



January 2022

Dear Investor,

The year 2020 will long be remembered in the national narrative as the year the Covid-19 pandemic hit, and at the same time it will be remembered in the financial markets as the year interest rates and long-term yields in the U.S. fell to the lowest levels since North America was settled by Europeans. Although short-term interest rates hovered near zero following the financial crisis, the decade after 2008 featured bond yields which were still within the range of historical experience. The arrival of the pandemic changed all that, and caused a phase shift to a new regime of ultra-low bond yields. Since that shift, the financial markets and the federal government have leveraged themselves as never before to ultra-low bond yields – the effects of which the year 2021 will long be remembered for in the annals of market history.

In the annals of economic history, 2021 will also likely be remembered as the moment when monetary expansion and fiscal deficits started to have a real, visible impact on prices and policy. In our last three annual letters, one of the main themes in the discussions has been what happens when monetary policy loses its independence. And in last year's annual letter, we discussed why there was no longer an alternative to higher inflation, and also why there was no longer any pain-free way for monetary policy prevent inflation from spiraling higher than intended. The first, early seeds of these issues were sown long ago under the reign of Federal Reserve Chair Alan Greenspan, and they sprouted up from under the monetary soil in 2021. As inflation grew to the highest rate in decades, the Federal Reserve remained unable to adequately respond without sacrificing stability in the financial markets and the progress it sought on its employment mandate.

As disorienting as these circumstances may seem, they are not unique. In fact, in some ways they are as old as central banking itself. This year's annual letter will begin with a true tale from three centuries ago, which has particular relevance today. In the context of this earliest example of the impacts of quantitative easing, today's markets are placed in more vivid relief. We'll then discuss the market outlook, and what a portfolio of real value looks like amid unprecedented risk asset valuations, ultra-low bond yields, and the Federal Reserve's *Third Great Mistake*.

In this year's annual letter:

- The Dawn of Quantitative Easing, and the Boom and Bust at Rue Quincampoix
- An Exuberance All Too Familiar Amid a Modern Monetary Bubble
- A Summary of the Markets
- A Portfolio Focused on Undervalued Real Assets and Equity Markets

The Dawn of Quantitative Easing, and the Boom and Bust at Rue Quincampoix

The end of the month of December, 1719, was the term of this delusion of three months. A certain number of stockjobbers, better advised than others, or more impatient to enter upon the enjoyment of their riches, combined to dispose of their shares. They took advantage of the rage which led so many to sell their estates – they purchased them, and thus obtained the real for the imaginary.

They established themselves in splendid mansions, upon magnificent domains, and made a display of their fortunes. They possessed themselves of precious stones and jewels, which were still eagerly offered, and secured solid value in exchange for the semblance of it, which had become so prized by the crowd of dupes. The first effect of this desire to realize was a general increase in the price of everything...

- Adolphe Thiers

In the late summer of 1719, John Law finally achieved what he had long been striving for. With the creation of a flexible currency through the *Banque Royale*, and its widespread acceptance by the public, he had sparked an explosion of economic opportunity in France and its territories in the New World. Expanding industry and trade, along with the blooming prosperity spreading through the streets of Paris, was precisely the result Law had foreseen when he first proposed the idea of removing the monetary shackles of gold and silver fifteen years earlier, in his native Scotland.

In December 1704, after years of poor harvests and trade deficits with England, the fledgling Bank of Scotland had run out of gold and silver to redeem its paper notes – and was forced to close its doors. After the bank remained closed through the following spring, leaving farms and workers idle, the Scottish Parliament considered a proposal from Law which would create banknotes based on the value of land, so the Scottish economy would no longer be dependent on the supply gold and silver in the bank's vaults. Since gold and silver were prone to unpredictable fits of migration across Scotland's borders, Law felt the value of Scotland's land would prove a far more stable asset base for trade and commerce, a view he outlined in a book published that year, *Money and Trade Considered*.

Yet members of the Scottish Parliament were skeptical about basing the value of currency on anything other than gold and silver, which had for centuries been a reliable store of value. Any other foundation for money seemed speculative. After debating the proposal, they rejected Law's plan.

In the years that followed, Law crossed the English Channel and roamed throughout the Continent, searching for a government more receptive to his monetary ideas. He lived in Brussels for a time, traveled throughout the Netherlands, Germany, and France, and then eventually settled in Genoa, Italy. There he earned his living in gaming rooms not far from the esteemed Genoese banking houses, and he proposed plans for new banking institutions to many he met. However, despite Law's claims about the prosperity that awaited those who unleashed their economies from the monetary governor of gold and silver, none of the princes and kings he spoke with throughout Europe were interested in abandoning the stable foundation of their money.

Then, in September 1715, King Louis XIV died, and the new Regent of France found himself in charge of a government that was effectively bankrupt after the King's opulent 72-year reign: Louis XIV left

France with 2,818 million livres (mL) of debt. The debt was composed of 1,068mL of perpetual annuities, 830mL of official offices that had been purchased by the nobility, and 920mL of floating rate debt. The annuities and sold offices required 86.5mL a year in payments, and the floating rate debt required another 40mL per year – for a total of 126.5mL a year in interest payments. However, the government was only taking in 166mL in taxes, and 71mL of that income was consumed by other spending – leaving a primary surplus of only 95mL to cover 126.5mL in annual interest payments.

It was clearly an unsustainable and precarious fiscal situation, and there were no readily apparent solutions. Raising taxes or cutting spending in the amounts required to close the 31.5mL annual deficit would likely result in unmitigated chaos throughout France, and a default would likely result in an open revolt by the nobility, to whom most of France's debt was owed. Memories of the noble's revolt during *La Fronde* decades before were still fresh, which had been sparked by an increase in taxes on the noble's privileged interests.

John Law's monetary ideas had evolved since his appearance before the Scottish Parliament in 1704, and the Regent was aware of Law's banking proposals floating around Genoa; the Regent and Law had first met in 1702, when the Regent was still the *duc de Chartres*. By 1715, Law wanted to establish a bank, modeled on the Bank of Amsterdam, which would issue currency backed by gold and silver while also handling the government's debt service. Louis XIV had rejected the idea before his death, as he felt any currency in place of gold and silver coin to be questionable. But the Regent, desperate for creative solutions, summoned Law to court again – and this time Law found a receptive audience.

The Regent permitted Law to establish a private bank in May 1716, the *Banque Générale*. The bank would take in gold and silver as deposits, and issue paper notes which would be redeemable in coin on demand. The notes would be 100% backed by the gold and silver in the bank's vaults. The bank would be initially capitalized by selling 1200 shares at 5000 livres each, which could be purchased by investors with a combination of cash and government debt. Law bought a quarter of the shares, and the Regent bought nearly a quarter in the name of the young King, which established the bank with capital of 75% government bonds and 25% gold and silver coin.

Since the bank's notes represented a legal claim on gold livres held securely in the bank, those who accepted the notes in public transactions no longer had to worry whether coins they accepted as payment were counterfeit – which was always a risk with coin transactions. As a result of this key advantage, which had been at the foundation of the Bank of Amsterdam's success over the prior century, the notes quickly became a preferred method of payment.

Along with the security of being fully backed by gold and silver, the Regent's actions also made the bank's notes and shares more attractive. He ordered a recoinage, which reduced the amount of gold in every livre-denominated coin by 20%. Then, in a series of partial defaults, the Regent reduced the value of certain government bonds in October 1715, reduced the payments to sold offices in January 1716, on floating rate debt in April, and on annuities in June. This reduced the government's debt service payments by 7mL a year. The Regent then converted the government's floating rate debt to bearer notes (*billets d'Etat*), which came with a 4% interest rate, no defined redemption date, and no

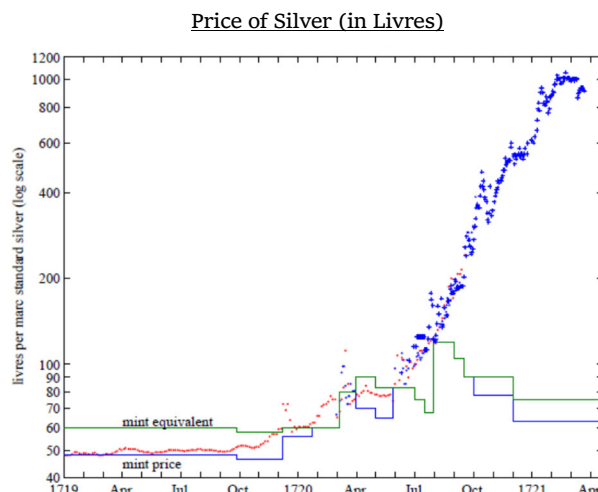
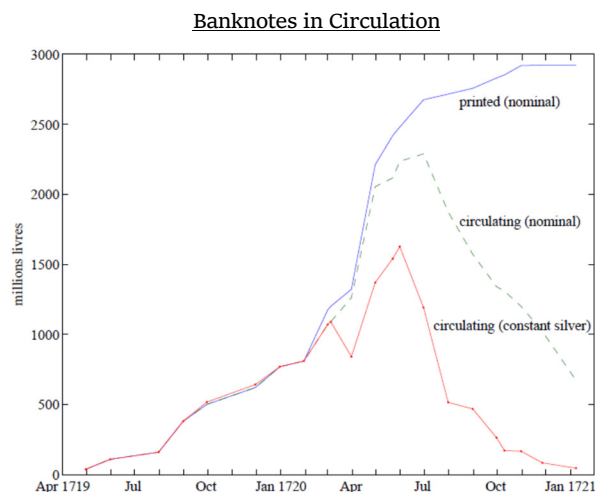
specific backing. The bearer notes traded at 36% of their face value in mid-1716 after they were issued with such weak backing – but they could be used to purchase shares of the *Banque Générale* at par value. As a result, the bank's 1200 shares were quickly subscribed, and gold and silver coin, along with *billets d'Etat*, flooded into the *Banque Générale*'s vaults and exchanged for bank notes and shares.

