the cycle. That is why, in the current bull market, adding a bit of additional risk can really provide significant torque to a portfolio.

BGMI Index, 01/1970-12/1980



Source: Nick Laird, goldchartsrus.com, Incrementum AG

Big movements take time to develop.

Jesse Livermore

As we have explained in our special chapter about silver, silver should begin to outperform gold; Of course, the only question is when. But when the time comes, this could add a significant amount of torque to a precious metals portfolio. Throughout history, the gold-to-silver ratio has traded at much lower levels. A decrease in the GSR, down to 40 or 50 over the next several years, will juice the cash-flow generation of silver producers.

The value proposition of the mining sector in a nutshell:

- The profitability of producers has gradually increased in recent quarters, while debt has been reduced. Capital discipline and cost control remain rigorous.
- The focus of the sector remains to grow margins and harvest cash flows for shareholders and attract a broader universe of investors.
- Weak energy prices and strong USD vs. weak local currencies provide further tailwind.
- Gold stocks are clearly undervalued compared to historical valuations, relative to gold and relative to other sectors.
- Constructive mergers and acquisitions in the precious metals sector should continue.
- Major gold miners have broken out on high volume. Generalist investors are slowly entering the sector again, as can be seen on the following chart.⁴¹⁷

⁴¹⁷ This great chart was provided by our friends at Murenbeeld & Co. Readers of the In Gold We Trust report can subscribe for an exclusive free trial under the following link: <https://bit.ly/Murenbeeld-Incrementum>

Murenbeeld Generalist Involvement Index, indexed Q4/2002 = 100, Q1/1998-Q1/2020

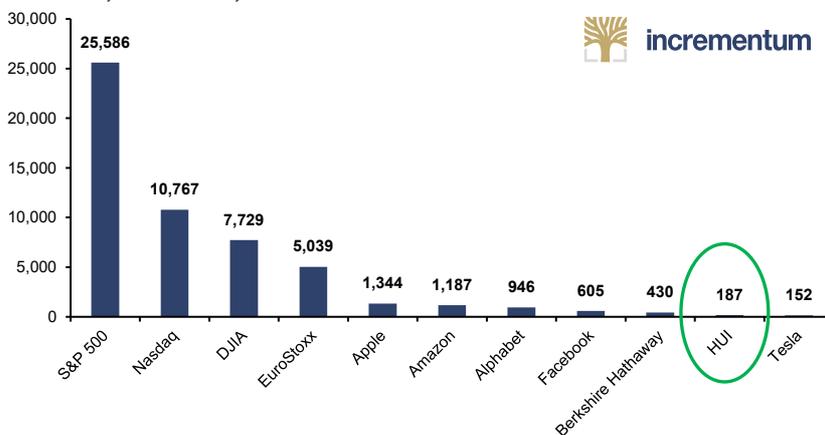


Source: Reuters Eikon, Bloomberg, Murenbeeld & Co., Incrementum AG

The party has begun.
The Great Gatsby

There are still few sectors that are more underweighted by the investment community than the mining sector. This is demonstrated by the almost dwarfish market capitalisation of mining stocks. In this respect, we expect that the mining companies – and their shareholders – will reap a rich harvest in the next few years after a gruelling dry spell. **But now it is up to the industry to deliver on the promises it has made in recent years, to build new investor confidence and attract generalist investors.**

Market capitalization of major indices, global players and gold shares, in USD bn, 05/2020



Source: Reuters Eikon, Incrementum AG

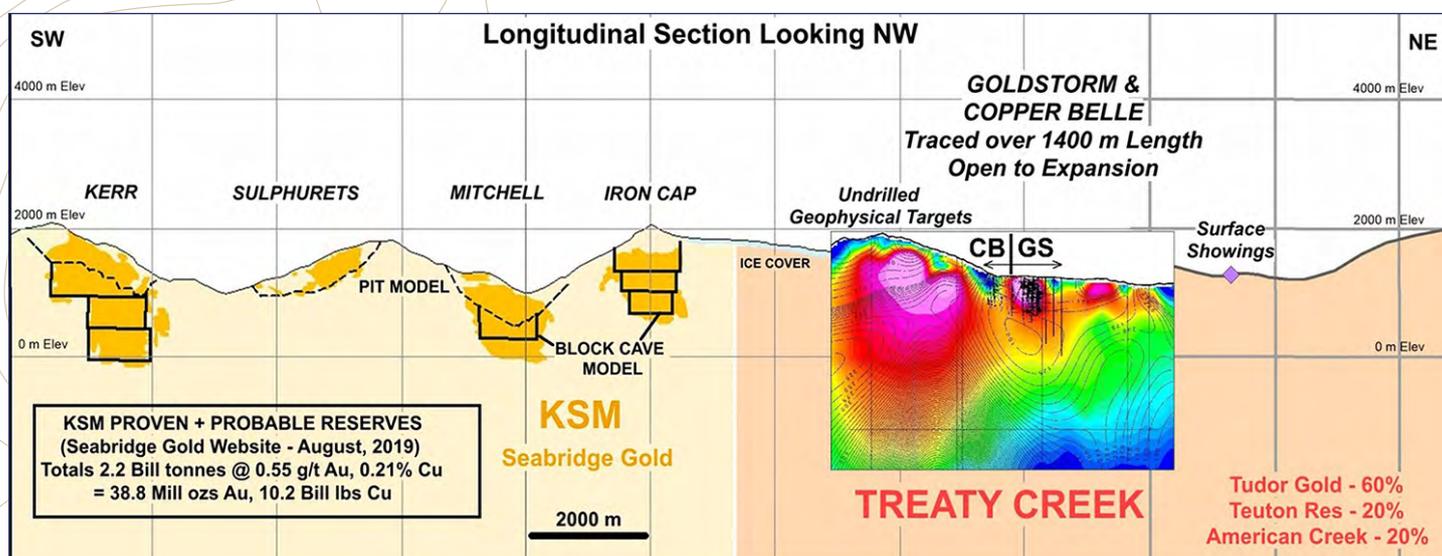


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Why Invest in TUDOR GOLD Corp.?

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The Newest Major Discovery in the Golden Triangle in Canada



ESG Compliance and Financial Stability

“Climate change poses risks for the stability of the financial system.”

Bank of England

Key Takeaways

- Central banks are becoming major actors in the climate change fight through enforced regulations and interventionism.
- The goals of TCFD and EU taxonomy implementation are to achieve financial stabilization against the impacts of climate change.
- Green bonds are a new, powerful tool that gold mining companies should leverage to finance their costly energy transition.
- Best in class ESG gold mining companies outshone their peers in financial performance in 2019.

Last year's *In Gold We Trust* report article "ESG: Environment, Social, Governance –Three words worth more than USD 20 trillion?"⁴¹⁸ was meant to give investors a first introduction to the ESG Global Reporting Initiative and what it would mean for gold and gold companies. We touched on the phenomenal growth rate of ESG value-driven AUM and showed that investors do not, in fact, have to choose between profitability and ESG compliance, since ESG investments have a comparably high rate of return, if not higher, than standard investments.

To prosper over time, every company must not only deliver financial performance, but also show how it makes a positive contribution to society.

Larry Fink

Additionally, we examined how gold mining companies can comply with ESG by focusing first on energy production and secondly on site remediation. We wrote about the possible risks a gold mining company would run when failing to manage the ESG expectations of their stakeholders, as well as the importance of attracting additional capital flow to the ESG sector. **To help "carbon-balance" an investment portfolio, we presented the case that gold was one of the most sustainable metals being mined, especially due to its high recycling value.**

This year our article will touch on the role of central banks and regulators when it comes to enabling ESG-compliant growth and investment. We will highlight two new regulations relevant for gold mining investors, as well as the emerging importance of green bonds. Finally, we will address some investment strategies for building an ESG portfolio and examine some best-practice case studies of companies that have a high ESG rating as well as viable business success. **Following this article, we will discuss all these topics with Terry Heymann, CFO of the World Gold Council.**

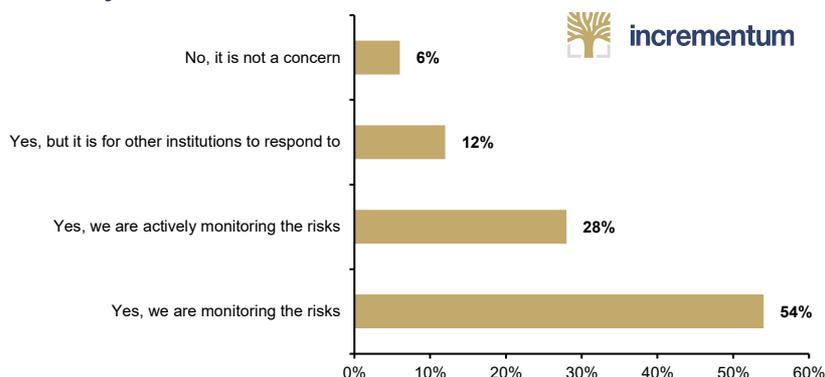
Central Banks and Climate Change

When asked if climate change was a concern for their institution, over 70% of central bankers and regulators answered positively in a recent survey from the Official Monetary and Financial Institutions Forum.⁴¹⁹ Their main concerns were the volatility created in asset valuation instant change and the perturbation of and damage to economic infrastructure. Many jurisdictions have adopted monetary policies and regulations that clearly favor taking climate change seriously.

⁴¹⁸ See "ESG: Environment, Social, Governance—Three words worth more than USD 20 trillion?" *In Gold We Trust* report 2019

⁴¹⁹ "Tackling climate change: The role of banking regulation and supervision", OMFIF, 2019

Climate change as a concern for central bankers and regulators, survey results



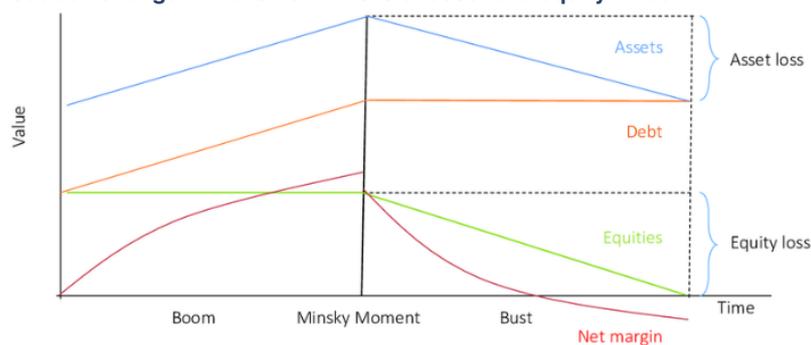
Source: OMFIF Central Banks and Climate Change Survey 2019, Incrementum AG

Over time, companies and countries that do not respond to stakeholders and address sustainability risks will encounter growing scepticism from the markets, and in turn, a higher cost of capital. Companies and countries that champion transparency and demonstrate their responsiveness to stakeholders, by contrast, will attract investment more effectively, including higher-quality, more patient capital.
Larry Fink

From the creation of green bonds to taxonomy regulations, there is no doubt that the monetary system is going green. Such endeavors do not come without challenges. The first and most important one is the lack of uniformity in the ESG notation systems. Additionally, lack of consistency and comparison issues are also occupying the center stage of the debate, as finding universal frameworks that combine both macro and micro specificities of different companies in comparable sectors remains an important hurdle. Unlike financial disclosures, nonfinancial disclosure uniformity and transparency cannot be foreseen soon without major compromises.

Climate change will bring transitional and physical risks to the monetary system. Maintaining the balance between these two risks is critical in order to avoid the Minsky moment, where a sudden change in transitional risks can cause major volatility in asset pricing and values, leading to significant unforeseen financial losses. Fully understanding transitional, physical, and systemic risks is a task that is yet to be accomplished. Implementing tighter regulations in Europe to mitigate a physical risk could have repercussions on the supply chain, for example in Latin America. However, monetary actors recognize that implementing new sustainability stress tests and risk analysis tools can only be beneficial and help them find answers to the questions and issues raised.

Sudden change in transitional risks of asset and equity value



Source: Problems and Perspectives in Management⁴²⁰

Part of the answer is to be found in two new regulations: The Task Force on Climate-Related Financial Disclosures (TCFD) and the EU Taxonomy. TCFD was first established in 2015 after a request by the G20 finance ministers and central bank governors. The EU Taxonomy has its roots in 2018, as the EU Action Plan on Financing Sustainable Growth asked for the establishment of a “classification system for sustainable activities”.

Core elements of recommended climate-related financial disclosures for compliance with TCFD



Source: TCFD

Not only is ESG determining where investment dollars go, but at what cost and on what terms. One important way ESG scores affect the flow of dollars is through their incorporation into indices, which can have a meaningful influence on the demand for a company's securities.

Sarah Kjellberg

The TCFD's goal is to ensure that the financial sector takes account of climate-related issues and functions efficiently. In order to do so, companies will have to calculate and disclose the impacts of climate change on their strategies, businesses, and financial plans, so investors can take adequate decisions. The impacts of climate change broadly translate into two categories of risks: transition and physical risks. The first one describes the risk of modified policies (e.g. the implementation of a carbon tax) or technological changes (e.g. the shift towards electric vehicles). These risks could influence demand and supply and, therefore, have an important impact on companies and the economy. The second category designates the increased possibility of extreme weather events or rising sea levels and the impact of these events on companies' assets, operations, or supply chains.

The Taxonomy will create green and brown investment options that will help shareholders choose a low-carbon investment portfolio and improve their

⁴²⁰ See "Maritime financial instability and supply chain management effects" – scientific figure on ResearchGate

environmental performance. Even though mining is an important sector for a transition to a low-carbon economy, there are no technical screening criteria for its economic activities within the EU Taxonomy yet. The Taxonomy highlights, however, the enabling potential of the mining sector in sourcing critical raw materials needed for future technological shifts to create a climate-neutral, resource-efficient economy.

Prerequisites for green labelling in the EU Taxonomy



Source: European Union

The Taxonomy will oblige central banks to aim their allocations for green projects by instituting either a floor ratio or a maximum for lenders. They could require lenders to allocate a minimum of 20% of their funds into green-labelled projects or to restrain brown-labelled projects to a maximum of 40%. This process will also lead to partial greenwashing of projects to obtain the green label in order to qualify for lending. Another foreseeable consequence is the decarbonization of the central banks. They could incorporate these practices into their QE policies, for example. Such scenarios are supported by ECB President Christine Lagarde, giving further weight to this possibility.

These models need to incorporate the risk of climate change. That is the very least, I think, we should expect.

Christine Lagarde

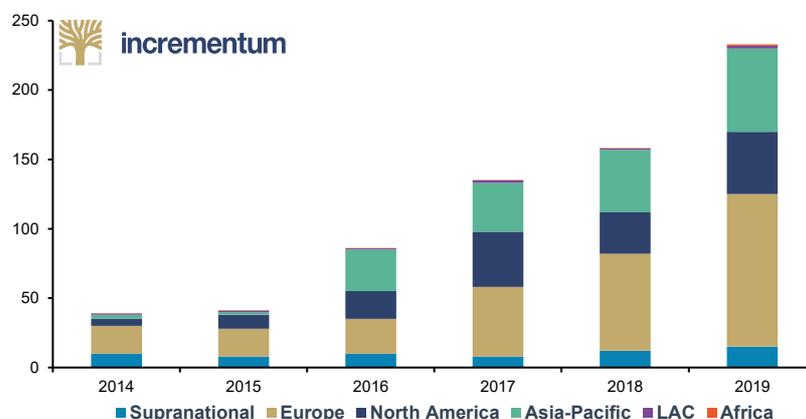
In the formation of such new monetary regulations, the role of rating agencies will be central in order to provide the markets with comparable, transparent, and precise data. This is a role that rating agencies have had time to implement for financial data over the last 30 years, but the work on nonfinancial data will still take time to become reliable. Consequently, many market participants are concerned by the newly enhanced role played by corporations focusing on green projects.