As the bank's deposits increased, so did the volume of paper livres circulating throughout France. The *Banque Générale* issued 40-50 million livres of bank notes annually between 1716 and 1718, and they quickly began to displace coin for official business. In October 1716, tax collectors were required to take the notes as payment, and in April 1717 the notes became required to pay all taxes. Then in September 1717, the royal accountants began keeping all government records and receipts, and made all payments, in paper livres issued by the bank.

By 1718, the bank had been so successful in transforming France's financial infrastructure that the Regent and Law decided to nationalize it by buying out all shareholders in the name of the King. Existing shareholders were bought out at the par value of 5000L per share. For shareholders who paid for their shares with gold and discounted *billets d'Etat* in 1715, their total return, including dividends, came to 115% on their investment in only three years – a rate of return almost unheard of at the time. This established Law's reputation as someone to bet on.

When all the outstanding shares had been purchased in the name of the King by December 1718, the *Banque Générale* officially became the *Banque Royale*. For the first time, the Regent found himself with a printing press at the government's disposal, and the presses set to work almost immediately. While the *Banque Générale* had issued banknotes at a rate of 40-50mL per year leading up to 1719, the *Banque Royale* began by issuing that many banknotes in its first month – and the pace accelerated from there.

In April 1719, the *Banque Royale* issued 28mL in 1000L denominated notes, along with 10mL in 100L notes – for a total of 38mL. The following month, the bank issued 109.9mL in notes. By September, the rate of new note issuance had reached 500.6mL, and in December the bank issued 769mL in new notes, including 332.9mL in new 10,000-livre denominated notes. By the end of 1719, the value of paper banknotes circulating throughout France had climbed 20-fold to nearly one billion livres.



There was critical, but little noticed change which allowed the expansion of the supply of paper banknotes in 1719. One of the main reasons the notes of the *Banque Générale* had gained widespread acceptance was that they could be redeemed for a specified amount of gold or silver livres: printed on every banknote was a guarantee that it could be brought into the bank and converted in coin. For example, a 500L note issued from the *Banque Générale* in 1718 read “*the Bank promises to pay on sight to the bearer 100 écus of the weight and fineness of this day,*” the *écus* being a specific amount of silver. With that guarantee, the public confidently deposited their gold and silver into the vaults of the *Banque Générale*, knowing the notes they received in exchange were convertible any time they chose.

The notes of the *Banque Royale*, however, contained a guarantee that they were legal tender for their denominated number of livres, but there was no guarantee that they could be converted into a specific amount of gold or silver. Those holding the notes were thus in possession of a commitment from the King that they would be accepted as payment, but no guarantee of their real value in gold and silver.

The public hardly noticed. By 1719, banknotes had replaced coins in nearly all everyday transactions, from buying bread to paying taxes. In addition, the value of shares in Law’s newest venture were traded in banknotes as well – and the public was clamoring for part of the action.

In the wake of the successful launch of the *Banque Générale*, Law had formed a private trading company in 1717, the *Compagnie d’Occident* (Company of the West), to develop the Mississippi territory in North America. The French colony of Louisiana, representing 41% of the present-day continental United States, and named after the late Louis XIV, had been a French colony for forty years. Yet in 1717 only 500 Europeans lived in the entire territory, and it had never been developed enough to return any profit to France. Law acquired a monopoly for the Company of the West to develop and trade with the territory, and he set to work putting his plan into action.

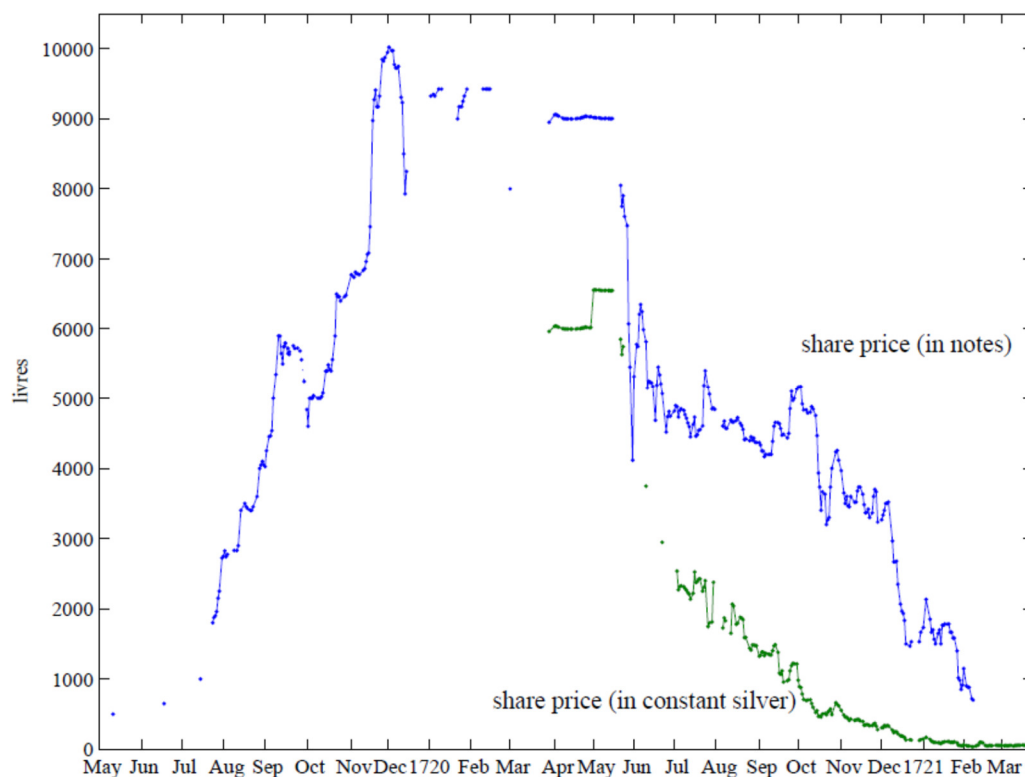
An IPO was opened on September 14, 1717 to attract capital for the development of Louisiana and other ventures Law wanted the Company to pursue. Unlike the launch of the *Banque Générale*, investors could buy shares solely with government debt, *billets d’Etat*. Subscriptions for the shares were slow, however, and over the first two weeks only 28mL of the 100mL IPO was purchased – and 13.3mL had been purchased by Law himself. In June 1718, a payment option was introduced where investors could put 20% down and pay the rest within five months, and this stimulated just enough demand to sell all 100mL of the shares by the end of 1718.

However, the tepid initial demand for the shares in 1718 surged dramatically in 1719. In the spring and early summer, Law had announced a series of mergers and new businesses for the Company of the West. He first moved to combine the trading operations with two other existing French trading companies, the *Compagnie des Indes Orientales*, and the *Compagnie de Chine*. He set an additional share offering to recapitalize those companies under the Company of the West, and to begin building a fleet of long-haul, 500-ton vessels. The initial shares of the Company of the West were offered at 490 livres throughout 1718, but Law offered the new shares at 550 livres in May of 1719, and the new offering was not only fully subscribed, but the shares were immediately bid up to 600 livres on *rue Quincampoix*.

In the early months of 1719, a secondary market for Company of the West shares had sprung up on *rue Quincampoix*, a small, narrow street on the right bank in Paris, where the *Banque Royale* was headquartered. Traders had begun inundating the street during the day while waiting for news to come out of the bank, buying or selling their Company shares in response to any perceived change in the Company's fortunes. Rents for space along the street soared, as merchants established trading houses, shops, and cafes to capitalize on the traders' growing exuberance.

Yet the growing frenzy for the shares was not fueled primarily by Law's acquisition announcements that spring, but by the growing monetary flood from the *Banque Royale*. There had been four banknote issues in the first four months of the year, on January 10, February 15, and the 1st and 28th of April; a total of 110 livres of new banknotes had been issued by the *Banque Royale* in just four months. Then on May 7, Law announced another devaluation of the gold livre coin, which induced a new surge in demand for more banknotes, and the *Banque Royale's* printing press responded.

Yet the monetary-fueled rise to 600 livres a share in May was just the beginning. In July, Law announced the Company of the West was taking over trade with Africa, and also operation of the Royal Mints. These announcements were coupled with 50 mL of new banknotes from the *Banque Royale* in July, and the shares of the Company of the West surged above 1000 livres on July 21. The bank then issued another 220mL in new banknotes in August, 120mL in September, 120mL in October and November, and 148mL in December. As the new notes flooded out into the *rue Quincampoix*, Company of the West shares soared. By the end of 1719, the *Banque Royale* had issued 810 mL in banknotes, and the Company of the West was valued more than the entire French economy.



The 20-fold surge of Company of the West shares to 10,000 livres in 1719 was fueled by a 20-fold increase in the supply of *Banque Royale* notes, and the shares were not the only price rising in France. Property prices had risen so high that rental yields in Paris fell to just 2%, and even wealthy citizens in Paris and throughout the rest of France found themselves no longer able to afford a home. The cost of basic commodities were rising as well. The price of meat and grain surged, and the exchange rate of the livre with other currencies throughout Europe began to decline – making foreign imports more expensive. Throughout France it was becoming increasingly difficult to meet daily expenses.

The end of the boom arrived when the first trickle out of banknotes back to gold and silver began. Law had announced a series of decrees in 1719 that progressively restricted the use of gold and silver to small transactions, and by December 1719, it was illegal to make a payment larger than 300 livres in gold or 10 livres in silver. In February 1720, as the supply of banknotes reached 1 billion livres, it was made illegal to own more than 500L in gold, in any form. Then in April, when the money supply had doubled again to 2 billion livres, all gold and silver clauses in contracts were voided by royal decree.

By that time, however, the price of gold and silver had begun rising as Parisians began to sell their Company of the West shares and paper banknotes for any portable real asset. Law found himself having to issue more and more banknotes just to keep the share price of the Company of the West aloft and confidence in the notes intact, but once the first cracks in sentiment began to widen, no amount of new banknotes or decrees were enough stem the exodus back into real assets.

There was a run on the *Banque Royale* on the last day of November 1719, and the next day Law had been forced to issue a decree that all public payments were to be made in banknotes – not gold and silver. This ended the run on the bank on December 1st, but the event proved to be an awakening. The price of gold and silver continued to trend higher through early 1720, with a marc of silver reaching 80 livres. This was only a modest increase from the 50 livres a marc of silver had traded at throughout the 20-fold expansion of the *Banque Royale's* money supply in 1719, but as panic set in, the price of gold and silver began to rapidly catch up to the expanded supply of paper livres.

Law then realized that in order to restore confidence in the notes of the *Banque Royale*, he would have to shrink the supply of banknotes and devalue the shares of the Company of the West to bring them in line with the supply of gold and silver. When the supply of notes from the *Banque Royale* had climbed to 2.2 billion livres in May, it was more than twice Law's estimate of the value of gold and silver in France. He issued a decree on May 21, 1720, announcing a steady reduction in the value of the Company of the West shares from the then current 9000 livres a share to 5000 livres by the end of the year, along with a concurrent reduction in the supply of *Banque Royale* notes. In Law's rational mind, this would restore the balance between paper assets and real assets to a more sustainable equilibrium.

The impact of the decree on the *rue Quincampoix*, however, was anything but rational or stable. Panicked Parisians rushed to convert their banknotes into gold and silver, and they sold every asset that was denominated in banknotes to do so – including Company of West shares. When the *Banque*

Royale was slow to open a few days later on May 25th, an angry mob threw stones at the windows of the bank until it did. There were few bids for Company of the West shares on *rue Quincampoix*, but what transactions did take place occurred at prices below 5000 livres a share – half what they traded at prior to May 21. Shareholders were furious at losing half their wealth. Rumors then abounded that the *Banque Royale* did not have *any* more gold and silver to exchange for banknotes, and the bank was closed on May 31 so an inspector could examine the books. The inspector assured the public that the bank was in decent shape and that there was “plenty” gold and silver to continue redemptions of banknotes, but when the bank was reopened, the panicked redemptions resumed.

To quell the panic, a new edict was issued on June 1st that permitted citizens to own as much gold and silver as they desired, reversing the restrictions that had been put in place beginning in 1719. Over the next six months, banknotes were abandoned wholesale for the safety and security of gold and silver, and assets denominated in banknotes lost nearly all of their real value; the price of a marc of silver climbed from 80 livres in April to over 1000 livres in early 1721, and shares of the Company of the West fell back below 1000 livres per share.

By the end of 1721, *rue Quincampoix* had returned to the quiet street it was before the boom, as the day traders outside the *Banque Royale* had all but disappeared. Law had fled back to Italy. In Louisiana, another 500 settlers had arrived at the end of 1720, some of them against their will, which brought the total number of Europeans in the territory to 1000. However, the Company of the West never realized a profit from Louisiana before the boom in the shares had turned into a bust.

The scene on rue Quincampoix outside the Banque Royale in Paris in 1720, during the first stock market crash in history.



An Exuberance All Too Familiar Amid a Modern Monetary Bubble

Go long a company that sounds like something Elon Musk mentioned in a tweet (but wasn't)? Signal Advance Inc. just soared 12-fold. Lend money to a software maker to buy Bitcoin? A Microstrategy Inc. convertible bond is up 50% in four weeks. Back up the truck on bullish options after the Nasdaq 100 doubled in 24 months? Wednesday was the fourth-busiest day ever for call trading in the U.S. (the other three were last year).

Throw a dart, hit a winner, so it has lately seemed. Emboldened by Federal Reserve stimulus, vaccines and the psychological conditioning that arises when no bad patch lasts, everyone from retail newbies to institutional managers is rushing to cash in...

- Bloomberg, January 2021

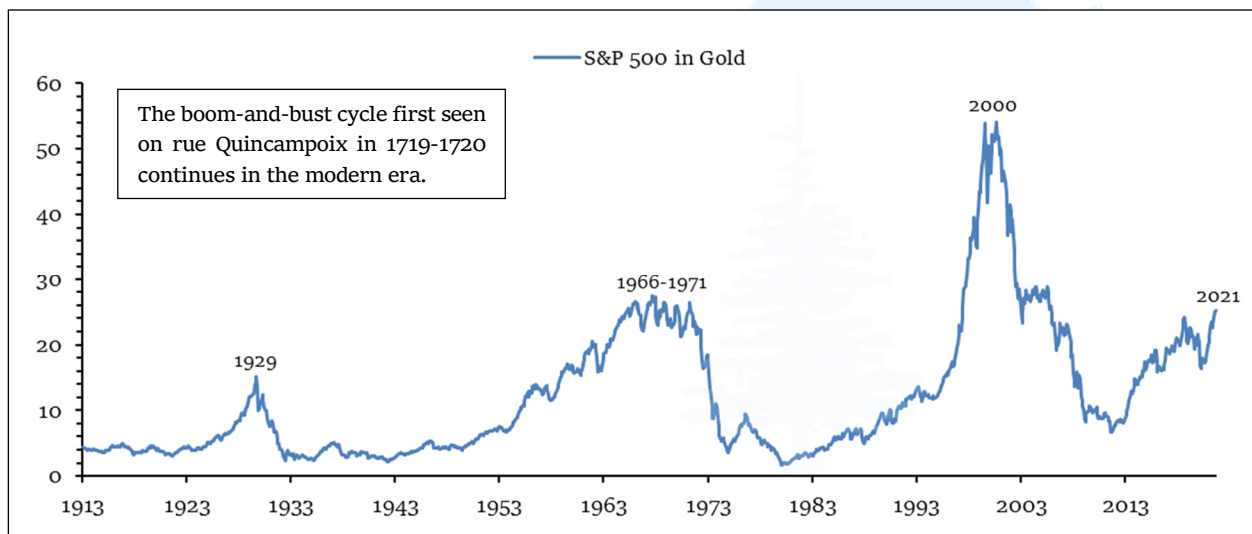
The amount of financial assets relative to real assets is dangerously high, which could lead to a 'bank run'-type move from financial assets to real assets.

- Ray Dalio, January 2022

The preceding account of the Mississippi Bubble, related from the perspective of the *Banque Royale*, should sound all too familiar today. The speculative fervor that had been building in recent years reached a truly fever pitch in 2021 as the Federal Reserve expanded its balance sheet at the fastest pace in its history. However, as was the case in early 1720, not-so-subtle signs of erosion in the sentiment fueling the bubble were in plain sight as 2021 drew to a close.

Not all financial bubbles have been fueled entirely by monetary expansion – some have been genuine speculative manias. During the Tulip Mania a century before the Mississippi Bubble, the Bank of Amsterdam did not increase Holland's money supply like the *Banque Royale* did in 1719, but tulip bulb prices soared astronomically for other reasons. Similarly, while the Federal Reserve did play a role in fomenting the 1929 bubble, and the tech bubble in the 1990s, those periods were fueled primarily by intense speculation surrounding new-era technologies. Monetary policy added fuel to the exuberance, but there was much more to those episodes.

Yet speculative periods which *are* primarily the result of large increases in the money supply tend to follow a regular progression, one that has been repeating for over three centuries, right up to the



present day. Initially, the increase in the money supply fuels a genuine expansion of business and economic activity. This can have a tremendous impact on sentiment, which can then have a genuinely positive impact on real economic opportunity and growth. The positive feedback loop that takes hold can make it seem as though all that was ever needed was more money and more credit in order to increase everyone's prosperity.

It especially feels this way as risk assets boom in response to the increased money supply, but before the lagged effects of a large monetary inflation begins to take hold throughout the rest of the economy. If the story only ended right there...