Green Bonds, a Huge Opportunity for Gold Mining Companies?

Green bonds were created in 2007 with an AAA-rated issuance from the European Investment Bank (EIB) and the World Bank. Since then, major companies such as Apple, SolarCity (Tesla), SNCF, LG, and many others have used this means of financing their green projects. All levels of government have also participated, with the first municipal green bond issued in 2013. The idea of these bonds is to offer debt-capital markets an option to fund climate-friendly solutions with favorable terms and conditions. The economic advantages for a

company that issues a “use of proceeds” green bond could include flat pricing to conventional bonds, same recourse to issuer, and being pari passu to plain vanilla bond issuance.

Green bonds, in USD bn, 2014-2019



Source: Climate Bonds Initiative, Incrementum AG

On top of the financial advantages, green bonds offer nonfinancial benefits as well. Both the issuer and the recipient can broaden their investor base, highlight their commitment to ESG values, and spin a positive marketing message, as well as have their environmental/social team meet with possible investors, changing the company’s storyline.

The demand for green bonds is on the rise both in terms of value and demand. For the first half of 2019, green bond average book cover is 3.9x compared to 3.4x for vanilla bonds. Not only is the average demand higher, but 26 out of the 46 green bonds issued in euros attracted higher book covers than vanilla equivalents.⁴²¹ The same can be said for the US-dollar-issued green bond market, where 7 of 13 green bonds oversold compared to vanilla bonds. Nevertheless, the market for green bonds is still small. Europe is currently leading the charge due to their tighter investment regulations. Other markets, however, are sure to quickly catch up.

Why Are Green Bonds Interesting for Gold Companies?

As we discuss at length in our interview with WGC specialist Terry Heymann,⁴²² the gold mining industry is underfinanced and in need of greening its story. There are not many paths to choose from, and the most common first step is to move away from fossil fuel energy and implement renewable energy solutions at operation sites. More and more mines are now changing their energy consumption matrix from diesel-based electricity production to a closed renewables electric network. This transformation requires a

⁴²¹ See “Green Bond Pricing in the Primary Market: H1 2019”, Climate Bonds, January - June 2019

⁴²² See below

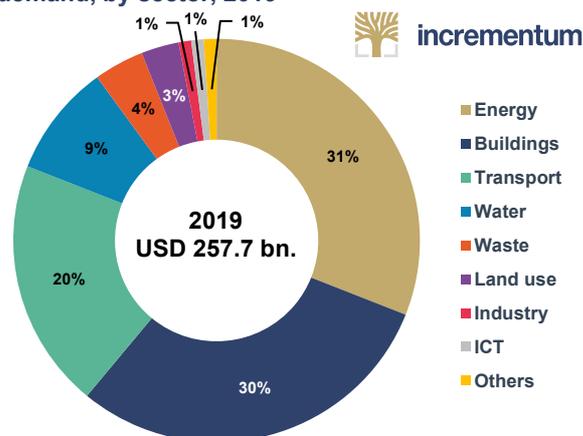
ESG ... looks set to dominate investors' agendas in the years ahead.

Credit Suisse

massive amount of capital, which could be financed by green bonds at preferred terms and rates.

There is a clear opportunity to be seized by gold mining companies, as energy projects were by far the preferred use of proceeds of European and American green bonds in 2019. Furthermore, the same financing method could be used to transform a fossil fuel vehicle fleet to an electric battery-powered fleet. Other examples could be the modification of the gold extraction and purification process that uses toxic chemicals to an environmentally and socially friendly process.

Green bonds demand, by sector, 2019



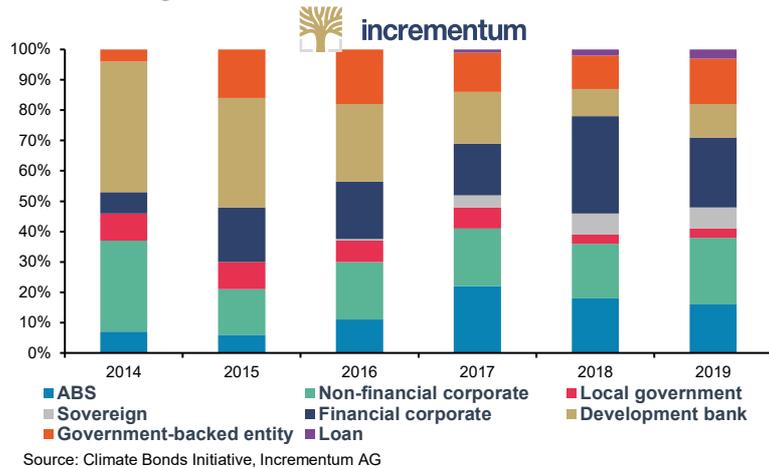
Source: Climate Bonds Initiative, Incrementum AG

Such changes are very expensive and issuing a bond that would let the company extend its amortization period or lower its cost of capital could make the difference between implementing these changes or not.

For gold mining companies this translates in two ways: lower financial risks and higher ESG compliance. For investors, this means lower risk and higher reward.

As we can see in the chart below, the actual array of green bond-covered sectors is very small. More than 60% of bonds are issued by governments, leaving bond buyers with a high concentration of assets and an underrepresentation of most economic sectors. Now is the best time for gold mining companies to penetrate this capital market, while the green bond market is in its starting phase and the space is occupied by only a few players. **As of today, the only company to issue a green bond is Shandong Gold, for an amount of approximately USD 175mn.**

Evolution of green bonds issuer, 2014-2019



Considering all these elements as a whole, green bonds could become the significant access-to-capital tool to fuel the gold mining sector’s climate-friendly transition. They offer a win-win situation. Gold miners can access low-cost capital to finance their ESG transformation while bond buyers are desperately looking to diversify their portfolio. **In an industry in dire need of a new green image paradigm, this is a blessing.**

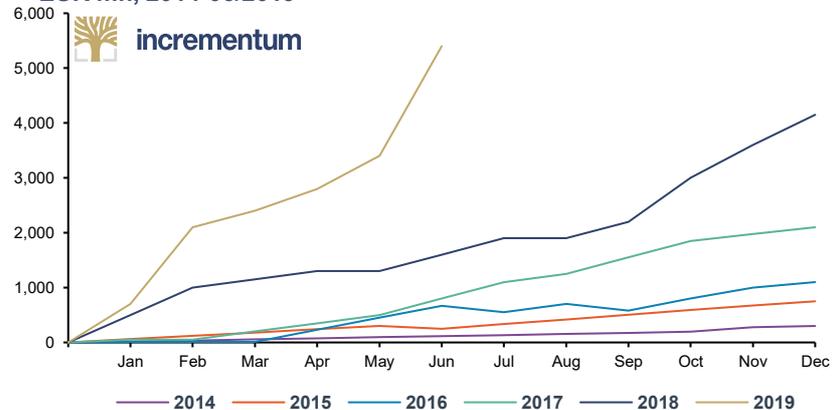
ESG Investment Strategies and Gold Mining Companies

Firms in the top quintile of performance on financially material ESG issues significantly outperformed those in the bottom quintile.

John Streur

For gold mining companies, ESG integration can mean anything from rethinking the entire operation to the consecration of early implementation. With new regulations such as the EU Green Taxonomy, the TCFD, the Conflict Minerals Regulation and many more, the rulebook of the extraction industry is changing, and companies must adapt or face the dire consequences. However, compliance is not enough. Companies must go above and beyond or face the threat of being excluded from investment funds and asset manager capital allocation pools.

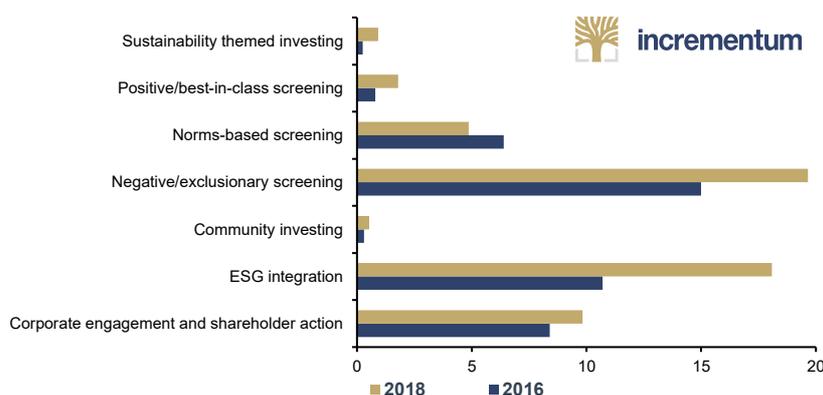
Cumulative net new assets invested in ESG ETFs in Europe, in EUR mn, 2014-06/2019



Additionally, ETFs and passive investment solutions are attracting a new generation of investors. According to Morgan Stanley, 84% of millennials declare investing with a focus on ESG impact as a central goal.⁴²³ Therefore, gold mining companies will have to be proactive in managing ESG risks as well as following up on sustainable analysts' recommendations to increase their ESG scores year on year.

When diving into the analysis of the world's USD 30trn AUM that is ESG-compliant, the chart below shows that there are 7 different strategies at play. It is important to note that more than one strategy can be implemented for each investment decision. Two strategies seem to be chosen most frequently by actors seeking ESG-compliant investment: ESG integration and negative/exclusionary screening. Rating agencies' role is becoming inescapable for nonfinancial ranking just as for financial ranking. Meanwhile, norms-based screening has seen a major decrease in asset value under management.

ESG-compliant AUM investing strategies, asset values, in USD tn, 2016 & 2018



Source: Global Sustainable Investment Alliance, Incrementum AG

Corporate Engagement and Shareholder Action

Corporate engagement and shareholder action are one of the most common investment strategies and the only one that implies direct action by shareholders directed at the company management board and their decisions. Restricted to major investors like banks and institutions, this strategy will only work if the activists can gain enough support to form a large shareholder base.

This type of investment usually focusses on the “G” of ESG by encouraging changes in the executive board of a company. According to a Harvard Law study, activists at Canadian gold companies have achieved all or some of their objectives 75% of the time.⁴²⁴ One famous case was that of Detour Gold, a 600,000 oz annual gold production company, which ceded 3 seats on their board to activist pressure from an investment firm. Following this event, the share

⁴²³ See "Sustainable signals. Individual investors interest driven impact, conviction and choice", Morgan Stanley, 2019

⁴²⁴ "An Activist Gold Rush?", Wes Hall et al., The Harvard Law School Forum, June 21, 2019

price of the company appreciated by more than 100% in the next 12 months, and Detour was then taken over by Kirkland Lake.

ESG Integration

ESG integration is when investors integrate nonfinancial valuation into their financial valuation. Usually, the analysts will establish a target share value for the mining company and then apply a multiplier according to the ESG rating of the company, resulting in an increase or decrease of the target value.

Negative/exclusionary screening

Negative/exclusionary screening is on the rise because it might be the easiest solution of all. Investors exclude entire sectors of activity such as the oil sector, for its high carbon footprint. Investors can also screen an entire sector and eliminate the worst 25%. That way, investors try to steer clear from possible bad press and protect their ESG commitment.

Norms-based screening

Investors that follow the norms-based method are using international standards established by global organizations in order to choose in which companies to place their trust and money. Guidelines such as the UN Global Compact; the European Union's conflict minerals regulation, which will be enforced on January 1, 2021; or Responsible Gold Mining Principles (RGMP), from the World Gold Council, all provide good frameworks for this investment method.

For example, the RGMP focuses on identifying key ESG elements throughout the mine life cycle. Regarding governance, they emphasise ethical conduct, understanding the impacts of the mining activity, and caring about the supply chain. For the environment, they want companies to focus on stewardship, biodiversity, land use, and mine closures as well as water, energy, and climate change. Finally, for social principles, they want mining companies to care especially for safety and health, human right conflicts, labor rights, and working with communities. All those major mining impacts are then detailed in many sub-points, ensuring that no relevant issues are left in a blind spot.

The World Gold Council offers a framework and support to the RGMP signatory companies to ensure that they implement ESG best practices.

One of the most important obligation of the signatories is reporting. They must not only report on specifics but also obtain independent assurance to ensure a high level of transparency. All mining stakeholders can refer to the reports, just as investors do, to better understand the risks and ESG performance of these gold mining companies and help them in their investment decisions.

On a global scale, norms-based screening has lost ground compared to other approaches, since ESG regulations are increasing worldwide, making this method less useful in order to compare companies' ESG performance. **In line with these investment strategies, we analyzed the results of the gold mining producing companies publicly traded on the Toronto Stock Exchange (TSX).**

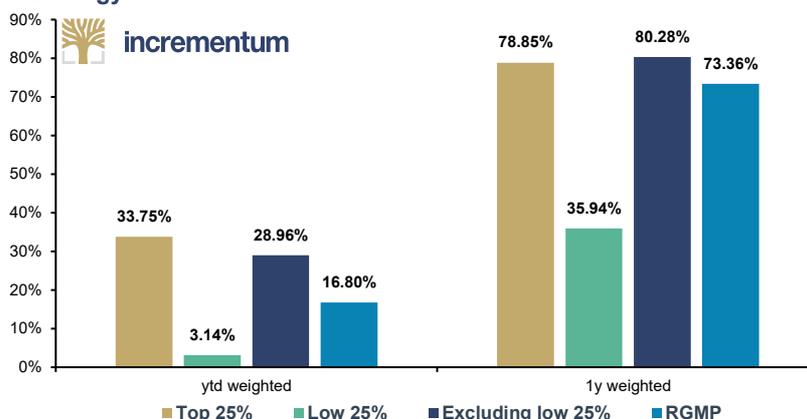
70% of US assets can't be analyzed without using ESG now.

Bank of America

The mining sector has a critical role to play in the sustainability effort. We can choose whether to lead or follow in that. I believe that the leaders will be rewarded with access to finance, projects, and markets on more reasonable terms.

Tom Butler

TSX gold mining companies, weighted performance per investment strategy



Source: Reuters Eikon, Incrementum AG

Not only does sustainable investing not require a discount, but it can actually help reduce risks.

Audrey Choi,
Chief Sustainability Officer,
Morgan Stanley

We selected the companies that are registered as gold mining producers from the S&P/TSX Global Mining Index and sorted them according to their Reuters ESG score. We then created four different portfolios, one containing the 8 best ESG companies, one the worst 8 ESG companies, one excluding the 8 worst ESG companies, and finally one with all the signatories to the Responsible Gold Mining Principles. We then looked at their market cap-weighted last 52 weeks of financial performance.