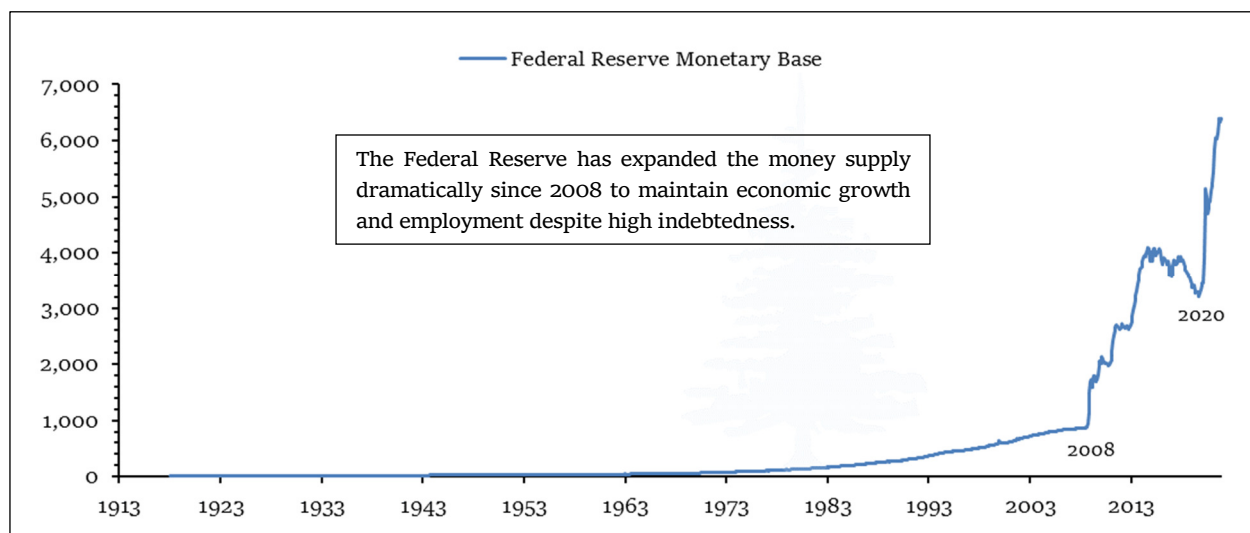
One aspect of the Mississippi Bubble left out of the account above was how and why it became critical to keep Company of the West shares trading at a high price in late 1719. Large monetary expansions are not events that unfold in a vacuum – there are usually strong economic and/or political motives for expanding the money supply, and this was certainly the case in 1719.

On August 17, 1719, with Company of the West shares having climbed above 3000 livres, Law proposed lending the Regent enough livres to buy out all remaining government debt. The proposal was initially made in the form of a loan: the Company of the West would lend the Regent 1600mL at 3%, and the Regent would retire the rest of the government's debt that remained after the partial defaults in 1715 and 1716. It was a bold idea, with one small problem – the Company of the West did not have 1600mL to lend.

As the proposal reached *rue Quincampoix*, the shares soared on the news that the Company was in a strong enough position to make such an offer to the Regent. By September 9, the shares traded at 5350 livres, and Law decided on a plan. He would issue enough new Company of the West shares to raise the funds needed to loan to the Regent, so the government's debt could be retired. This required the price of the shares to remain aloft until enough shares could be sold, and it was during this time that the *Banque Royale's* issuance of banknotes rapidly accelerated.

A total of 300,000 shares were offered at 5000L each. Subscribers to the offering could purchase the shares by making 10 monthly payments, and the terms specified that if a payment was missed, the subscriber would forfeit the shares as well as all previous payments. This made it critical that the Company of the West shares not only remain above the 5000L offering price, but that they remain well above that level over the following year. Otherwise, if the shares fell, subscribers would simply balk at continuing their payments, and the King's debt could not be retired.

Between the summer of 1719 and the summer of 1720, the *Banque Royale* expanded the money supply 14-fold, and the former debt holders found themselves gleefully holding Company of the West shares that soared to over 10,000 livres. For a brief moment, it seemed as though this massive debt-for-equity swap had left nearly everyone on the profit side of the ledger: the King was no longer in debt, and former debt holders were growing wealthier at a previously unimaginable rate with their shares. This financial Eden lasted until the lagged effects of the monetary expansion began to rise above the surface outside *rue Quincampoix*, and confidence in the banknotes, and everything denominated in them, began to dissolve.



By the time the Federal Reserve winds up its balance sheet response to the pandemic this spring, it will have more than doubled the base money supply of the U.S. in just two years. That expansion is not nearly the same scale of what happened three centuries ago in France, but since the financial crisis, the U.S. base money supply has expanded by 7.7 times – a scale inching ever closer to that of the *Banque Royale*.

The primary reasons the Federal Reserve has engaged in such a large monetary expansion over the past twelve years are some of the same reasons the Regent was receptive to John Law's proposals in 1715 – unsustainable debts. The credit crisis in 2008 represented a moment when the buildup of mortgage debt threatened to derail the growth prospects of the entire economy, which would have had dire long-term consequences. Similarly, the buildup of corporate debt led the Fed to backstop the entire corporate debt market when the pandemic hit in March 2020. In his press conference this past September, Fed Chair Jerome Powell candidly admitted how the buildup of corporate debt impacted their decision-making in early 2020:

Corporate leverage built up over the course of the long expansion that ended with the pandemic. We were concerned in the last year or so, and then I'd say very concerned at the beginning of the pandemic that, if you've got a highly leveraged company and your revenue stops for an uncertain period, as things happened at the beginning of the crisis, we were very concerned that there would be a wave of defaults. It didn't happen to a significant extent because of the Cares Act and the response that we undertook and all that. It was a much stronger response than we've ever had.

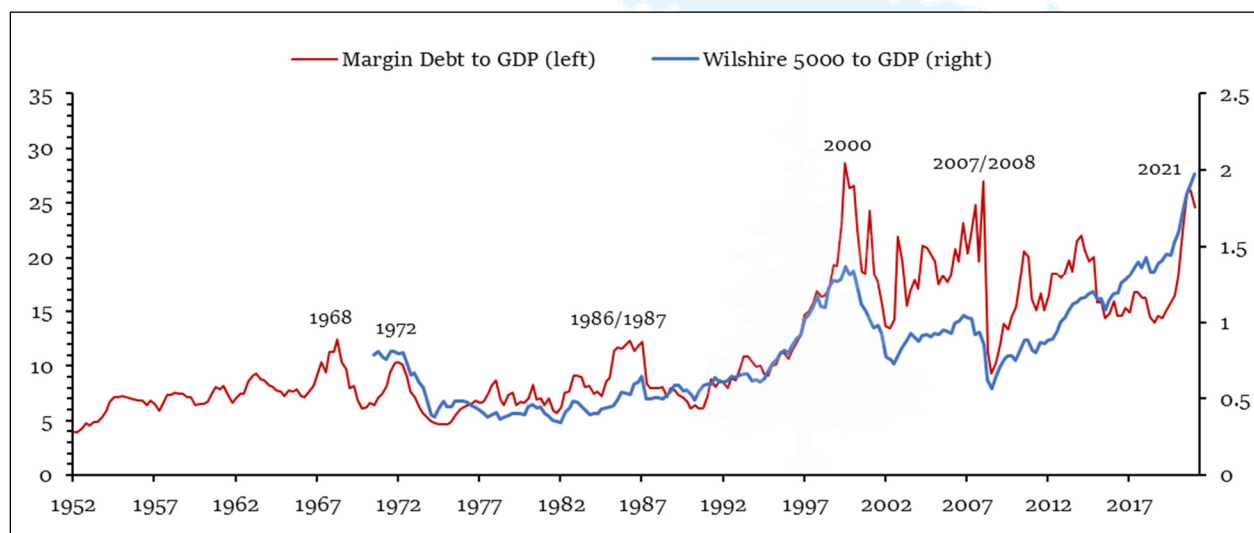
- Fed Chair Jerome Powell, September 22, 2021

It is important to recognize that these are the words of a central bank that has ceded control of the money supply in order to mitigate the effects of debt on economic growth. This has effectively been the case for twelve years, and there are few signs the Fed will be able to re-prioritize managing money supply growth any time soon: with the increase over the past two years, the amount of debt in the U.S. reached 370% of GDP in the third quarter of 2021, which is down only slightly since the peak of 380% of GDP in 2008. This loss of control due to high indebtedness, which monetary policy over the

past thirty-five years has encouraged and enabled, will likely become known as the Federal Reserve's *Third Great Mistake*.

The market response to the money supply growth since the financial crisis has followed a progression uncannily similar to what unfolded on *rue Quincampoix* in 1719 and 1720, only spread over the course of a decade. By the time shares reached their peak, the Company of the West was worth more than the entire gross domestic product of all of France. Although this valuation was fueled entirely by the monetary output of the *Banque Royale*, investors at the time justified it to themselves by imagining all the profits that would flow in from abroad once the Mississippi territory was developed, and the trade routes to Africa and Asia were expanded. It seemed as though France was destined to become a center of global profits, and so the higher the shares went, the more intensely investors, validated in their views by the actions of the *Banque Royale*, clamored for them.

Today, the U.S equity market is trading at twice the value of the U.S economy, and the largest corporations in the U.S market are valued more than the domestic equity markets of many other first world economies. The value of all stocks and bonds based in the U.S. is now at 350% of U.S. GDP. It is in this environment of record amount of financial assets relative to the size of the economy that investors have taken on as much leverage to bet on a continued upward trajectory as at the peaks of the housing bubble in 2007 and the tech bubble in 2000.



Without a doubt, there is more real profit flowing to U.S. corporations than ever flowed to the Company of the West, but just as investors did three centuries ago in France, investors today have conflated the impact on market prices from a vast monetary expansion with the brightness of future market prospects.

A few simple statistics will suffice to illustrate the exuberance over the past year. In 2021, the largest ten members of the S&P 500 index traded at a price-to-earnings ratio as high as 43, which is just shy of the peak reach in 2000 of 47. For context, these largest companies of the index traded at P/E ratios near 15 as recently as 2015. In addition, the largest five companies in the S&P 500 had grown to

represent 23% of the index in 2021, which is far above the 16.8% the top five companies represented at the peak of the tech bubble. This shows that the U.S. equity market this past year was more dependent than ever on just a handful of profitable, but wildly expensive companies.

Just beneath the calm veneer of the S&P 500 index, dominated as it was in 2021 by just five large companies, was a picture of technical erosion and deterioration similar to what unfolded at the very peak of the tech bubble two decades ago. Back then, the most speculative core of the market bubble peaked in spectacular fashion in March of 2000, and subsequently collapsed into April. This marked the top for large technology companies, a high watermark that many would never revisit again. However, the broader market quickly recovered from the volatility in March and April, and by August and September, the S&P 500 index was back at its March high, and the broader NYSE Composite was trading at a new high – a recovery which convinced many that the worst had passed.

Over the past year, an almost identical progression between some of the most speculative areas of the market in recent years and the broader market played out. While the broader market managed to maintain its footing through the end of 2021, market breadth deteriorated significantly enough to sound some of the same technical alarm bells that were ringing as the year 2000 came to a close. Remarkably, this deterioration unfolded despite the Federal Reserve continuing to expand the money supply at a pace of \$120 billion per month throughout the year.



At the end of a bubble, exuberant sentiment is all that remains to fuel the market higher, and once that sentiment begins to erode, there is nothing left to support prices. Between the end of 1719 and the following April, Law and the *Banque Royale* more than doubled the supply of banknotes circulating in France from under 1 billion livres to over 2 billion livres. This was a greater monetary expansion than occurred in all of 1719, and it was completed in just four months – yet the price of Company of the West shares had stagnated near 9000 livres.

Unnoticed by most traders on *rue Quincampoix* in early 1720, the bubble in Company of the West shares had already peaked, and the return to real assets had already begun. The price of gold and silver was slowly rising, but the value of real assets would not begin to catch up to the full expansion of the money supply until the bubble sentiment surrounding the Company of the West finally broke. Once that happened in May of 1720, the trickle into real assets turned into a flood.

A Summary of the Markets

- ✦ The U.S. equity market bubble reached historic levels in 2021. At its peak valuation, the value of U.S. corporate equities rose to 216% of GDP, which is a record level well above the prior record of 159% set in the year 2000. In addition, the S&P 500 traded at a cyclically adjusted price-to-earnings ratio of 39.9 in December. The only time the S&P 500 traded at a higher cyclically adjusted price-to-earnings ratio was between January 1999 and September 2000, at the peak of the tech bubble.
- ✦ Valuations suggest the bubble in U.S. stocks is one of the largest in history, with overvaluation far more pervasive than it was twenty years ago. Valuations also suggest that the peak, when it occurs, will establish a real, inflation-adjusted high-water mark that will remain in place for 15–25 years. As happened during prior cycles, in the decade after the peak a portfolio of large-cap stocks will likely lose real, inflation-adjusted value at an average annual rate of 3%–4%, with a maximum drawdown of 50%–67% at cyclical lows.
- ✦ U.S. equities remain extremely stretched versus global markets. The trend of U.S. outperformance over the past decade will likely conclude with the end of the bubble in the U.S. market, after which global equity markets appear poised to outperform for an extended period.
- ✦ Equity markets outside the U.S. are generally close to their historic fair value valuations, but with some markets significantly undervalued. Yet while equity markets outside the U.S. represent relative value, the end of the U.S. equity market bubble will likely be a global event, creating volatility throughout global equity markets. Thus, while many global equity markets appear attractive, with positive prospective long-term returns for dollar-based investors, the end of the U.S. market bubble will likely provide additional buying opportunities.
- ✦ Although the U.S. dollar likely completed a cyclical top during the market volatility in early 2020, the dollar rose strongly in 2021, recouping half of its peak-to-trough decline in 2020. As in previous cycles, a bearish trend in the dollar will likely unfold until U.S. financial assets represent a relative value versus global markets.
- ✦ Long-term Treasury yields rose in 2021 from the all-time record lows reached in 2020. The 10-Year Treasury note yield traded as high as 1.765%, and the 30-Year Treasury bond yield traded as high as 2.5%. However, while long-term Treasury yields rose, the entire Treasury yield curve ended 2021 at or below the market's expected inflation rate of 2.5% over the next ten years.
- ✦ Commodities and other economically sensitive real assets rose significantly in 2021, continuing a rally that began after the lowest prices in April 2020. Commodities will likely feel a long-term tailwind from a new secular downtrend in the U.S. dollar, but the end of the U.S. equity market bubble could carry short-term risks, especially if the Federal Reserve tightens monetary policy in 2022. However, the cyclical low in commodity prices in 2020 appears likely to be the long-term bottom.

- Precious metals declined in 2021, with gold falling 3.5% and silver declining 11.6%. Gold's decline appears to be part of a large consolidation below the highest price reached in August 2020, and long-term support from the peak in 2011. The global monetary and fiscal response to the pandemic and the recession has produced a strong policy tailwind for precious metals, and continued negative real interest rates in the years ahead will likely maintain that support for some time. In this context, the ongoing strength in precious metals appears to be part of the early stages of a longer-term trend, which would be expected to gather strength once the bubble in the U.S. equity market begins to deflate.
- With nominal short-term interest rates well below inflation, and with real short-term interest rates likely to remain negative for the foreseeable future, the value of cash is now mainly in the opportunity it provides to purchase discounted value during the next significant market downturn. With the U.S. equity market extremely overvalued, the reserve purchasing power which cash represents remains a critical part of a balanced portfolio.

Monetary Aggregates & Debt

	Most Recent	1 Quarter Ago	1 Year Ago	Growth Rates:	1-Year	3-Year	10-Year	Since 1971
M1	20,538.70	19,880.00	17,850.90		15.06%	77.95%	25.20%	9.55%
M2	21,624.10	20,992.70	19,190.00		12.68%	14.60%	8.37%	7.34%
CPI	280.19	274.10	261.60		7.11%	3.53%	2.12%	3.90%
GDP	23,202.34	22,740.96	21,138.57		9.76%	3.95%	4.02%	6.31%
Velocity	1.12	1.12	1.15		-2.79%	-8.51%	-3.88%	-0.92%
Federal Debt	28,426.92	28,529.44	26,945.39		5.50%	9.73%	6.75%	8.96%
Federal Debt to GDP	122.52%	125.45%	127.47%		-3.89%	5.56%	2.63%	2.50%

Federal Reserve Assets & Liabilities

	Most Recent	Prior	1 Year Ago	Growth Rates:	1-Year	3-Year	10-Year	Since 1971
Currency	2,223.99	2,211.67	2,070.53		7.41%	9.22%	7.63%	7.60%
Monetary Base	6,394.80	6,331.00	5,093.00		25.56%	22.53%	9.39%	9.13%
Treasury Securities	5,911.60	5,644.35	4,872.97		21.31%	29.89%	13.51%	9.54%
Mortgage Securities	2,686.26	2,628.13	2,099.85		27.93%	18.05%	12.23%	n/a
Total Balance Sheet	8,867.83	8,790.50	7,414.94		19.59%	28.54%	11.75%	9.75%

Nominal Rates & Yields

	Most Recent	Prior	1 Year Ago		Most Recent	Prior	1 Year Ago
Federal Funds	0.08%	0.08%	0.09%	3-Month CD	0.17%	0.14%	0.17%
3-Month Treasury Yield	0.06%	0.05%	0.09%	3-Month Commercial Paper	0.14%	0.07%	0.08%
2-Year Treasury Yield	0.68%	0.51%	0.14%	Municipal Bond Yield	1.06%	1.07%	0.76%
5-Year Treasury Yield	1.23%	1.20%	0.39%	AAA Corporate Yield	2.71%	2.57%	2.23%
10-Year Treasury Yield	1.47%	1.56%	0.93%	Junk Bond Yield	3.40%	3.81%	3.32%
30-Year Treasury Yield	1.85%	1.94%	1.67%	30-Year Mortgage Rate	3.11%	3.10%	2.67%

A Portfolio Focused on Undervalued Real Assets and Equity Markets

Amid all the excitement and confusion of the last two years, the ascent of the stock market, and the continued robust health of other asset classes, has boiled down to three words: liquidity, liquidity, liquidity. While money in its most liquid form continues to be so freely available, it's harder for bad things to happen to risk assets. There really is no alternative if bonds are being bought up swiftly and turned into cash that needs a home. But that raises a number of issues. How do we define liquidity? How do we know when it is diminishing? And what happens when it is finally removed?