We found that for the year-to-date performance as well as for the 1Y period, the portfolio composed of the lowest 25% of ESG-score gold mining companies drastically underperformed the other portfolios. On the opposite side, a weighted portfolio composed of the top 75% of companies would have offered the best 52-week performance. For the year-to-date, the top 25% of ESG companies obtained the best results. Looking more closely at last year’s performance, clearly the best strategy was to stay as far as possible from the worst 25% of ESG-score companies. **This is in line with the conclusions reached in several financial papers published, confirming the importance of ESG commitment and its link to financial performance, as we discussed last year.**⁴²⁵

Top 25% ESG score	Bottom 25% ESG score
Newmont Corporation	Sandstorm Gold Ltd
Barrick Gold Corp	SSR Mining Inc
Gold Fields Ltd	Compania de Minas Buenaventura SAA
Kinross Gold Corp	Wheaton Precious Metals Corp
Lundin Gold Inc	Kirkland Lake Gold Ltd
Agnico Eagle Mines Ltd	Wesdome Gold Mines Ltd
Alamos Gold Inc	Royal Gold Inc

Source: Reuters Eikon, Incrementum AG

⁴²⁵ See “ESG: Environment, Social, Governance—Three words worth more than USD 20 trillion?” In *Gold We Trust* report 2019

The difference between best and worst in class financial performance will only be accentuated with time, for two main reasons. Firstly, the massive increase of AUM guided by ESG principles will force reallocation of assets that will benefit the best ESG-score companies to the detriment of the laggards. Secondly, the availability of cheap capital in the short term for ESG-compliant companies will also contribute to this trend. Gold mining companies must commit to ESG and as a result must commit to be the best in class in order to create an influx of capital in the sector.

According to Bank of America, another USD 20trn is set to flow into ESG funds over the next two decades, which the firm called a “tsunami of assets”.⁴²⁶ For context, the entire S&P 500 is worth about USD 25.6trn. With this predicted cash flow and the option of green bonds, gold companies should concentrate on exploring pathways to a more ESG-compliant future, and investors should keep on the lookout for avant garde companies that are already doing more than they are legally required to do.

What Companies Could Learn from Their Best-in-Class Peers

The Example of Newmont

Following the best in class means playing catch-up with Newmont. The company is the top mining firm in Fortune’s 2020 list of the World’s Most Admired Companies.⁴²⁷ It was also included in the 2020 Bloomberg Gender-Equality Index⁴²⁸ for a second years, and in September 2019 it was named the top global gold mining company in the Dow Jones Sustainability World Index⁴²⁹ for the fifth consecutive year. What is it that makes the company stand out of the crowd and be successful in business as well as take care of the environment, society and its employees?

In 2005, ESG was already a core part of Newmont’s business, as they declared:

*“Newmont’s future is dependent on the ability to develop, operate, and close mines in a manner consistent with the commitment to sustainable development, protection of human life, health, and the environment, and adding value to communities in which it operates.”*⁴³⁰

However, fancy language or specific, localised actions are often not enough when it comes to ESG strategy. **In 2011, Newmont was named the most “controversial” mining company by RepRisk.** Following this, the company decided to make ESG compliance strategy the core of its operations. They named a

⁴²⁶ “10 reasons you should care about ESG”, Bank of America – Merrill Lynch, September 23, 2019, p. 1, 3

⁴²⁷ Fortune: [World’s Most Admired Companies](#)

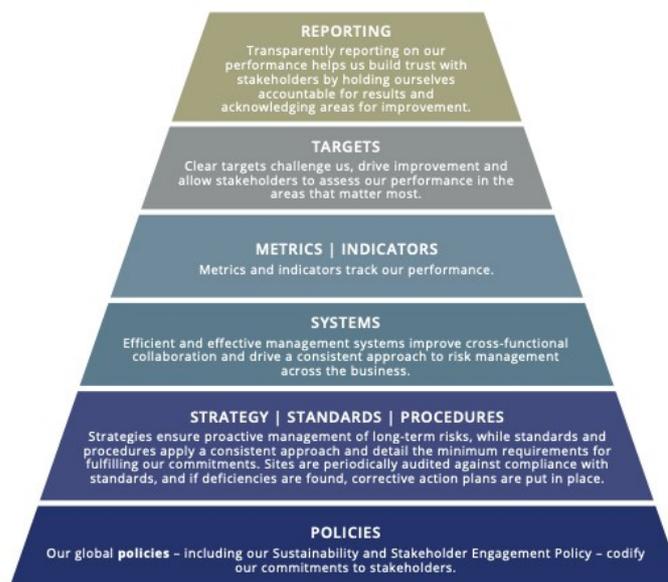
⁴²⁸ Bloomberg: [Gender-Equality Index](#)

⁴²⁹ S&P Dow Jones Indices: [Dow Jones Sustainability World Index](#)

⁴³⁰ Henisz, Witold J. and Gray, Tim: “[Calculating the Net Present Value of Sustainability Initiatives at Newmont’s Ahafo Mine in Ghana](#)”, *The Wharton School of the University of Pennsylvania*, 2012, p. 1

new CEO, Gary Goldberg, who had just done the same for Rio Tinto, another best-in-ESG-class mining company.

Newmont sustainability framework



Source: Newmont, IGWT

It is ideal if the person that has the primary accountability for designing and delivering the sustainability strategy reports to the CEO and sits on the executive committee.

Elaine Dorward-King,
former EVP of Sustainability
& External Relations at
Newmont Goldcorp

Goldberg’s first decision related to ESG was to name an EVP of sustainability & external relations who would report directly to him.

Together, they implemented a top-down ESG strategy that would direct the actions of the entire group. They understood that all these sustainable, environmental and governance issues must be linked together in order to keep operating locally and to create value for investors. Mismanaging any local issues such as water, community relationships, or care for fauna and flora can result in revocation of a license to operate. Additionally, Newmont’s CEO implemented mandatory nonfinancial external reporting. This helped the company translate their internal policies, codes, and strategies into accountable actions. By doing so, they raised the bar of transparency to a level that had never been attained in the gold mining industry. Also, they left the leading role of implementing ESG compliance to the operational staff, making it equally as important as production, health, or safety. **Four elements led Newmont’s success in its transformation to become best in class: communication, sustainability, KPI implementation, and hiring strategy.**

Communication let the entire company regroup behind only one consistent and cohesive message from the CEO to all stakeholders, both internal and external. Newmont also involves its stakeholders in the elaboration and tracking of sustainability KPIs. Additionally, they linked the executives and employees eligible for their annual incentive compensation plan (AICP) to the company’s sustainability performance, through Newmont’s performance-based compensation structure. By doing so, they ensured that relevant sustainability KPIs would be created, implemented, and tracked. They add

a real tangible motivation for all employees to focus and prioritise ESG strategy on a group level.

Finally, the company focused on hiring the right people. Hiring new employees who would be open to ESG compliance and be hands-on and ready to engage with external stakeholders led to a behavioral change over time within the company, creating a bottom-to-top ESG compliance model.

The Example of Agnico Eagle

A similar strategy can also be found at the heart of the ESG compliance strategy of another senior mining company, Agnico Eagle. Recognized for their best practice and leading in sustainability, they focus on the same three key areas: communication, their employees and producing quantifiable results. Agnico's CEO, Sean Boyd, spent almost his entire professional career under the company's colors. One of his biggest challenges, ESG related, came when Agnico Eagle bought half of Osisko's Canadian Malartic mine in northern Quebec. The locals had a love hate relationship with the mine and many activists were battling intensively all aspects of the open pit. From dust, to vibration to sound, the mine, the biggest Canadian open pit at the time, was situated just 200m from private houses.

When Agnico Eagle bought 50% and become the operator, the company implemented a series of changes, driven by their ESG strategy and they saw results very fast. First, they made sure to choose appropriate KPI to understand issues the locals had and then they published those numbers in an effort of transparency. They foster the dialogue by having their employees present in all reunion discussing the mine within the region and engaging with the communities on a one on one basis. The company settled all court sued that were still pending between the local community and the mine, created watch group composed of both locals and Agnico Eagle employees. Over time, not only did the relationship improve between the communities and the mine but even activists that were fiercely voicing their issue with the previous owners are now praising the work Agnico Eagle has accomplished.

This buyout seems to have reinvigorate the relations between the mine and the local population. It clearly demonstrates that gold mining companies can be better at managing ESG topics but also that when they do, they can create a real sustainable partnership with their local communities. Through their ardent ESG politics, implementation, and collaboration, Agnico Eagle secured the license to operate of a Tier one gold mine, producing 700,000 ounces of gold annually, and was given authorization for an immense expansion during the last year.

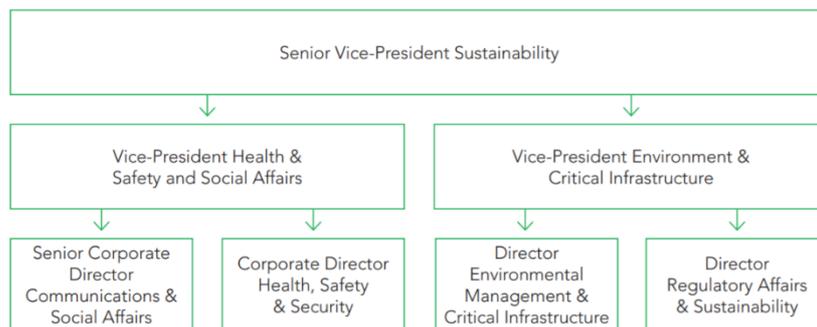
A vision, without a plan, is just a hallucination.

Will Rogers

Not only must resource development be sustainable, but it must provide opportunities to for communities to partner and participate in the building of wealth. In fact, that is the best part of what we do-working together with people and communities and watching them grow and prosper alongside us.

Sean Boyd

Agnico Eagle Corporate Sustainability Structure



Source: Agnico Eagle

In reality strategy is actually very straightforward. You pick a general direction and implement like hell.

Jack Welch

In both cases, the vision came from top to bottom and was implemented with a clear and simple strategy that relies on four core values: respect for their employees, protect the environment, operate safely and respect for their communities. In order for gold mining companies to improve their overall reputation and to comply with new incoming regulations and profit from the green wave, they have to ensure that their leadership has a clear focus on the ESG sector and sustainability as a whole without which, the company will be left behind.

Conclusion

To conclude, we have seen a further increase in interest in ESG reporting and compliance by banks, institutions, investors, and the companies themselves. In short, stakeholders from all sides are requesting that companies be led in a sustainable way and that the relevant information is made public. We examined the impact that new regulations and intervention will have on the financial sector and introduced strategies to build a high-performing ESG-compliant portfolio. Lastly, we discussed best-in-class standards and the road to success for ESG management by gold mining companies. We presented norms and principles that will affect ESG reporting. During our research we also had the pleasure to interview Terry Heymann, CFO, World Gold Council, who was kind enough to give us an introduction to the Responsible Gold Mining Principles (RGMP) as well as share his opinion on the future development of the gold mining industry. This interview is on the following pages.



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An Overview on Gold Mining Companies' ESG Efforts – An Interview with Terry Heymann



Terry Heymann is CFO at the World Gold Council and has broad experience across the gold supply chain. In addition to his role as CFO, Terry oversees the World Gold Council's work on standard-setting for the industry, including development of the Responsible Gold Mining Principles⁴³¹ (RGMPs), the Conflict-Free Gold Standard⁴³² and the Guidance Note on All-In Sustaining Costs and All-In Costs⁴³³, all of which support increased transparency and integrity in the gold industry. Prior to joining the World Gold Council, Terry was a Principal at Marakon Associates, a leading strategy consultancy, where he helped clients in several industries on strategic issues and new product development.

Ronald Stöferle and Julien Desrosiers conducted this interview by phone on January 28, 2020.

Ronald Stöferle: *Hello Terry and thanks for taking the time to discuss the implications of climate change on gold mining companies as well as for gold investors. One of the hottest topics in the gold sector is ESG, i.e. compliance with ecological, social, and good governance standards. In our In Gold We Trust report 2019 we covered this topic and showed that gold is a relatively “green” metal.⁴³⁴ But more specifically, implementing the target of net zero CO₂ emissions has been put to the core as you have also mentioned in the recent report “Gold and climate change: Current and future impacts”,⁴³⁵ published by the World Gold Council. Could you explain to us what the report discusses concerning ESG and net zero CO₂ emissions and what your view is on this?*

Terry Heymann: Thank you for having me!

Our recent report “Gold and climate change: Current and future impacts” looks at three areas. Firstly, it talks about the emissions profile across the gold supply chain. The second part of the report looks at the transition to net zero, and what the pathway to get to net zero by 2050 in line with the Paris Report could be. The third part looks at gold as an investment in a climate change mitigated portfolio. It is clearly an interesting story to explore why gold is an effective climate risk mitigator.

We have seen in practice that many gold-mining companies are already taking steps to reducing emissions from their activities, such as the adoption of renewable technologies.

You have asked specifically about what gold mining companies are doing and about the pathway to net zero. We have seen in practice that many gold-mining companies are already taking steps to reducing emissions from their activities, such as the adoption of renewable technologies. As an example, we see huge solar arrays being built by companies such as Iamgold, Resolute and many more. We have seen the use of hydropower by a lot of mines that are in mountainous regions.

⁴³¹ World Gold Council: [Responsible Gold Mining Principles](#)

⁴³² World Gold Council: [Conflict-Free Gold Standard](#)

⁴³³ World Gold Council: [All-in sustaining costs and all-in costs](#)

⁴³⁴ See “ESG: Environment, Social, Governance – Three words worth more than USD 20 trillion?”, *In Gold We Trust* report 2019

⁴³⁵ “[Gold and climate change: Current and future impacts](#)”, World Gold Council, October 23, 2019

All this is part of the increasing move towards renewables. The second part revolves around questions such as battery storage and technology, more specifically the rate at which technology is improving and is allowing for more efficient storage solutions. The third part of the pathway towards net zero centers around energy efficiency and, more broadly, health and safety considerations.

The world's first all-electric mine that came into commission just recently.

When you put these three parts together you can see a credible pathway, given the rate at which technology is improving: be it for renewables or for battery storage, which is allowing for a new way, a new means of powering mine sites, e. g. in terms of the core power needs, which is fundamental for processing plants. We also see the emergence of more electric vehicles. One of the mines that we look at in the report is the Newmont Mine in Northern Ontario, the Borden mine, the world's first all-electric mine that came into commission just recently.

Gold companies are making this move to reduce emissions and their carbon footprint not purely for environmental reasons but also because there is a cost incentive to do so.

Furthermore, through technological development, costs for renewable energy and storage are falling quite significantly. In the report, we looked at the cost curve, and predict that it is going to continue to decline up to a point in the near future where it is not just cost equivalent but probably cost advantageous to move away from fossil fuels. Cost advantageous, of course, only once you have put in the capital to set up your move into renewables. I think this is a really important point since **gold companies are making this move to reduce emissions and their carbon footprint not purely for environmental reasons but also because there is a cost incentive to do so.** This, in turn, makes the development powerful and will ensure that it will be sustained.