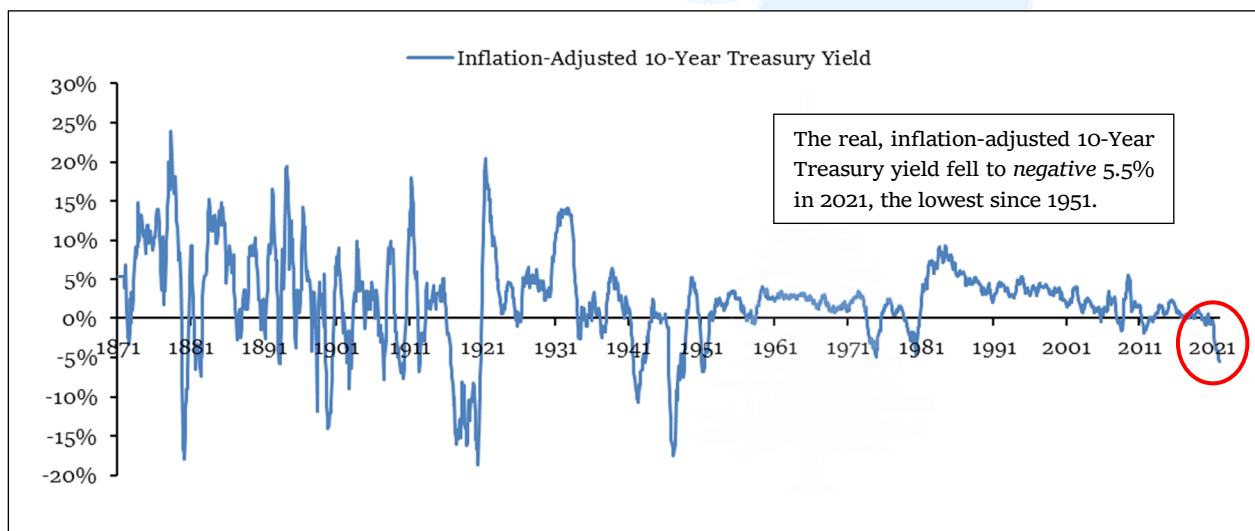
- Bloomberg, November 2021

I consider this era an even crazier era than the dotcom era.

- Charlie Munger, December 2021

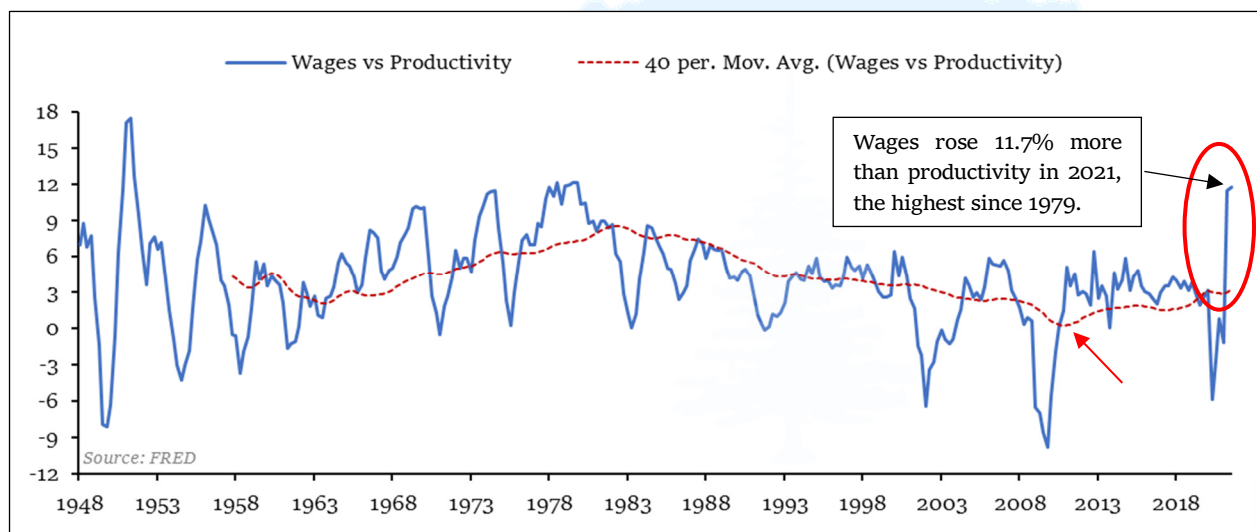
There is probably not another moment when the past looks more different than the future than at the peak of a financial bubble, and this is especially the case when asset prices have been inflated by a large monetary expansion. At the peak of a purely speculative bubble, the assets that have the highest returns up to that point will generally accumulate the largest losses going forward. At the same time, assets which did not participate in the bubble usually perform relatively well. This was the dynamic that unfolded after the peak of the tech bubble in 2000, and also after the peak of the market in 2007, just before the housing-induced credit crisis. At the peak of those speculative bubbles, past performance of markets and sectors proved to be a deceptive and dangerous guide to rely on.

As extreme as the tech bubble was among technology stocks, whole sectors of the U.S. equity market outside of technology had been neglected for years, as had equity markets outside the U.S. An investor looking for value could also buy Treasury bonds with a 6% yield, which was comfortably above inflation. Seven years later, there were fewer areas of value within the U.S. equity market, and equity markets outside the U.S. had grown overvalued. However, long-term Treasury bonds still offered a 4% yield, and currencies like the yen represented relative safety for dollar-based investors. Examples such as these provided simple alternatives for capital preservation in 2000 and 2007, when positive real yields were still readily available for investors seeking safe havens.



How times have changed. One of the hallmarks of a monetary-fueled bubble, in contrast to a speculative bubble, is how financial assets of *all* types become stretched beyond recognition as the flood of new currency searches high and wide for investments, and a hallmark of the present era will undoubtedly be how stocks, bonds *and* real estate became simultaneously overvalued — leaving investors today with few traditional safe havens. A similar dynamic spread through Paris and throughout France in 1719 and 1720; as the price of real estate and Company of the West shares soared, John Law cited how far rates on loans had fallen as evidence of the *Banque Royale's* success in easing the financial constraints on the French economy. Of course, he was right — financial conditions *had* eased tremendously. Conditions had eased to such an extent, in fact, that no safe investments denominated in livres remained, and those seeking safety were forced to leave the livre entirely.

What unfolded over the past year will probably be remembered as one of the most remarkable moments in our financial history. In 2021, the Federal Reserve expanded its balance sheet by a total of \$1.394 trillion — a truly staggering expansion. For perspective, the Fed's entire balance sheet on the eve of the credit crisis in 2008 was \$890 billion, which represented the entirety of the base money supply expansion during the first century of the Fed's operations. Yet the base money supply expanded by 57% more than that amount just over the past year, and that came on top of an even greater expansion the year before: \$3.198 trillion in 2020. In total, the base money supply grew by \$4.592 trillion in 2020 and 2021, over five times the total base money supply in early 2008, and by the end of last year the effects were becoming plainly visible in the economy and the financial markets.



In the economy, inflation became *the* story of 2021. In January of 2021, the year-over-year increase of the Consumer Price Index (CPI) and other measures of prices throughout the economy remained subdued. The CPI had risen 1.37% over its level in January 2020, and the Fed's preferred measure, the Personal Consumption Expenditures (PCE) Index, had risen 1.41%. Yet those subdued readings in January would turn out to be the lowest inflation readings of the year. From there, the inflation rate rose above 2% in March, over 4% in April, and then over 5% in June.

During the first half of the year, members of the Federal Reserve's policy setting committee became increasingly uncomfortable with their policy predicament: prices were rising at higher rates than many members had seen in their careers, yet interest rates were at zero and the Fed was expanding its balance sheet at an astounding pace. This discomfort increased as prices defied their expectations and continued climbing at even higher rates during the second half of the year. By December, the CPI had risen over 7% from the year before, the highest rate of inflation since 1982, and the decision was made to quickly taper asset purchases.

As the chart on the previous page highlights (red circle), average wages spiked higher versus productivity in 2021, which is one way to visualize where the inflationary pressure came from. When the amount of money available to be spent is growing much faster than the expanding supply of goods and services available to spend that money on, prices tend to rise. Due to the impact of the pandemic, which caused a massive shift in consumer spending toward goods from services, while at the same time causing supply shortages due to production bottlenecks, the impact of the massive increase in the money supply over the past two years represented a perfect inflationary storm.

As recently as a month ago, however, the Federal Reserve still expected this inflationary storm to pass once the effects of the pandemic on both spending habits and production problems begins to fade. This expectation was re-emphasized by Jerome Powell after the Fed's December meeting, in which he curiously stated that, despite the data in the chart above, wage growth was not to blame for rising inflation:

While the drivers of higher inflation have been predominantly connected to the dislocations caused by the pandemic, price increases have now spread to a broader range of goods and services. Wages have also risen briskly, but thus far, wage growth has not been a major contributor to the elevated levels of inflation. We are attentive to the risks that persistent real wage growth in excess of productivity could put upward pressure on inflation. Like most forecasters, we continue to expect inflation to decline to levels closer to our 2 percent longer-run goal by the end of next year.