A further, very powerful reason is the fact that auxiliary benefits can become some of the greatest motivators for a change. Take, for example, the reduction of diesel vehicles. Yes, first and foremost, this reduces the greenhouse gas emissions of a company, but it also reduces the diesel particulates from the near environment which are a recognized health concern. Therefore, the auxiliary benefit is becoming one of the greatest reasons for the change because it allows companies to be responsible with their employees' health.

There is a credible, albeit challenging, way toward net zero emissions by 2050.

In the report, we are not prescribing exactly what the pathway to net zero will look like since every mining company will (have to) make their own choices in their specific contexts. Nevertheless, we are saying that – even though there is a lot of work to do because of the long history of energy intensity of the mining sector – **there is a credible, albeit challenging, way toward net zero emissions by 2050.** And this is a very powerful message for the industry.

Ronald Stöferle: *Your analysis suggests that deploying the scale of renewable energy and storage required by the gold industry might need investments in the order of USD 35bn to 70bn from 2021 to 2030. Do you, or the members of the World Gold Council, see some sort of divide between the large caps/ senior producers and junior producers who might not have access to the necessary amount of capital to make the switch to renewables and to a more sustainable exploration?*

The industry is coming up with some interesting investment solutions about how to finance this move, such as new ways of accessing capital (e.g. green bonds).

Terry Heymann: That is an interesting question which we have not looked at in detail.

From a strategic point of view, it is obvious that it would be easier to design a mine based on renewables at the early stages rather than retrofitting them. And across the industry it is more often the newer, younger mines that include renewable energies in their set-up. Moving into renewables can be accompanied by significant capital requirements, as you mentioned. Nevertheless, **the industry is also coming up with some interesting investment solutions about how to finance this move, such as new ways of accessing capital (e.g. green bonds)**. Another trend is a shift in the investment landscape as a general. Capital is being allocated to projects that can demonstrate how they operate sustainably. That will present plenty of opportunities for companies in the mining sector.

On the other hand, renewable energy is just one part of the equation. Energy efficiency is equally important, and we have seen lots of examples of gold mines that are becoming smarter about how they use energy and become more energy efficient. From lights with sensors that switch off when nobody is present to ventilation systems that use more sophisticated technology and computing power to determine the optimal levels of ventilation, to the use of drones. Artificial intelligence is another good example. To conclude, I think that all mining companies – small or big – can and should be on a journey to reduce their emissions. What exactly is right for each individual mine is what management teams should consider as there is no one-size-fits-all solution. Nevertheless, there are plenty of ways that companies and individual mines can lower their energy input which is not just becoming increasingly compelling from a cost perspective but also from a social acceptance perspective.

Julien Desrosiers: *Terry, do you think that right now the gold industry is facing a perfect storm for these challenges? The price of gold is high, access to capital is cheap, and more than 50% of gold metal and mining companies now include ESG compliance in their high management bonus and remuneration schemes. Is now the best time to invest massively into renewables for mining companies, as profitability is on the rise?*

Beyond the technological changes that we have talked about, the move towards the fourth revolution, and remote working has transformative potential.

Terry Heymann: Absolutely, it's an exciting decade for the gold mining sector, because of what you have outlined. As you say, there is the ability to access capital, with the caveat that a company has to be able to demonstrate how they operate responsibly, but, as you have mentioned, linking the senior management compensation to ESG considerations is really a clear demonstration of intent. And there is more that promises to have a great impact on the mining sector. **Beyond the technological changes that we have talked about, the move towards the fourth revolution, and remote working has transformative potential.** Just imagine what you can do with somebody that has been growing up playing computer games, and who can be seated in a control room that is not necessarily located at or next to the mine site.

Thus, I think you are right in saying that there is a confluence of factors that are going to reveal and create new mining models, particularly with regards to

demonstrating how one operates responsibly from an ESG perspective. Recreating the idea of what mining is, particularly again for newer mines, is super exciting.

Julien Desrosiers: *Do you believe that designing mines that are more “environmentally friendly” could also have the additional benefit of solving some of the main issues of gold mining right now, such as lower grades or continuously deeper and bigger mines? As an example, could you extend the life of some mines by eliminating all diesel-powered engines, which would require less ventilation and means that the mine could therefore be deeper or bigger?*

... it is important for investors to understand that mining executives who are investing in renewables are doing so not solely in order to reduce emissions but mainly for commercial reasons.

Terry Heymann: I absolutely agree with you. As gold is becoming increasingly hard to find and the rate of exploration is not revealing the same amount of new gold reserves that it did in the past, **it is important to find ways to keep mining the existing reserves economically.** And it is important for investors to understand that mining executives who are investing in renewables are doing so not solely in order to reduce emissions but mainly for commercial reasons.

Julien Desrosiers: *More specifically, what could be the direct consequence for investors that have shares in mining companies that focus on ESG? Do these measures translate into tangible added value for their investors?*

Terry Heymann: I also think it is important for providers of capital and creditors to understand that these are sustainable and long-term initiatives because they are commercially sensible. I would even go farther than your example of moving away from diesel-powered vehicles to the use of autonomous vehicles in mines. **Taking the people out of deep shafts will undeniably extend the scope of mining.**

Another advantage from a move to renewables and sophisticated storage technologies is that it reduces the uncertainty that comes from being dependent on fossil fuels and the volatility around its pricing and supply. Diesel, or fossil fuels more generally, have constituted a significant share of the costs of running a mine. If alternative ways of generating energy can be found that is both cheaper and more predictable from a cost perspective due to lower volatility, this really is a compelling proposition and something that investors should be very excited about.

Julien Desrosiers: *Another issue a lot of people are talking about when it comes to ESG measures of mining companies is building sustainable relationships within the community or villages they operate in. Do you think that as mining companies become energy producers (through their move towards renewable energies and high-profile energy storage) this will also affect their relationship with their neighbors in a positive way?*

Terry Heymann: Absolutely, no question about it. It is important to recognize the important role that mining companies play in terms of supporting capacity development and bringing energy, clean water, education services, and healthcare to local communities. But at the same time, it is also important to recognize that those are fundamental responsibilities of the state. And there should be the

There is no question as to the fact that mining companies can be real drivers of social and economic development in the communities and countries where they operate.

expectation that if a mining company takes on those responsibilities it should do so with the support of the local or national government. However, where there is support from the government in local communities for mining companies to behave in such a way, it is an excellent outcome and we have seen many examples of that. For example, in Guinea, Anglo Gold Ashanti set up a plant that also provides electricity to local communities. As a lot of mines operate in places where there is not much economic activity and sometimes even a lack of basic needs, I certainly hope that they will set up their power plants in a way that allows energy and electricity to be made available to local communities.

Water is another good example, as mines do use a significant amount, and need to ensure that they have a sufficiently large water supply available for their operations. This water supply needs to be managed responsibly. That means, collecting and using it in a way that doesn't pollute the water streams and doesn't negatively impact other communities that are relying on that water. So, if a mining company puts in place a new water facility to deliver good quality water for drinking or for agriculture, it is a positive development for the broader community. **To conclude, there is no question as to the fact that mining companies can be real drivers of social and economic development in the communities and countries where they operate.** The shift towards renewable energy and energy efficiency will support these positive side effects even more, but again, it needs to be done in collaboration with and in support of the governments and communities because it is not and should not be thought of as the core function of a mining company.

Ronald Stöferle: *Another important development that I noticed is that, two years ago, I was attending a mining conference, at which nobody talked about ESG and related topics, maybe with the exception of Sean Boyd, Agnico Eagle's CEO, and few others. Yet nowadays, if you go to a one on one meeting at a mining company, this is one of the first topics that CEOs talk about. What I would like to know is, firstly, where do you see the gold industry in comparison to other industries, especially compared to other parts of the mining business. Do you think that the gold industry is doing better or worse than other base metal producers or the energy sector?*

Secondly, due to the increasing quantity of initiatives to restrict investment in the commodity sector (and companies without an acceptable ESG rating), it will get harder for institutional players – especially pension funds – to invest in gold. Do you record a lot of pressure from institutional investors?

And finally, could you let us know a bit more about the responsible gold mining principles you initiated?

Terry Heymann: I absolutely agree with you that ESG is becoming more present and prevalent on the agenda of mining conferences. I was, for example, attending the Scotia Bank Mining Conference in Toronto in December and there was half a day dedicated to ESG – and the room was full. A lot of CEOs were speaking about what their companies were doing in the field of ESG. It was a lively and engaging conversation, and a lot of investors were present as well. This reflects that the

industry has recognized their need to communicate more about what they are doing and what they have already previously done in that field.

The RGMP are an overarching framework that englobes out all issues that are considered material to responsible gold mining.

The gold mining industry has clearly declared their common commitment to responsible mining across all members of the World Gold Council. A demonstration of this collective commitment was the release of the “Responsible Gold Mining Principles” (RGMPs)⁴³⁶ last September. The RGMP are an overarching framework that englobes out all issues that are considered material to responsible gold mining. While establishing the RGMP, we worked in close collaboration with our members and ensured full board support by regularly including them in our discussions. Now I think that a lot of other sectors of the mining community are also doing great things. It is very clear that there is commitment across leading mining companies to operate responsibly.

Where the gold industry has taken a lead in, is in recognizing the importance of clearly communicating to investors, to governments, to communities, to employees, and to other stakeholders, as well as the importance it places on operating responsibly and what it means by responsible gold mining.

Once gold is mined, there are very little incremental emissions associated with downstream activity.

Another issue that arises, when comparing gold to other mining sectors, is the very nature of how gold is used, especially when it comes to the discussion on climate change and emissions. **Once gold is mined, there are very little incremental emissions associated with downstream activity.** We evaluated the emissions associated with the mining stage and compared them to the emissions associated to the fabrication of gold into either bars or coins or jewelry.

Less than 1% of the total emissions are associated with the gold supply chain.

This comparison showed that less than 1% of the total emissions are associated with the gold supply chain. This means that gold’s emissions profile is quite different from other metals, which have very significant emissions associated with downstream activities. This is quite positive, because it means that we know that emissions activity is concentrated in the gold mines and we have already been talking extensively about the action that is happening to reduce those.

So, in terms of the emissions pathway to net zero, I think gold is advantaged by the nature of the gold industry.

Ronald Stöferle: *Excellent. When jumping back to the question of ESG ratings, it is no question that they are becoming more and more important for investors. However, there are quite a lot of different rating agencies. It is not an easy task to understand which companies are doing well in the ESG space and which are not. How do you assess the development regarding ESG ratings, especially for institutional players and generalists, that they can trust the metrics and the data they get?*

Terry Heymann: It has been clear for a while that there is a lack of consistency across ratings agencies. I heard from many companies that they receive different

⁴³⁶ World Gold Council: [Responsible Gold Mining Principles](#)

If you think back 30 or so years, there was significant diversion across credit rating agencies and for the rating of a debt... Nowadays, there are three main credit rating companies that everybody knows and it is unusual for them to have significant diversions. I hope that ESG ratings will develop and evolve in the same way.

The RGMP were designed as this overarching framework that pulls together all the material issues for gold mining companies, developed by the gold mining companies themselves, who understand the issues they are facing daily. Moreover, a broad range of stakeholders from all different sectors was consulted: NGOs, local communities, governments, development banks and many more. So we would love to see ratings agencies use the RGMP as the basis for their assessment approach. The final thing I would say on the topic of rating agencies is that the focus currently lies with reporting and disclosure of material issues and how ratings can support that process. If you think back 30 or so years, there was significant diversion across credit rating agencies and for the rating of a debt or fixed income instrument, you would receive quite different approaches depending on the agency. Over the last 30 years we have seen a significant conversion happening. Nowadays, there are three main credit rating companies that everybody knows and it is unusual for them to have significant diversions. I hope that ESG ratings will develop and evolve in the same way. And if we in the World Gold Council can play a role in bringing about convergence, we would be delighted to do so.

Julien Desrosiers: A lot of legislation came into action recently such as the Paris Accord, the Conflict Minerals Regulation, the Task Force on Climate-related Financial Disclosures (TCFD). What do you think will happen to the environmentally friendly latecomers in the gold mining sector?

Terry Heymann: In this case, it is interesting to take a broader look and to observe what is happening in other extractive industries. Take for example coal, thermal coal but also metallurgical coal, and the challenge that many thermal coal producers have in finding investors. There is an increasing movement of choosing not to invest in coal and some NGOs are strongly pushing the agenda of divesting from coal. Oil and gas face similar challenges. I am not saying that there is a lack of investment in these sectors, but we encounter active discussions and dialogue about those investments. Is it appropriate for investors to put money into fossil fuel companies and oil and gas? This obviously is a complex argument and there is no simple response to it but the level to which there is angst and uncertainty about whether it is ethically appropriate to put money into oil and gas companies is a lesson for gold companies.

Reporting is very important and it has become increasingly common to report on emissions in line with programs like the TCFD.

So, while I am very impressed by what gold mining companies have achieved, I still believe there are great opportunities for further progress. I think reporting is very important and it has become increasingly common to report on emissions in line with programs like the Task Force on

Climate-related Financial Disclosures (TCFD).⁴³⁷ This and other developments are quite positive but in case there would be a shift in ideology and behaviors, one would not need to look far to get an idea of potential implications of not adhering to ESG measures, restricted access to capital being just one of them.

Julien Desrosiers: *As a final topic, let's discuss the issue of conflict mining, which plays a prominent role in ESG. Conflict mining, to my understanding, accounts for less than 1% of total gold mining. So, while it is a small-scale problem, it remains a big topic. Could an implemented chronological documentation, with Blockchain for example, have a positive impact for investors, such as enabling them to track where the gold has been mined and to guarantee that it has been done under WGC regulations?*

Terry Heymann: Yes, absolutely. **I think that in principle, the idea that you can tell where your gold is coming from is interesting and we will undoubtedly see some movement in that direction.** There will be packages of gold being sold that will have a claim about where and how they were mined. However, given the fungibility of gold, it cannot be likened to a product that is consumed, which obviously is a great characteristic of gold: it is the ultimate recyclable material. All of the gold that has been ever mined, is still in circulation.⁴³⁸ Nobody of sane mind would throw away gold, it is theoretically and chemically infinitely recyclable and, therefore, a metal that has existed for generations. Moreover, gold has been understood as a store of value for millennia. Yet, it is also a contemporary material because of its infinite recyclability which is a characteristic that should be celebrated.

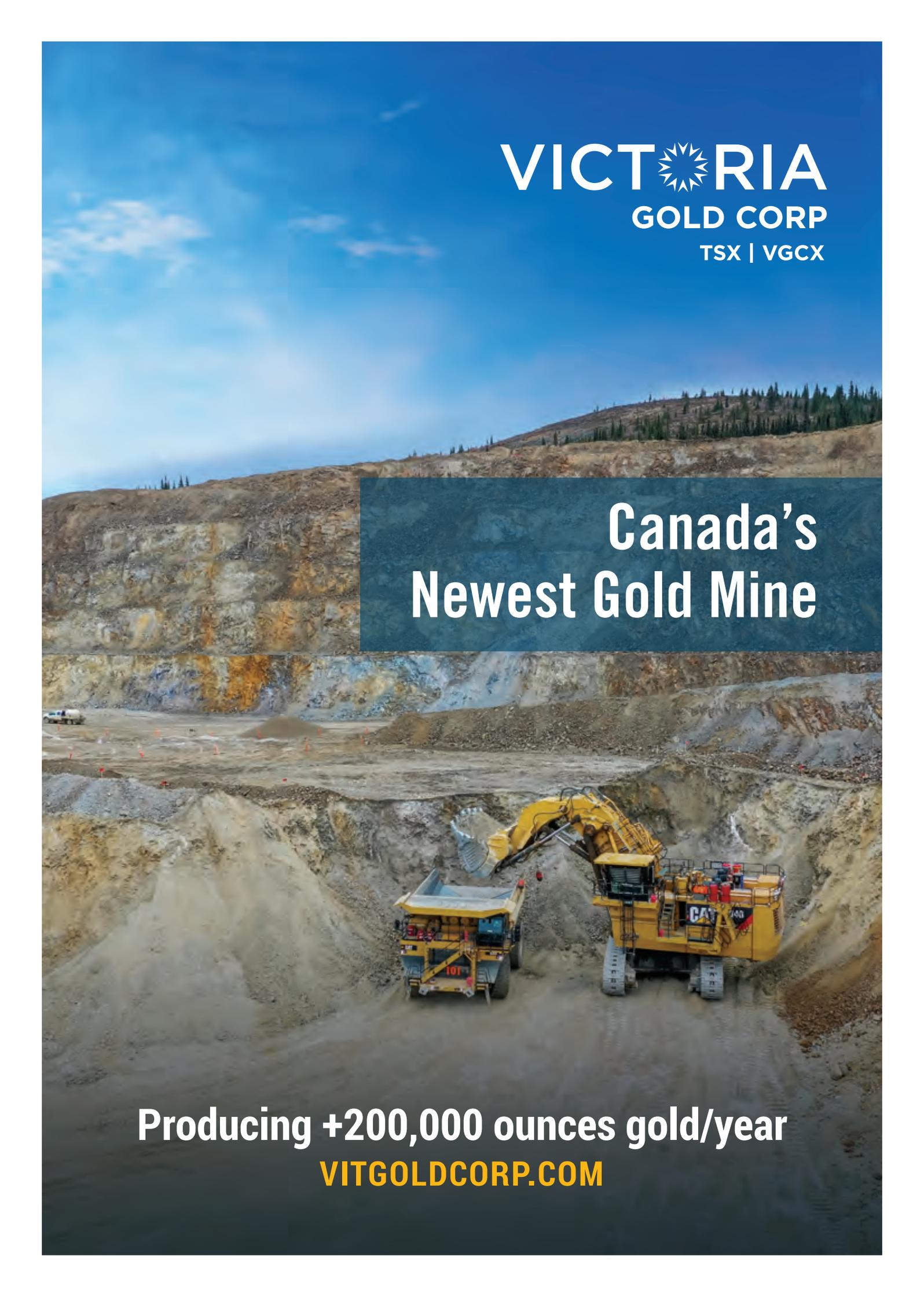
New technologies, such as blockchain, can be of avail in these cases. Blockchain has the potential to provide a ledger that can track the provenance of a kilo bar of gold and this will be interesting to a wide range of investors.

The challenge with recycling is that it makes it harder to retain the link back to the origin of the gold, back to the mine where it has come from. Because gold is easily recyclable and combinable with other gold quantities, one would have to find a way to add a stamp of origin to the single atoms of gold. Otherwise, it would simply be too hard to track individual pieces of gold. So, while there will be an increasing interest for and offer of gold with a specific provenance claim, I do not see it happening as fast as in other sectors. **New technologies, such as blockchain, can be of avail in these cases. Blockchain has the potential to provide a ledger that can track the provenance of a kilo bar of gold and this will be interesting to a wide range of investors.** Whether these are investors who are particularly concerned about conflict gold or other ESG concerns, or perhaps for a specific reason just want gold from a certain country – such as has been the development in the diamond industry – only future will tell. I think it is going to be a really interesting decade and I think that gold is the ultimate commodity, but we will also start to see some sort of decommunitization, and I will be fascinated to see how that plays out.

Ronald Stöferle: *Excellent, Thank you. This has been very informative, thank you for your time Terry!*

⁴³⁷ Task Force on Climate-related Financial Disclosures

⁴³⁸ See "ESG: Environment, Social, Governance – Three words worth more than USD 20 trillion?", In Gold We Trust report 2019



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Technical Analysis

“There is no fever like gold fever.”

Richard Russell

Key Takeaways

- After the resistance zone at USD 1,360–1,380 was finally crossed in June of 2019, an impulsive move began, which heralded the next phase of the bull market.
- The Coppock curve and the KST-indicator confirm the upward trend in the monthly chart.
- From the point of view of current market sentiment, seasonality, and the CoT report, we would not be surprised to see a several-week consolidation phase.
- Midas Touch Gold Model: Gold and silver are targeting significantly higher price regions in the medium and long term. Over the short term, however, the potential on the upside should be largely exhausted.
- Gold is in the first third of the “participation phase”, which could last several years.

“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

After our comprehensive macroeconomic and fundamental analysis, we now turn to the technical analysis of the gold price. Last year we wrote at this point:

“In our opinion, the gold price is at the transition from the accumulation phase to the participation phase. Investor demand is the key driver. The crossing of the technical rubicon level at 1,360 will trigger increased interest on the part of institutional investors.”⁴³⁹

This assessment has proved to be correct. After the resistance zone was finally crossed in June 2019, an impulsive move set in, heralding the next phase of the bull market.

Life is just a series of peaks and troughs. And you don't know whether you're in a trough until you're climbing out, or on a peak until you're coming down.

Ricky Gervais

What is our current technical assessment of the gold price? For the long term, we are again using the Coppock curve as a reliable momentum indicator.⁴⁴⁰ A buy signal is given when the indicator turns upward, i.e. when it assumes a positive slope. The advantage of this indicator is that large trend changes can be reliably detected. Since the end of 2015, the indicator has been on a “buy” and has moved up successively since then. The KST⁴⁴¹ also confirms the positive long-term setup and shows no signs of divergence.

⁴³⁹ See “Technical Analysis”, *In Gold We Trust* report 2019, p. 314

⁴⁴⁰ Specifically, these are two time-weighted momentum curves that are added together and whose long-term moving average is the Coppock line. We use a slightly modified Coppock with slightly longer periodicities.

⁴⁴¹ “Known Sure Thing” indicator by Martin Pring. The KST measures the price momentum of four different price cycles.

Gold, KST and Coppock Indicator, monthly, 2005-2020



Source: investing.com, Incrementum AG

The impulsive rise from USD 280 to USD 1,920 since 2011 was in a corrective phase until the break out in June 2019. This phase has now come to an end and we are in a new trend phase. We consider the development of a cup and handle formation to be realistic. This is a continuation pattern with a price target of USD 2,500. For the time being, however, it appears that it will take some more time to take out the resistance zone at USD 1,800.

In order to be an immaculate member of a flock of sheep, one must above all be a sheep oneself.
Albert Einstein

Let us now take a look at market sentiment. Naturally, analysts become increasingly optimistic if a bull market persists, and vice versa. **In the course of the price upswing of recent months, price targets have been raised in the usual procyclical manner.** Looking at the forecasts for the end of 2020, a median price of USD 1,624.50 is expected. The price targets for the end of the following years are USD 1,625 (2021), USD 1,586 (2022), USD 1,545 (2023) and USD 1,589 (2024), i.e. a sustained sideways movement. This is a development that – if one considers market cycles – seems extremely unlikely. **Not one of the analysts surveyed by Bloomberg expects a price above USD 2,000 over the next few years.**

Bloomberg: Analyst consensus for gold: 2020-2024

Gold \$/t oz		99 Browse	As Of 05/11/20	Ticker Type Actual			
<input type="radio"/> Quarterly Forecast <input checked="" type="radio"/> Yearly Forecast							
<input type="radio"/> Overview <input checked="" type="radio"/> Curve Analysis <input type="radio"/> Ranking							
Firms <input checked="" type="radio"/> Standard <input type="radio"/> Custom		Rank <input type="radio"/> All <input type="radio"/> Updated Last 6 Months					
	Spot	As Of	2020	2021	2022	2023	2024
Consensus							
Median	05/06/20		1624.50	1625.00	1586.00	1545.00	1589.00
Mean	05/06/20		1476.84	1524.04	1421.13	1187.50	1589.00
High	05/06/20		1725.00	1925.00	1900.00	1659.00	1698.00

Source: Bloomberg

A similar picture emerges for silver. By the end of the year, a median price of USD 15.80 is expected, followed by a rise to USD 17.00 in 2021 and USD 18.00 in

2022. However, the consensus is no longer really meaningful, because the number of active coverages by banks has been significantly reduced in recent years. **This confirms our hypothesis that silver is as popular with the financial sector as the beginning of spring is with pollen allergy sufferers.**

Bloomberg: Analyst consensus for silver: 2020-2024

Silver \$/t oz		Browse		As Of 05/11/20		Ticker Type Actual			
Quarterly Forecast		Yearly Forecast		Overview		Curve Analysis		Ranking	
Firms		Standard		Custom		Rank All		Updated Last 6 Months	
Consensus	Spot	As Of	2020	2021	2022	2023	2024		
Median		05/06/20	15.81	17.00	18.00	18.00	17.40		
Mean		05/06/20	16.08	17.19	19.42	18.00	17.40		
High		05/06/20	18.58	20.00	30.00	19.00	17.40		
Low		05/06/20	14.68	15.00	14.00	17.00	17.40		

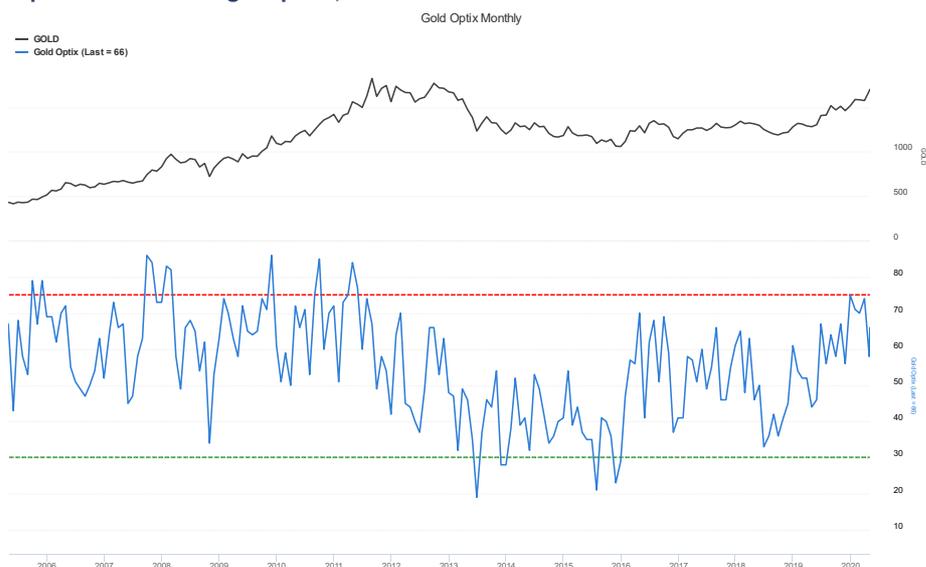
Source: Bloomberg

The combination of still relatively low interest in gold and silver on the part of investors and the lack of price fantasy on the part of analysts is in our opinion an excellent foundation for a continuation of the rally.

One of our favorite sentiment indicators is the SentimenTrader Optix Index. This index shows the most common sentiment indicators as well as data from the futures and options markets. The logic underlying this sentiment barometer is very simple. If public opinion forms a strong consensus, this broad agreement is a good counter-indicator. The market is usually too bullish if prices have already risen (strongly) and too bearish if they have already fallen (strongly).

If the Optix Index rises above the red dotted line at 75 points, it is time to be more cautious. If it is at 30 points or below, however, pessimism is pronounced and the downside risk is limited. Currently, the Optix is trading at 60 and thus in optimistic territory. However, one can also see that in the course of the rally of recent weeks, levels of 75 points have been reached for the first time since 2012. **This confirms our assessment that sentiment towards gold has clearly brightened. For the short term it nevertheless looks as if optimism is already quite high and short-term upside potential is limited. In this respect, a temporary correction would not surprise us.**

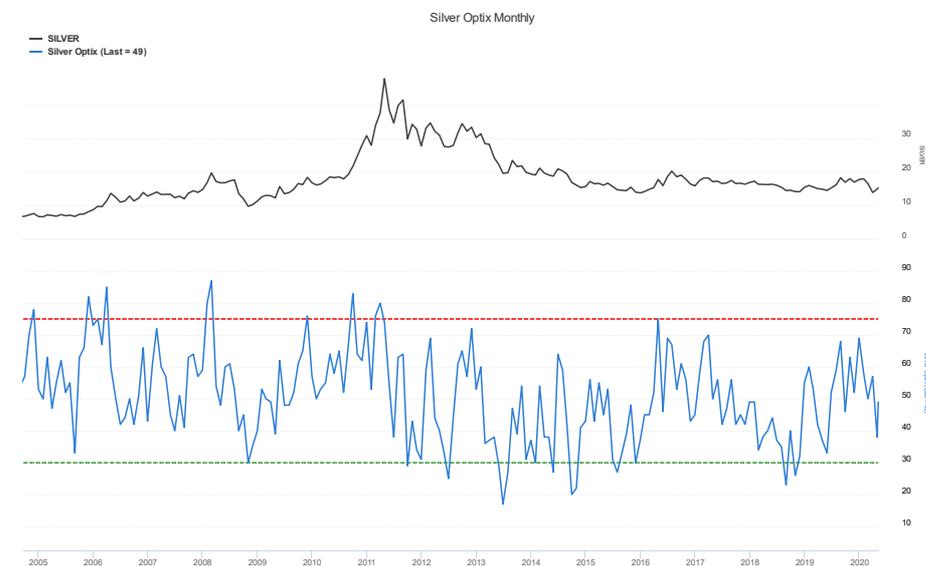
Optix indicator and gold price, 2005-2020



Source: SentimenTrader.com

At Silver, the party doesn't seem to have really started yet, although the guests are slowly arriving. The Optix Index currently stands at 49 and thus shows disinterest. It is interesting to note that the panic low at USD 11.80 in March 2020 did not mark a new sentiment low and thus formed a small positive divergence.

Optix indicator and silver price, 2005-2020



Source: Sentimentrader.com

After having analysed the seasonality of gold and silver in detail in previous years with the help of our colleagues from Seasonax, this year we would like to take ⁴⁴²just a brief look at the seasonal patterns. The following chart shows the annual development of gold in the years of US presidential elections. It is clearly visible that seasonal tailwinds set in from mid-May but are

⁴⁴² See "Technical Analysis", In Gold We Trust report 2018

reversed at the beginning of July. After that, another seasonally strong phase begins in mid-September, but in election years this ends abruptly at the beginning of October.

Seasonality of gold in election years



Source: Seasonax.com⁴⁴³

If we look at the performance of the gold price during Donald Trump’s presidency to date, he is only just behind his Democratic predecessor, Barack Obama (a circumstance that probably does not please him very much). One can also see that the ruling party has had no significant influence on gold price development.