- Fed Chair Jerome Powell, December 15, 2021

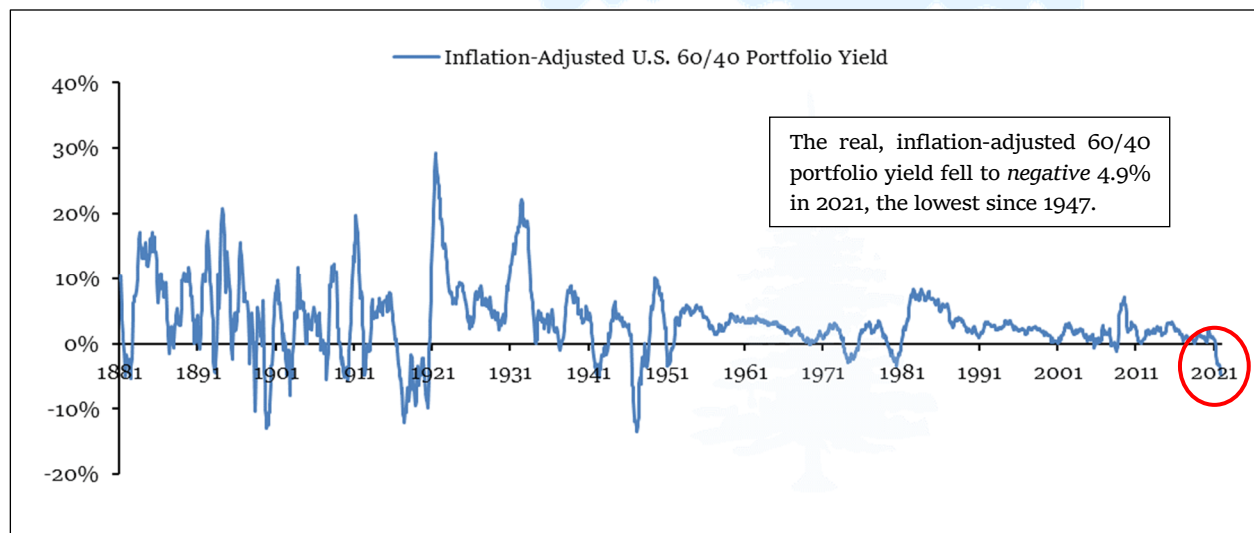
It may well turn out to be the case that the high inflation readings seen in price indexes like the CPI and PCE begin to recede later this year, as the Fed expects. Although the Fed had the same expectation at the beginning of last year, which may turn out to be one of the central bank's greatest forecasting errors in its history, the effects of the pandemic will eventually fade. In addition, the Fed is currently in the process of rapidly draining punch from the punchbowl. After doubling its balance sheet over the past two years, the current expansion is set to end in March. And interest rates have been held at zero for the last two years, expectations for interest rate increases after March have been rising rapidly. If the Fed carries through and tightens monetary policy in the year ahead as planned, the pace of price increases could fall significantly from recent levels.

Yet beyond supply issues directly related to the pandemic, and the massive fiscal and monetary response to it, the Federal Reserve is now in a very, very tight policy corner. Our discussion in April 2021's letter focused on how the impact of demographics on inflation was in the process of pivoting

higher in the U.S. and around the developed world, and echoes of this pivot could be heard amid the pandemic, as businesses struggled to find workers.

The retirement of the baby boom generation is now crossing into its second decade, and in the chart above of Wages vs. Productivity, you'll notice that the red dashed moving average ended a long descent more than a decade ago (red arrow), and has since then been slowly rising. The falling rate of wage growth versus productivity growth (red dashed line) is directly related to the falling rate of inflation since the early 1980s, and its rise during the 1970s was directly related to the Great Inflation. Wages climbing at a faster pace than productivity is one of the expected impacts of the pivot in demographics, and we may already be seeing this pivot toward increasingly inflationary demographic pressure in the long-term data.

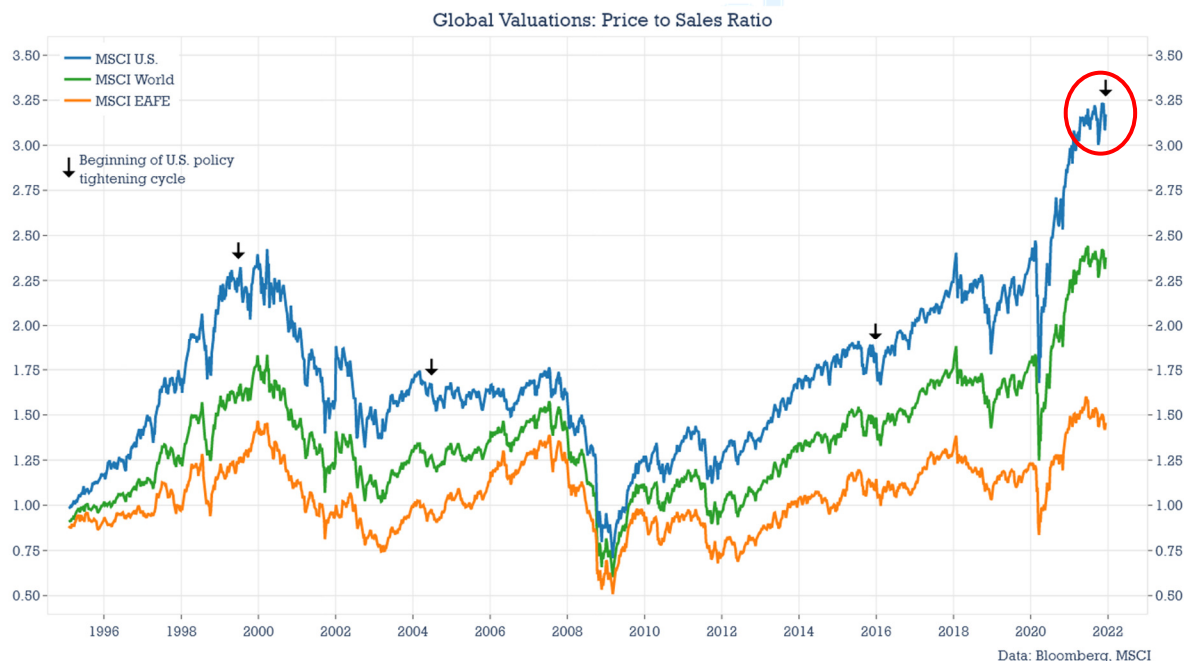
For a central bank accustomed to fighting intractably low inflation, and for markets habituated to over a decade of low interest rates, along with ultra-low bond yields and a rapidly expanding base money supply, a pivot toward persistently higher rates of inflation has the potential to be a *generational* shock. In fact, by the response over the past year, it seems shock may already characterize the emotional state of investors today, because yields on U.S. stocks and bonds throughout 2021 in no way factored in rising inflation: real yields on both stocks (earnings) and bonds (interest payments) fell far into negative territory in 2021 as inflation rose. In fact, the last time the real yield on the standard 60/40 portfolio of stocks and bonds fell as deeply into negative territory as it did last year was seventy-four years ago, in 1947.



For investors in U.S. stocks and bonds, the negative real portfolio yield highlighted above has the potential to be a true Wile E. Coyote moment. A portfolio of U.S. large-cap stocks and bonds ended last year with a yield from cyclically adjusted earnings and interest payments of just 2.09%, which not only is an *all-time* low, but it is far below the end-of-year inflation rate of 7%. As you can see in the chart above, the combined portfolio yield from stocks and bonds rarely stays in negative territory for long — either inflation subsides, or the yield from stocks and bonds rises, or some combination of both restores a positive portfolio yield. If the combined yield of large-cap stocks and bonds were

to rise even modestly from current levels to 3%, or 4%, within a short amount of time, investors would probably feel like they had suddenly looked down and found themselves in mid-air, without any ground underneath their feet.

The precariousness of the record-low yield from stocks at the end of last year can be visualized in the chart below showing the price-to-sales ratios of U.S. and global equity markets. The black arrows indicate each time the Federal Reserve has begun to tighten monetary policy over the last twenty-five years, and as you can see, the starting valuation of the U.S. market today is far higher than any of the past three cycles.



When we say that a pivot toward higher inflation has the potential to be a generational shock, and that investors in U.S. stocks and bonds are facing the risk of a Wile E. Coyote moment, we are referring to the potential impact a regime of higher inflation could have on the current record-high valuations of stocks and bonds. There are no investors active in the markets today who have navigated through the years after stocks and bonds together offered an underlying yield of just 2.09%, because such a low yield was never seen before 2021. And there are few investors active today who have navigated through an inflationary pivot as has been seen over the past year. This combination of market conditions should make every investor think twice (or three, or even four times) about what the end result will probably look like.

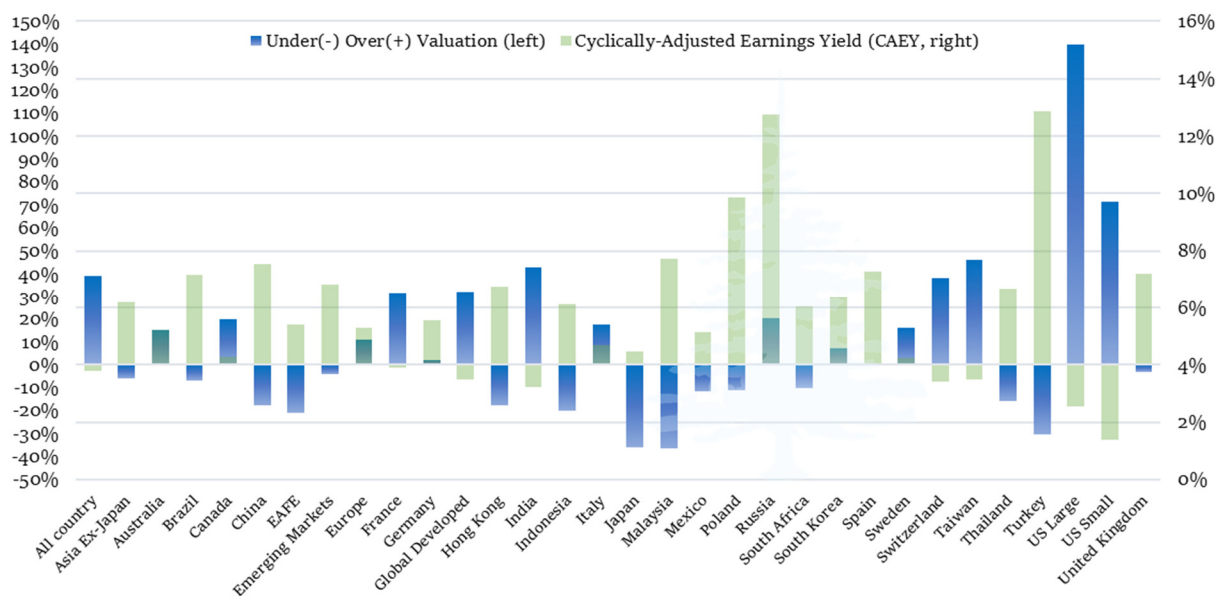
There are several important lessons from the *Mississippi Bubble*, as it is now commonly known, that are particularly relevant today. As was mentioned at the beginning of this section, there is not a moment when the past looks more different than the future than at the peak of a financial bubble, and in our assessment, the trifecta of overvaluation in U.S. stocks, bonds and real estate has meant that it is time to focus on assets outside of the U.S. dollar. Just as those who decided the time had come to leave the livre behind as John Law inflated the French money supply and Company of the

West shares soared beyond all recognition, the time to move away from a large modern monetary bubble is well before it suddenly, and often with unexpected speed, begins deflating.