President	Party	Entry into office	Price on assumption of office	End of office	Price at end of office	Performance
Richard Nixon	Republican Party	20.01.1969	42.30 USD	09.08.1974	152 USD	260%
Gerald Ford	Republican Party	09.08.1974	152 USD	20.01.1977	132 USD	-12%
Jimmy Carter	Democratic Party	20.01.1977	132 USD	20.01.1981	563 USD	324%
Ronald Reagan	Republican Party	20.01.1981	563 USD	20.01.1989	404 USD	-28%
George Bush	Republican Party	20.01.1989	404 USD	20.01.1993	328 USD	-18%
Bill Clinton	Democratic Party	20.01.1993	328 USD	20.01.2001	265 USD	-19%
George W. Bush	Republican Party	20.01.2001	265 USD	20.01.2009	835 USD	214%
Barack Obama	Democratic Party	20.01.2009	835 USD	30.11.2016	1,189 USD	42%
Donald Trump	Republican Party	20.01.2017	1,210 USD	???	???	40%

Source: Federal Reserve St. Louis, Incrementum AG

⁴⁴³ The seasonal charts were kindly provided by Dimitri Speck, founder and chief analyst of Seasonax. Use the insights of www.seasonax.com to investigate recurring patterns of different financial instruments (stocks, commodities, (crypto)currencies) and identify investment opportunities even more efficiently.

The Midas Touch Gold Model™

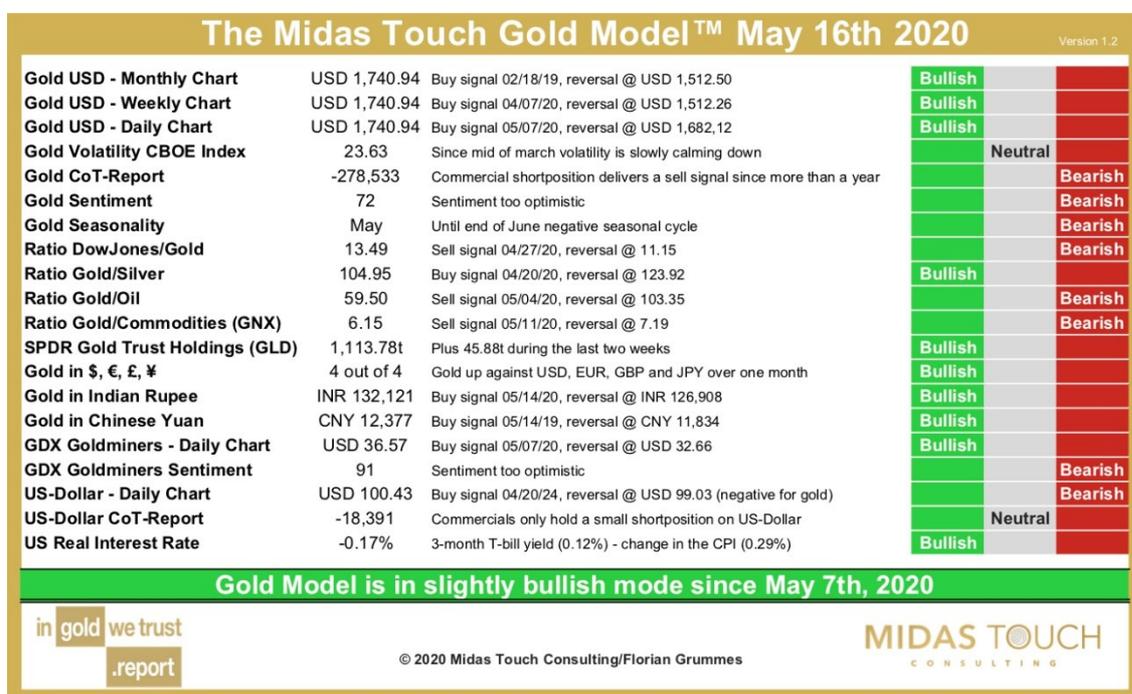
“The beginning of wisdom lies in the definition of conditions.”

Socrates

A rational and holistic approach to analyze the gold market.

As in previous years, we would like to give you a short update on the current status of the Midas Touch Gold Model™ and present a rather short-term outlook by our friend Florian Grummes.⁴⁴⁴

In summary, the strengths of the model lie in its versatility and quantitative measurability, because it carefully examines many different perspectives on the gold market and brings them together conveniently in one table.



Source: Midas Touch Consulting

Since the last heavy sell-off in August 2018, which marked the low point and trend reversal at USD 1,160, the gold price has been in an uptrend. Almost exactly a year ago, the extremely important breakout above the multiyear resistance zone around USD 1,360–1,380 was achieved. Today, just under a year later, the gold price is trading almost USD 400 higher. However, despite the almost two-year rally, there are currently no signs of a top or a major trend reversal. Rather, gold prices should continue to march towards the next resistance levels around USD 1,800 and the all-time high at USD 1,920.

The Midas Touch Gold Model™ clearly confirms this medium to longer-term bullish outlook with its first two components. According to those, gold prices

⁴⁴⁴ We sincerely thank Florian Grummes for this contribution. Florian is the founder and managing director of Midas Touch Consulting (www.midastouch-consulting.com). Our readers can subscribe for free updates and the Midas Touch newsletter at the following link: <http://bit.ly/1EUdt2K>.

would need to drop over USD 230 before the monthly or weekly charts would turn bearish. However, there could still be some delay and a healthy pullback in the coming one to three months. For example, the daily chart would currently turn bearish at prices below USD 1,682.

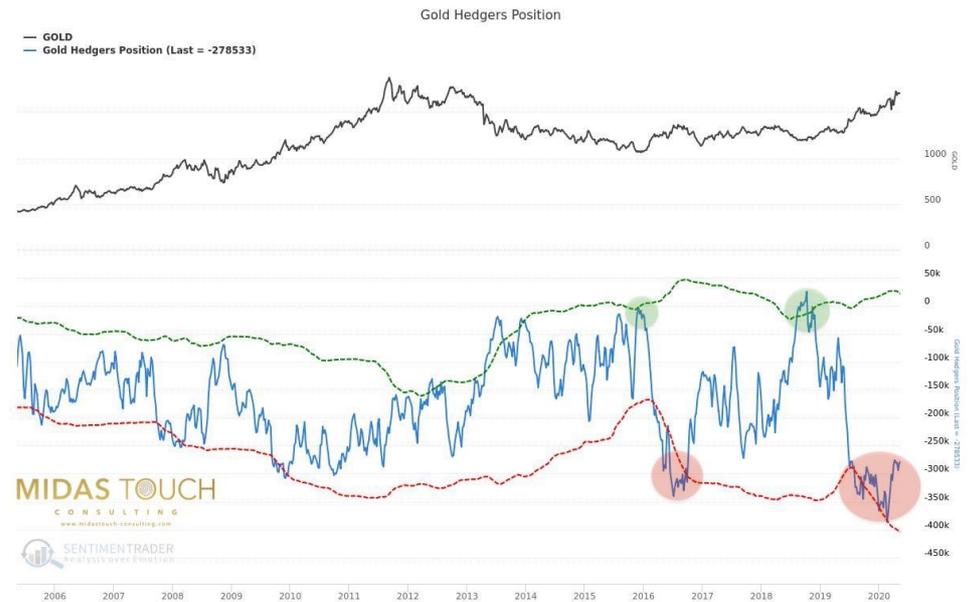


Source: Midas Touch Consulting, Tradingview

After spending many years on Wall Street, making and losing millions, I would like to emphasize the following: I didn't make the big bucks by thinking. It was my persistence. I just didn't let myself get carried away.

Jesse Livermore

The futures market, on the other hand, has been consistently sending out bearish signals for over a year now. The CoT report shows an exorbitantly large commercial short position week after week. Currently, professional market participants such as bullion banks and market makers have cumulatively sold 278,533 futures contracts short. In the past, the gold market was only out of danger once this commercial short position was at least below 100,000 contracts. At the last contrarian bottom in August 2018, the commercial hedgers had even switched to the long side for the first time in 25 years.



Source: Midas Touch Consulting, SentimenTrader

There are certainly many reasons why this large short position has been only slightly covered in recent months. From our point of view, the increasing physical demand (especially from various central banks) in connection with the physical gold exchange in Shanghai might have fundamentally changed the market for some years now. In this respect, the weekly CoT report seems to have become less important for the gold price. If, on the other hand, one applies the presumably no longer valid standards of earlier times, the CoT report continues to send out a dark red sell signal, which would only improve with a significantly reduced commercial short position and thus significantly lower gold prices.

The first principle is that you must not fool yourself – and you are the easiest person to fool.
Richard Feynman

From a seasonal perspective, it would be typical if in May or June gold prices ran out of steam and failed in the zone between USD 1,740 and USD 1,760. Subsequently, weak hands could be shaken off by midsummer with a small but sharp pullback in the direction of the 50-day moving average at USD 1,654. This would clear the overbought situation on the daily chart and presumably also on the weekly chart. Subsequently, gold could rally for several months.

In the very short term, however, the breakout from the four-week consolidation triangle is of course bullish. Gold bulls actually “only” need a weekly closing price above USD 1,760 as a confirmation. In that case the door to USD 1,800 would be wide open. However, as long as this weekly closing price is not achieved, the danger of “getting stuck” remains. In addition, despite the distortions introduced by the coronavirus, gold prices have hardly made any progress at all in the last two and a half months since the interim high at USD 1,689 on February 24, 2020.



Source: Midas Touch Consulting, Tradingview

The Midas Touch Gold Model™ provides another important finding regarding the gold/silver ratio (GSR). This ratio had reached a new all-time high in mid-March at 1:125 and has since come back significantly. Since April 20th the GSR has provided a clear buy signal for silver. A reversal of this bullish signal would only occur if there were a further strong rise of the GSR to 124. As long as

one does not expect another deflationary collapse of global financial markets, a trend change should not occur any time soon. Thus, the chances of a rising silver price are good. Silver is an excellent hedge against inflation and will profit immensely from the slowly recovering global economy.

Technically, since its crash down to USD 11.61 silver was able to recover to its 200-day moving average at USD 16.91 over the last two months. However, the 50-day moving average at USD 14.96 and especially the 200-day moving average are both not yet in bull mode. Hence, one should not immediately expect any huge price jumps in the silver market for the time being. Rather, the overbought situation on the daily chart and the resistance zone between USD 17.00 and USD 18.00 on the weekly chart suggest that a breather is needed before the next leg up.

Overall, gold and silver appear to be targeting significantly higher price regions in the medium and long term. In the short term, however, the potential on the upside should be largely exhausted, so that a continuation of the consolidation at a high level is the most likely scenario until the middle of summer. Typically, before the next major price surge, markets will shake off all weak hands in time with a temporary, albeit sharp, pullback.

In the event of a direct continuation of the rally in the coming weeks, however, investors should still be patient and not blindly chase the moving gold train. Rather, it is more likely that the typical summer pullback will come from a somewhat higher level. Only such a pullback would provide a good risk/reward ratio for new entries or purchases.

Conclusion

“A bubble is a bull market in which the user of the word ‘bubble’ has not fully participated.”

Jim Grant

The public, as a whole, buys at the wrong time and sells at the wrong time.

Charles Dow

Despite some weaknesses, technical analysis is a useful tool for determining the structure and timing of investments. It is always important to understand the “big picture”, not only from fundamental but also from technical perspectives. In our opinion, we have seen a paradigm shift in recent months that heralds a new phase in the bull market for gold.⁴⁴⁵ Bob Farrell, whom we hold in high esteem, described the changed rules of the game as follows:

“Change of a long-term or secular nature is usually gradual enough that it is obscured by the noise caused by short-term volatility... Moreover, in a shift of secular or long-term significance, the markets will be adapting to a new set of rules while most market participants will be playing by the old rules.”

⁴⁴⁵ StockCharts: [Bob Farrell's 10 Rules](#)

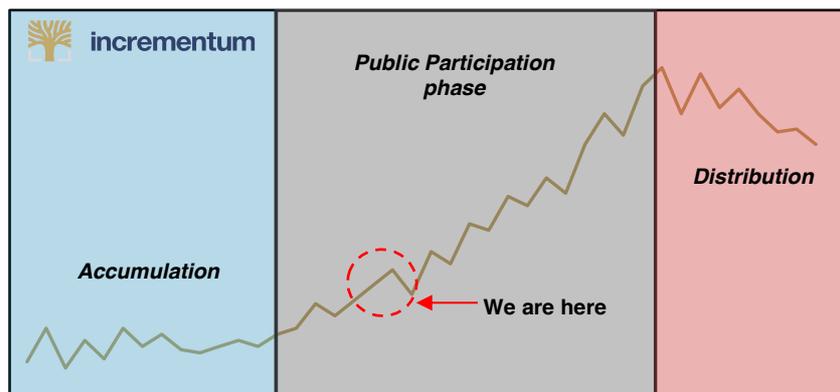
Last year we presented the three trend phases that were formulated by Charles Dow theory, and we concluded that gold's crossing the resistance zone would mark its entry into a new phase.⁴⁴⁶ **Here again are Dow's three phases:**

1) Accumulation phase: In this first phase, the most informed, astute, and contrarian investors buy. If the previous trend was downwards, then clever investors can see at this point that the market has already discounted the "bad news". For gold, this phase lasted from 2013 to June 2019.

2) Participation phase: Prices are starting to rise slowly. Trend followers are showing interest; news is improving; and commentators, the media, etc. are increasingly optimistic. Speculative interest and volume are rising, new products are being launched, and analysts' price targets are being raised. This phase began after gold crossed the resistance in June 2019 and could now last for several years.

3) Distribution phase: During this final, mania phase, the group of informed investors who have accumulated from near the low point begins to reduce their positions. Media and analysts outperform each other in raising their price targets, and the environment is characterized by "this time is different" sentiment.

The three trend phases according to Dow theory



Source: Incrementum AG

I have no real price objective for gold or silver, other than "higher". Which is to say, the bet is that we're witnessing a structural change taking place for the first time in years, in which precious metals outperform (general) equities.

Carter Worth

In our opinion the gold price is currently in the first third of the participation phase. Investor demand will be the dominant factor driving the price, because gold is apparently a *Giffen good*, especially in Western markets. As we expected last year, the break above the resistance level at USD 1,360–1,380 has triggered increased interest from institutional investors.

From the point of view of current market sentiment, seasonality, and the CoT report, we would not be surprised to see a several-week "chill-out" phase at the moment. However, we do not expect a deep correction, as great buying interest appears to be waiting on the sidelines to "buy the dips". The recent rise in the relative strength of silver and mining stocks also gives us confidence. Thus, the conditions for the continuation of the new gold bull market seem excellent from a technical point of view.

⁴⁴⁶ See "Technical Analysis", *In Gold We Trust* report 2019

Bear markets don't have to be scary. Stay Confident with Gold



We're a global alternative asset manager with a defining focus on precious metals.

Gold is the reassurance your investment portfolio needs.

Sprott

Quo vadis, aurum?

“We need to think outside the paradigm of the last forty years if we wish to thrive over the next two decades.”

Chris Cole, Artemis Capital Management

Key Takeaways

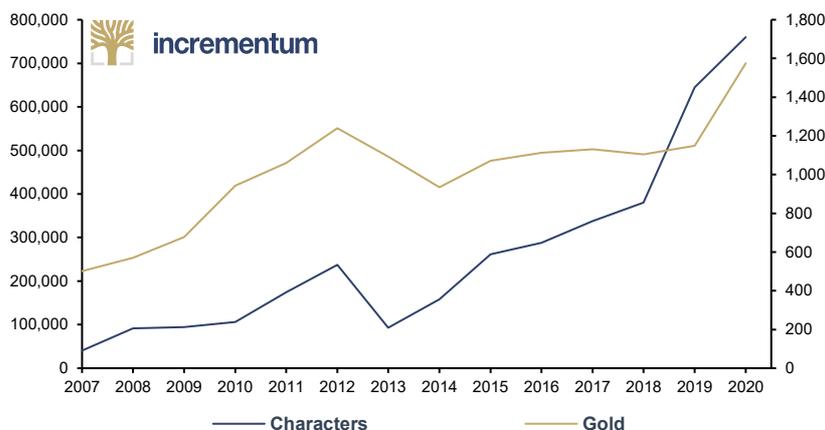
- We are currently experiencing the most pronounced economic contraction in 90 years. As a result of the current crisis, the debt situation threatens to escalate in the course of this decade.
- Portfolios are far less vulnerable to shocks if anti-fragile assets are added. Historically, “crisis-proof” portfolios in challenging investment terrain have in some cases even been able to significantly increase in value.
- Deflationary pressure is now higher than ever before. Central banks are resorting to ever more extreme means to force up the price level. These efforts are threatening to get out of hand and could result in significant monetary devaluation.
- By a conservative calibration, our proprietary valuation model shows a gold price of USD 4,800 at the end of this decade.
- If money supply growth develops in a similar inflationary manner to that of the 1970s, a gold price around USD 8,900 is realistic by 2030.
- Given the unique combination of circumstances, we are convinced that the 2020s will go down in investment history as a golden decade.

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

We would like to start the summary of some pearls of this year's *In Gold We Trust* report and our outlook on the gold price development with a wink. The following chart compares the gold price in euros since our 1st edition in 2007 and the length of the *In Gold We Trust* report (in characters, without spaces). You can see that the correlation is clearly positive: a longer report obviously goes hand in hand with a rising gold price. Of course, this correlation says nothing about any causality. However, if a rising gold price were to causally determine the length of our report, then we would probably have to put in a few extra shifts in the dawning golden decade ahead.

Length of the *In Gold We Trust* reports in characters (lhs), and gold price (rhs), in EUR, 2007-2020



Source: Reuters Eikon, Incrementum AG

Time for investments with substance

Without a doubt, we are currently experiencing one of the most profound economic crises in many decades. However, in the public debate, a crisis is all too often mistakenly equated with a catastrophe. Above all, however, crises are a symptom, a magnifying glass on what already exists:

“They [i.e. crises] enlarge what already exists. Strengths and weaknesses appear strikingly. We discover abilities that lay dormant somewhere, or bounce off barriers that were invisible. Families are affected, as are other social groups, from cities to nations.”⁴⁴⁷

A financial crisis is a great time for professional investors and a horrible time for average ones.

Robert Kiyosaki

Crisis are neither desirable nor pleasant states. Nevertheless, historically they have occurred with regularity, albeit in different forms. And because a crisis is not a catastrophe, it can be a productive state, provided, as Max Frisch once remarked, that it obviates the smack of catastrophe.

⁴⁴⁷ See [“Was uns die Coronakrise über Italien offenbart”](#), (“What the corona crisis reveals to us about Italy”), editorial by Susanna Bastaroli, Die Presse, May 13, 2020

As long as other countries are receiving the benefits of Negative rates, the USA should also accept the 'GIFT'. Big numbers!

**Donald Trump,
Twitter, May 12, 2020**

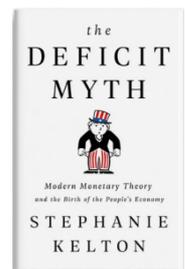
Under Yield Curve Control, the central bank commits to buy whatever amount of bonds the market wants to supply at its target price.

Brookings Institution

MMT has all the markings of being a gold-bug's dream come true – and a true nightmare for people living on fixed incomes.

Grant Williams

- **For the global reserve currency, the US dollar, the introduction of negative interest rates would be a sacrilege.** But even this breach of taboo can no longer be ruled out. Most recently, the federal funds futures have been pricing in negative interest rates for the first time. Yet, Jerome Powell has spoken out against such a move. However, many market participants have not forgotten his 2019 monetary policy U-turn. The rapid change of course at that time towards a further expansion of the Federal Reserve's balance sheet now makes it much more difficult for him to convince the market that the next taboo could not be broken. Ultimately, the expectations of market participants could also contribute to the implementation of such a decision, because in the current fragile market environment the Federal Reserve is afraid of disappointing participants and thus triggering further financial market distortions.
- **In the case of longer-term yields, a so-called *yield curve control* based on the Japanese model would be one of the options.** This is nothing more than a planned-economy price setting in the bond market in order to fix a slightly rising yield curve. This is intended to promote the creation of credit through maturity transactions and to stimulate investment through low long-term interest rates. The increasing sclerotization of the economy would be the inevitable consequence.
- **For more and more decision-makers the ideas of Modern Monetary Theory (MMT), aka *Mugabe Maduro Theory*, are becoming as enticing as the apple in the Garden of Eden.** We have already subjected this theory to an extensive and critical examination in several issues of our *In Gold We Trust* report,⁴⁵⁰ as well as this year. The recently published book by one of the MMT's main representatives, Stephanie Kelton, summarizes in its title the great temptation to incur debt without atonement: *The Deficit Myth*.



Picture credits: www.amazon.com
the Deficit Myth, Stephanie Kelton

Whether the new monetary and fiscal policy measures are implemented in the form of negative interest rates, yield curve control, or MMT, the bottom line is that they are all old wine in new skins. **As so often in history, the financing of an excessive deficit is inevitably be financed by devaluing the currency.**

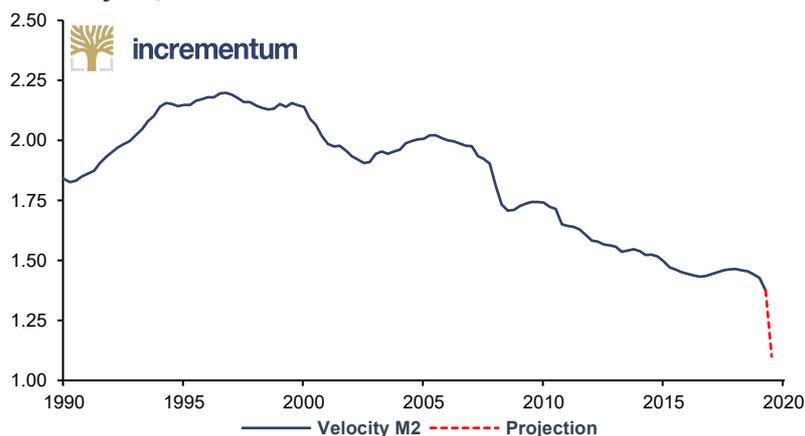
⁴⁵⁰ See "[Inflation and Investment](#)", *In Gold We Trust* report 2016, "[Positioning - The Status Quo of Gold](#)", "[The Status Quo of Gold](#)", *In Gold We Trust* report 2019, p. 37 ff.

Worried about money printing causing inflation? Don't. (Sorry, Milton). Inflation is caused by velocity, which is psychological.

Jim Rickards

But when will inflation (re)appear? Within what we call *monetary tectonics*, the tensions between the two forces of inflation and deflation are currently higher than ever before. In the course of the lockdown caused by Covid-19, the velocity of monetary circulation has fallen significantly. Closed shops, but especially the uncertainty caused by the pandemic, have led to a great decline in consumption and increased savings behavior among a large part of the population. **All this has had a strong deflationary effect – at least temporarily.**

Velocity M2, Q1/1990-Q4/2020e



Source: Federal Reserve St. Louis, Incrementum AG



Courtesy of Hedgeye

The central banks are countering with their gigantic injections of liquidity. **We are therefore firmly convinced that we will soon face a decisive fork in the road: Disinflationary pressures will (have to) be broken.**⁴⁵¹ Forty years ago, it was essential in the US to kill inflation at all costs. Today we are at the other extreme: Falling consumer prices must be prevented – *whatever it takes*. The disinflationary side still seems to have the upper hand. **If all the monetary tricks described above do not have the desired effect, the last resort for central bankers is still helicopter money.**

The time is coming [when] global financial markets stop focusing on how much more medicine they will get (QEs) and instead focus on the fact that it does not work.

Russell Napier

In any case, inflation will be a key issue for investment decisions during this decade. A rising inflation dynamic would be good news for inflation-sensitive investments such as gold, commodities, and mining stocks. On the other hand, leaving the current *low-flation* phase could prove to be a bitter pain-trade for the mass of investors, especially when the 40-year party on the bond markets comes to an end and the traditionally negative correlation between equities and bonds suddenly turns positive.

But already in the current investment environment gold is more than just an insider tip. This is shown by a number of recent publications by traditional investment houses. What they have in common is that they name the increasing intertwining of monetary and fiscal policy, be it through MMT, helicopter money, or the countless QE programs as dangerous inflation drivers. In a recent research report, titled “The Fed Can’t Print Gold”, Bank of America raised

⁴⁵¹ On the complex topic of the transition from a deflationary phase to a (hyper-) inflationary one, we do recommend a video particularly worth watching, by our friend Mike Maloney. In an almost prophetic way it describes the monetary situation of today: Mike Maloney: “Velocity & The Money Illusion - Hidden Secrets Of Money Episode 7”

So higher debt, higher inflation, higher nominal GDP, higher yields, and higher central bank balance sheets. Bondholders beware!

Jim Reid, Deutsche Bank

its 18-month price target to USD 3,000.⁴⁵² Deutsche Bank, too, has come to a similarly critical conclusion as we have in a highly readable study.⁴⁵³

Our central conclusion in this year's *In Gold We Trust* report is that the 2020s will go down in investment history as a golden decade. Not because the Golden Twenties, as the Roaring Twenties are called in Germany, happen to be having their 100th anniversary, but because gold will be the big beneficiary of the current economic, political, and general systemic challenges.

Best of *In Gold We Trust* report 2020

Other key findings of this year's *In Gold We Trust* report, "The Dawning of a Golden Decade", are the following:

- **De-dollarization:** The US dollar may continue to be the undisputed number one on a structural level and on the bottom line, globally. But in addition to the big steps away from the US dollar, such as the introduction of a common European currency or a yuan gold and oil price, there have been a lot of other small steps. The gold reserves of the central banks, which have been considerably increased in some countries in recent years, indicate how many tokens a state has to offer at the negotiating table of a new world monetary order.
- **Gold-covered cryptocurrencies:** The tokenization of gold, which we view positively, continues unabated. There are currently over 70 gold-backed tokens, yet it will take some time before the market leaders emerge. The tokenization of gold, comparable to the securitization of gold, offers a new legal title to the precious metal and should thus further facilitate access to gold in the medium term and create even more demand. The coming year will be decisive in determining which projects will take the lead in this endeavor. In spite of all the excitement in this space, it needs to be mentioned that – analogous to the situation with securitized gold – physical gold in one's own possession ultimately offers the highest level of sovereignty.
- **Financial repression:** After years of agitation against cash for the – pretended – reason of the fight against terrorism and against criminals in general, economic reasons for justifying significant negative interest rates have again come to the fore, even before the outbreak of the coronavirus. The significant increase in public debt caused by the lockdowns and the deep economic slump will further intensify the call for negative rates.
- **Mining stocks:** The four-year bear market has resulted in a large number of mining companies now standing on a more solid foundation. The producers are now leaner, have reduced their debt, and will benefit more from rising gold prices in the future. Mining stocks have historically been highly attractively valued compared to gold and other sectors, and

Until inflation and real interest rates rise from the grave, only a policy of effective deep negative interest rates can do the job.

Kenneth Rogoff

⁴⁵² Vgl. "Gold Forecasts 2020: Bank of America Sees \$3,000/Ounce", Bloomberg, April 21, 2020

⁴⁵³ Vgl. "Long-Term Asset Return Study: The History and Future of Debt", db research, 23. September 2019

appear to be increasingly in the focus of generalists, as few sectors have similarly clear visibility on future cash flows and profits. From a relative perspective, dividend policy could become increasingly important. More companies in the broader market have suspended or cancelled their dividends so far this year than in the previous 10 years combined,⁴⁵⁴ while Yamana Gold (+25%), Newmont Mining (+79%), B2Gold (+100%), and Kirkland Lake (+100%), for example, have recently increased their dividend payments significantly. This is a clear indication of the mining companies' increasing earnings power.

- **Silver:** There has rarely been a better time for the prudent and clever contrarian investor to invest in silver than now. There is some evidence that silver will see stronger price gains than gold, which would push the gold-to-silver ratio down significantly from its historic highs.
- **Technical Analysis:** After the resistance zone at USD 1,360–1,380 was finally breached in June 2019, an impulsive move began that heralded the next phase of the bull market. Our long-term trend and momentum indicators confirm that gold prices are in an intact uptrend. In the short term, however, it looks as if optimism is already quite high and the short-term upside potential is limited. Thus, a temporary correction would not surprise us.



Courtesy of Hedgeye

Quo vadis, aurum?

As gold investors, we are naturally very interested in the question of how the gold price might develop over the course of the coming golden decade. In this year's *In Gold We Trust* report, we have already looked at this question from various perspectives. Finally, we now want to use a proprietary valuation model.

⁴⁵⁴ See "[Companies Are Suspending Dividends At Fastest Pace in Years](#)", Wall Street Journal, April 28, 2020

Adapt or perish, now as ever, is Nature's inexorable imperative.

H.G. Wells

The NEED to own gold, as opposed to the DESIRE to own gold will likely be a feature of the coming decade.

Raoul Pal

The valuation of gold is fundamentally different from the valuation of cash flow-generating assets. The discounted cash flow models commonly used in finance are not applicable to gold. After all, in a fiat money system the price of gold rises in the long term to the same extent as the money supply, because the existing gold supply is almost constant while the money supply is permanently inflated.

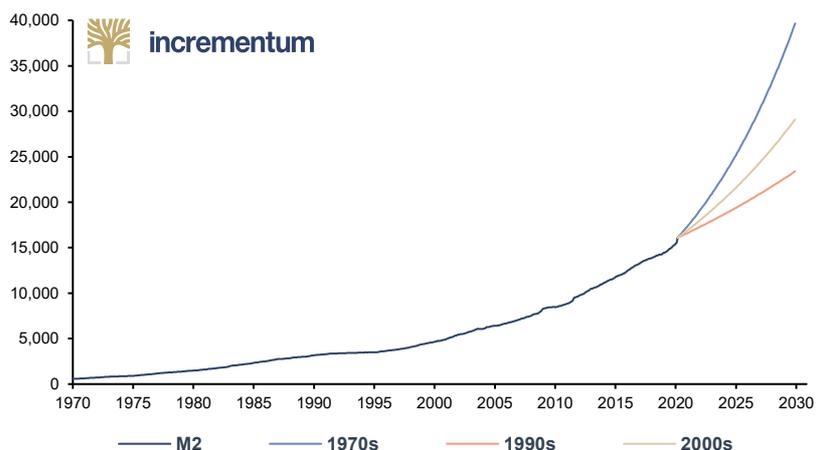
We use two parameters to calculate the price target, namely money supply developments and the implicit gold coverage ratio. Since the US dollar is still the world's reserve currency and has the strongest influence on the price of gold, we analyze the data for the US dollar area and obtain a price target in US dollars.