Fortunately, there are attractive alternatives available to those willing and able to depart from the traditional 60/40 portfolio. Unfortunately, most of the investment management industry does not have that flexibility. In a survey conducted this month, 329 asset managers overseeing \$1.1 trillion in assets said that although they were 77% underweight their typical allocation to bonds, they were 55% overweight their typical allocation to stocks. In other words, while the impact of rising inflation made it an obvious decision to move away from ultra-low yields in the bond market, increasing the allocation to the record-low earnings yield in stocks was the consensus response.

When the available options are restricted to stocks and bonds, which represent the vast majority of investable assets available to institutions, this may be seen as the best available response to today's difficult set of market conditions. However, that doesn't mean it will result in a positive return if the underlying yield from stocks and bonds begins to rise from 2021's record low. As the Nifty-Fifty bubble fifty years ago as well as the volatility in the first few weeks of this new year make clear, rising yields can impact the value of stocks just as much as it can impact the value of bonds.

However, there are pockets of value in equity markets outside the U.S. The graphic below shows how overvalued or undervalued an equity market is relative to its historic median valuation (in blue), and also the underlying cyclically adjusted earnings yield each equity market currently offers investors. As you can see, large-cap and small-cap U.S. stocks offer the two lowest earnings yields among major global equity markets, and are also overvalued to a far greater extent any other market. But that is not the case everywhere. Investors in the U.K. equity market are receiving a 7% earnings yield, and also holding equities that are priced near their long-term median valuation. And investors in Japanese stocks continue to hold assets which are significantly undervalued, with an earnings yield above 4% — nearly double the earnings yield of U.S. stocks.

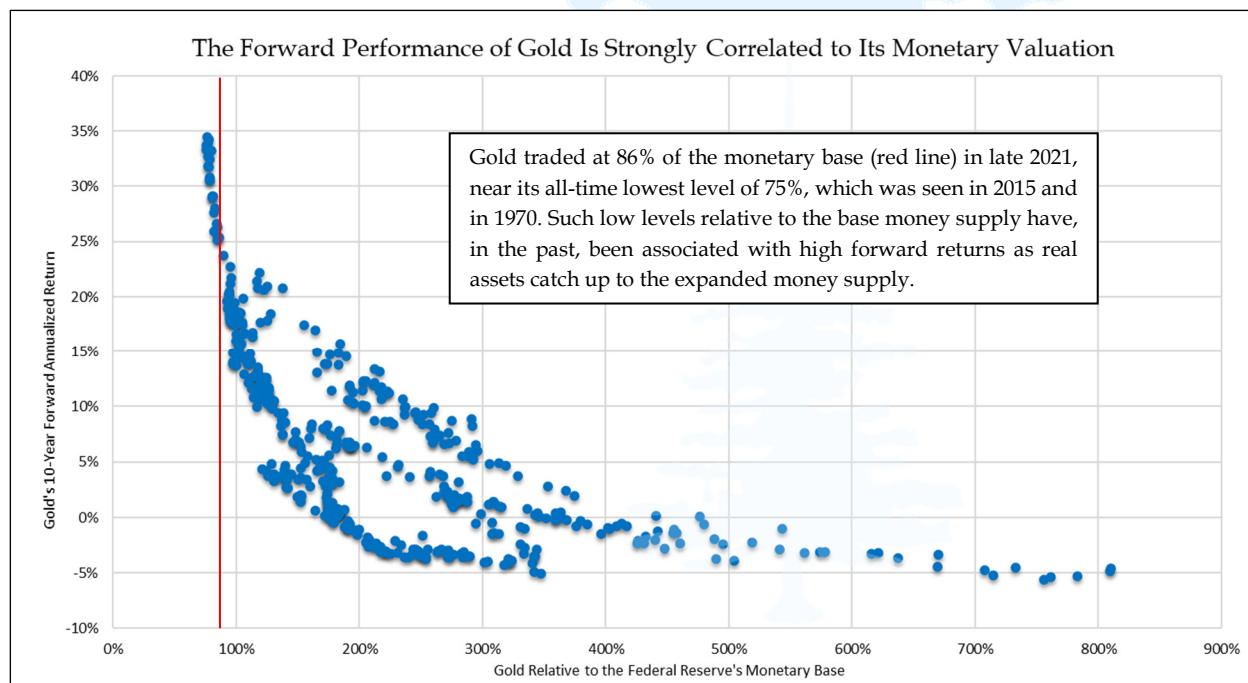


Yet while there is value in certain equity markets outside the U.S., the real value available today resides in the assets which benefit most from rising inflation and falling equity market valuations: real assets, including precious metals and commodities.

The market dynamic which seemed to puzzle investors most in 2021 was why real assets like precious metals remained stagnant while inflation rose to the highest rate in forty years. Since gold is popularly known as an “inflation hedge,” conventional wisdom would expect its price to have soared over the past year. Of course, conventional wisdom is not always as accurate as it is concise, and understanding why gold and silver declined modestly over the past year is the main reason behind relating the story of the *Mississippi Bubble* in the pages above.

For those looking at the performance of gold in early 1720, as John Law doubled the supply of banknotes from the *Banque Royale* in a desperate attempt to keep Company of the West shares aloft, the price change gave little hint of what was to come. The reason was simple: confidence in assets denominated in banknotes, especially Company of the West shares, remained intact. While confidence remained intact, there was little desire to move out of banknotes and into real assets, and as a result, the price of gold and silver moved only modestly higher in the first half of 1720, even while the money supply exploded.

Once confidence cracked in May of 1720, however, and the bubble in Company of the West shares began to burst, the price of gold and silver quickly began to catch up to the expanded supply of paper banknotes. A vastly expanded paper money supply represents fuel for a large increase in the price of gold and other real assets, but until the moment arrives when holders of paper assets begin fleeing into real assets, prices can remain stagnant — even amid a rapid pace of money printing.



This more or less characterized the environment for precious metals in 2021, as investors continued to chase the stock market bubble. And you may be surprised to learn that it also characterized the early 1970s, as investors chased the Nifty-Fifty bubble. Few remember that when Nixon closed the gold window in August 1971, the response of the gold mining sector was . . . to decline for the rest of the year. For those expecting that the long-anticipated end of fixed-price gold would immediately usher in an upward rebalancing in the precious metals sector, it was a disappointment. In fact, gold mining stocks remained below their pre-Nixon Shock level for the next year and a half, even as the price of gold rose 60%. It was only when the Nifty Fifty bubble began to burst in early 1973 that mining stocks proceeded to rise at an 23% annualized rate, as investors fled stocks and bonds. From that moment, the price of real assets proceeded to rapidly catch up to the expanding money supply.

These boom-and-bust cycles between paper assets and real assets have been unfolding for three centuries, and as we begin 2022, the Federal Reserve appears poised to attempt what John Law wasn't able to achieve in 1720: maintain confidence amid a massive monetary bubble, while at the same time addressing the emerging effects of its *Third Great Mistake* — the loss of control of monetary policy due to high indebtedness.

As we discussed in last year's annual letter, there is no longer a pain-free way for the Fed to address its loss of control over monetary policy. In this environment, real assets represent investments which have always increased in value as confidence in a monetary bubble unwinds. It is notable that even before the Fed's delicate balancing act is attempted, the foundation of the equity market eroded significantly over the past year, and the most speculative fringes of the market declined precipitously into year-end. Although the Fed has yet to end its current balance sheet expansion, it appears confidence may already have begun to crack.

In this market environment, a largely buy-and-hold approach to real assets and undervalued equity markets outside the U.S. — the antithesis of a 60/40 portfolio of U.S. stocks and bonds — continues to be the most appropriate given the current market conditions, and it is where our focus remains.

We appreciate you taking the time to read this letter, and for investing with us. As always, if you would like to discuss investments in your account, or topics discussed in this letter, feel free to contact us — we would be happy to talk with you.

Sincerely,



Brian McAuley
Chief Investment Officer
Sitka Pacific Capital Management, LLC

The content of this letter is provided as general information only and is not intended to provide investment or other advice. This material is not to be construed as a recommendation or solicitation to buy or sell any security, financial product, instrument or to participate in any particular trading strategy. Sitka Pacific Capital Management provides investment advice solely through the management of its client accounts. This letter may not be copied, reproduced, republished, or posted, in whole or in part, without prior written consent from Sitka Pacific Capital Management, LLC.