The future development of the money supply

We have drawn up three scenarios for the growth rate of the money supply in the coming decade. We use the money aggregate M2 because it is less volatile than the narrower monetary aggregates such as the monetary base, MZM, and M1. We have used historical M2 growth rates from different decades as potential growth rates and have provided these scenarios with an estimate of their probability of occurrence.

- **M2 growth rate** in a decade with high growth (1970s): **9.7% p. a.**; probability of occurrence: 15%
- **M2 growth rate** in a decade with low growth (1990s): **3.9% p. a.**; probability of occurrence 5%
- **M2 growth rate** in a decade with average growth (2000s): **6.3% p. a.**; probability of occurrence 80%

M2 scenarios, in USD bn, 01/1970-12/2029



Source: Reuters Eikon, Incrementum AG

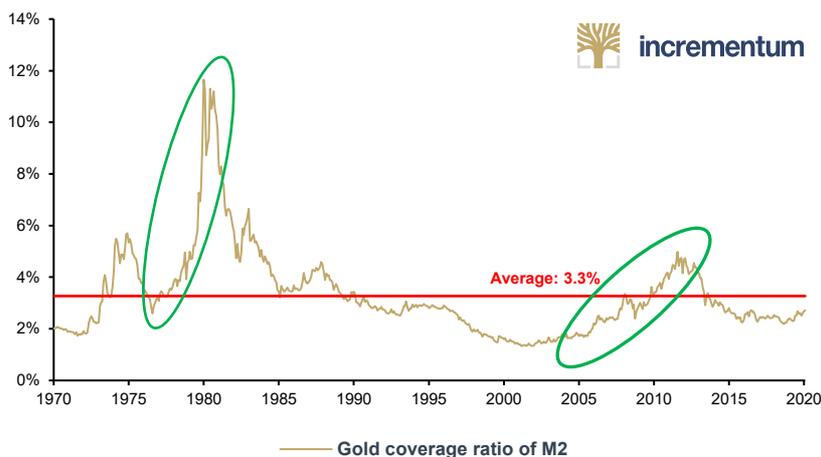
As the supply of gold/silver is relatively fixed, however, higher insurance demand implies higher prices. The bull market in gold and silver is primarily a bull market in financial insurance.

John Butler

The implicit gold coverage ratio

The implicit gold coverage of a currency is calculated by valuing the central bank’s gold reserves at the current gold price and relating them to the money supply. Over the long term, the gold coverage of the money stock M2 moves around 3.3%. **It is noticeable that in times of declining confidence in the monetary system, the gold coverage ratio increases significantly.** This was the case in the stagflationary 1970s and in 2007–2009 during the Great Financial Crisis and the subsequent sharp recession.

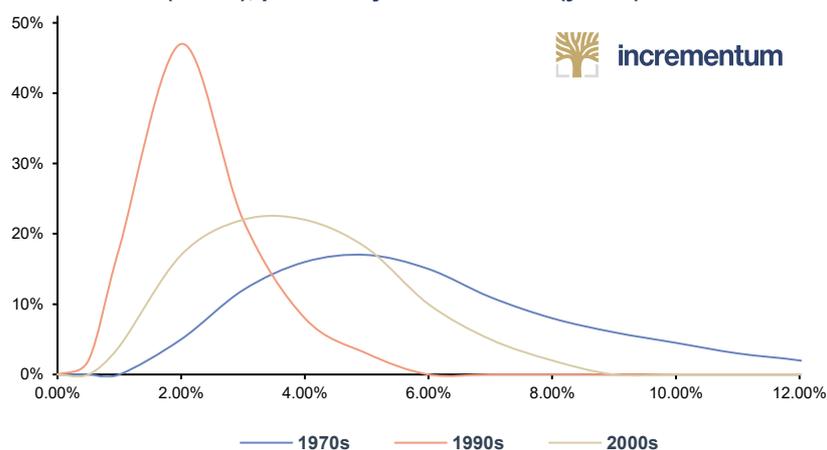
Gold coverage ratio of M2, 01/1970-02/2020



Source: Reuters Eikon, Incrementum AG

For the three growth scenarios for the money stock M2 presented above, we have modelled a distribution function based on historical data.

Smoothed probability function of the scenarios, gold coverage ratio of M2 (x axis), probability of occurrence (y axis)

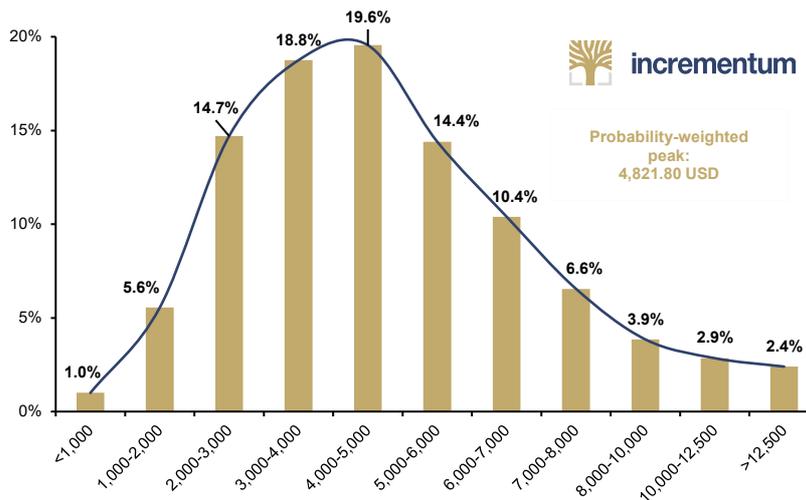


Source: Incrementum AG

If we now calculate a cumulative distribution function across all scenarios, the following picture emerges:

- **Our expectation for the gold price at the end of the decade is around USD 4,800.**
- **The distribution is clearly skewed to the right.** This means that significantly higher prices are far more likely than lower ones.

Approximated gold price in 2030 by distribution probability, in USD



Of course, quantitative models of this kind always have a certain degree of fuzziness. However, we believe that we have taken a conservative approach to calibrating the scenarios. Not least because of the unique global debt situation described in detail in this year's *In Gold We Trust* report, growth figures for M2 in the decade that has just begun are not implausible at the same level as in the 1970s. **In this case the model suggests a gold price of USD 8,900 by 2030.**

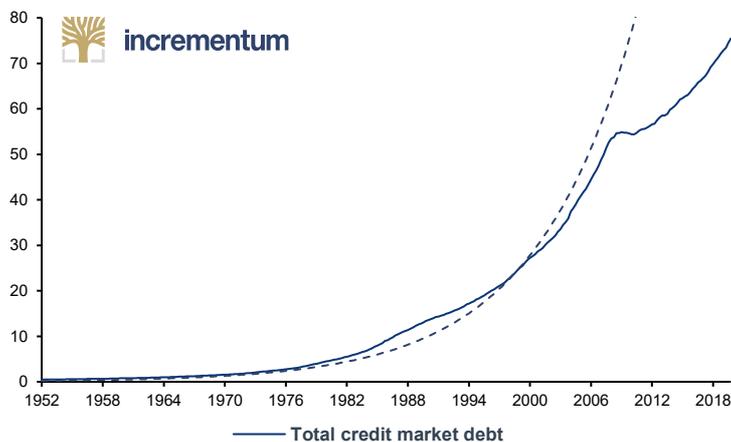
Let's Trust in Gold

The next bull market is in...SIMPLICITY.
Dave Rosenberg

As you have gathered from our comprehensive report, we expect significant upheavals in the new decade with positive effects on the gold price. What is the reason for our unbroken trust in gold? First and foremost, our fondness for gold is based on our understanding of monetary history. Milton Friedman put it aptly when he said that there is nothing more permanent than a temporary government program. Richard Nixon's announcement in 1971 that gold convertibility would be *temporarily* suspended turned out to be a seemingly permanent provisional solution. This temporary solution has now lasted for almost half a century.

We never tire of pointing out and documenting the systemic problems which the step ultimately caused.⁴⁵⁵ Perhaps the unsustainability of the system can best be summarized in the following chart.

Total credit market debt, in USD tn, and exponential function, Q1/1952-Q4/2019



Source: Reuters Eikon, Incrementum AG

If something cannot go on forever, it won't.

Herbert Stein

Prepare for the worst; expect the best; and take what comes.

Oscar Wilde

Total debt is clearly following an exponential growth path. Particularly in times of a pandemic, there should be a heightened sensitivity to exponential functions. Nevertheless, the sustainability of the debt-based monetary system is not questioned by the conventional media. In our view, the uncovered monetary system in its current form has an expiry date.

Due to the expected economic and monetary turbulences, the coming years will hold many challenges for investors. We look forward to continuing to analyse the circumstances for you and to sharing our thoughts on further developments with you. Together we will be able to master these challenges. **At “The Dawning of a Golden Decade” we still say:**

IN GOLD WE TRUST

⁴⁵⁵ See more infos on the consequences of 1971 at [WTF Happened In 1971?](#)

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*. Moreover, he is an advisor for *Tudor Gold Corp.* (TUD), a significant explorer in British Columbia's Golden Triangle, and a member of the advisory board of *Affinity Metals* (AFF).

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 *philoro 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



Incrementum AG is a boutique investment and asset management company based in Liechtenstein. Independence and self-reliance are the cornerstones of our philosophy, which is why the five partners own 100% of the company. Prior to setting up Incrementum, we all worked in the investment and finance industry for years in places like Frankfurt, Madrid, Toronto, Geneva, Zurich, and Vienna.

We are very concerned about the economic developments in recent years, especially with respect to the global rise in debt and extreme monetary measures taken by central banks. We are reluctant to believe that the basis of today's economy, i.e. the uncovered credit money system, is sustainable. This means that particularly when it comes to investments, acting parties should look beyond the horizon of the current monetary system. Our clients appreciate the unbiased illustration and communication of our publications. **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.**

We would like to thank the following people for their outstanding support in creating the *In Gold We Trust* report 2020:

Gregor Hochreiter, Richard Knirsch, Jeannine Grassinger, Stefan Thume, Florian Hulan, Jason Nutter, Theresa Kammel, Philip Mastny, Alma Mischu, Nina Crocoll, Andreas Merkle, Thomas Vesely, Brent Johnson, Fabian Grummes, Niko Jilch, Florian Grummes, Jochen Staiger, Heinz Blasnik, Hans Fredrik Hansen, Maik Enders, Julien Desrosiers, Iustin Rosioara, Chris Marchese, Emil Kalinowski, Elizabeth and Charley Sweet, Brian Bosse and the entire team of Murenbeeld & Co, Markus Hofstädter, Jochen Staiger, Tea Muratovic, Richard Zeiss, Match-Maker Ventures, Harald Steinbichler, David Schrottenbaum, Baker Steel Capital managers, Offroad Communication, Terry Heymann and our friends at the World Gold Council, the whole wonderful team at Incrementum and of course our families!

The *In Gold We Trust*-Report Team



Gregor Hochreiter
Editor-in-chief



Richard Knirsch
Quantitative analysis &
Charts



Jeannine Grassinger
Assistant



Stefan Thume
Webdesign & Media



Heinz Blasnik
Contributor



Julien Desrosiers
Contributor



Fabian Grummes
Contributor



Florian Grummes
Contributor



Niko Jilch
Contributor



Emil Kalinowski
Contributor



Theresa Kammel
Contributor



Chris Marchese
Contributor



Philip Mastny
Social Media



Alma Mischu
Layout



Jason Nutter
Representative Asia &
Contributor



Charley Sweet
Proofreading

Contact

Incrementum AG
Im Alten Riet 102
9494 – Schaan/Liechtenstein

www.incrementum.li

www.ingoldwetrust.li

Email: ingoldwetrust@incrementum.li

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Company Descriptions



Agnico Eagle

Agnico Eagle is a senior Canadian gold mining company that has produced precious metals since 1957.

www.agnicoeagle.com



EMX Royalty Corp

EMX Royalty has a 17 year track record of success in royalty generation, royalty acquisition, and strategic investments. With USD 50mn in the bank and 60 royalties, EMX is on the cusp for a revaluation.

www.emxroyalty.com



Endeavour Silver

Endeavour Silver is a mid-tier precious metals mining company listed on the NYSE (EXX) and TSX (EDR). We own three high-grade, underground, silver-gold mines in Mexico that produced 7.1mn oz. of Ag Eq in 2019.

www.edrsilver.com



Hecla Mining Company

Hecla Mining Company (NYSE:HL) is the largest primary silver producer in the U.S. and the 5th largest gold producer in Quebec. Hecla is also the third largest U.S. producer of both zinc and lead.

www.hecla-mining.com



Matterhorn Asset Management AG

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.

www.goldswitzerland.com



McEwen Mining

McEwen Mining's goal is to create a profitable gold and silver producer focused in the Americas.

www.mcewenmining.com



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Internationally renowned for its precious metal processing, Münze Österreich AG produces Austria's circulation coins, Vienna Philharmonic bullion coins in gold, platinum and silver, and gold bars.

www.muenzeoesterreich.at



New Zealand Bullion Depository

Our mission is to provide the best in gold bullion storage with unparalleled service and discretion. Your gold is allocated, segregated and secured in our New Zealand facility giving you peace of mind.

www.nzbd.com



Novo Resources Corp

Novo's Resources focus is to explore and develop gold projects in the Pilbara region of Western Australia. Novo has amassed a significant land package covering approximately 13,000 sq. km.

www.novoresources.com



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SolGold

SolGold (LSE/TSX:SOLG) is a leading exploration company focussed on the discovery and definition of world-class copper-gold deposits along the under explored section of the Andean Copper Belt in Ecuador.

www.solgold.com.au



Solit

As a leading precious metal trading company, the SOLIT Group offers precious metal savings plans, safe storage concepts and asset-based investment funds focusing on gold and silver.

www.solit-kapital.de



Sprott

Sprott Inc. is a global asset manager providing investors with access to highly-differentiated precious metals and real assets investment strategies.

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Tudor Gold

Tudor Gold Corp. is a Junior Exploration company in the prolific Golden Triangle in B.C., Canada. Tudor's Treaty Creek Project borders to Seabridge Gold's KSM property and Pretium Resources's VOK-project.

www.tudor-gold.com



Victoria Gold Corp

Victoria Gold's Eagle Mine is in operation and in full production will produce +210,000 oz Au/yr @ AISC<US\$800/oz Au. Reserve: 3.3Moz Au. LOM: 11 yrs. Priority exploration targets: Nugget-Raven & Lynx.

www.vitgoldcorp.com



Ximen Mining Corp

Ximen Mining Corp. is a Canadian publicly traded gold and exploration company focused on being the next significant high-grade gold producer in southern British Columbia.

www.ximenminingcorp.com

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