



## The Plot Thickens

AS WE LOOK INTO 2022, THE PAGE APPEARS TO BE TURNING FROM PANDEMIC TO INFLATION AND POLICY, WITH A LIKELY RESULTING SURGE IN MARKET VOLATILITY.

**IN THIS ISSUE:** THE PLOT THICKENS | TEN FOR 2022 | PUBLIC/PRIVATE INVESTING: REAL ESTATE TO ENHANCE PORTFOLIOS  
THE PATH TO NET ZERO | NFTS: WHEN MARKETS COLLIDE | WATCHFUL WAITING

## IN THIS ISSUE

### 3 THE PLOT THICKENS

JOSEPH V. AMATO  
*President and Chief Investment  
Officer—Equities*

### 8 TEN FOR 2022

JOSEPH V. AMATO  
*President and Chief Investment  
Officer—Equities*

ERIK L. KNUTZEN, CFA, CAIA  
*Chief Investment Officer—Multi-Asset Class*

SUZANNE PECK  
*Head of Investments—Private Wealth  
Management*

BRAD TANK  
*Chief Investment Officer—Fixed Income*

ANTHONY D. TUTRONE  
*Global Head of Alternatives*

### 11 PUBLIC/PRIVATE INVESTING: REAL ESTATE TO ENHANCE PORTFOLIOS

INVESTMENT STRATEGY GROUP

### 18 THE PATH TO NET ZERO

JONATHAN BAILEY  
*Head of ESG Investing*

SARAH PEASEY  
*Director of European ESG Investing*

### 23 NFTS: WHEN MARKETS COLLIDE

GREGORY KHOST  
*Head of Business Development,  
Private Wealth Management*

NINA DEL RIO  
*Vice Chairman, Sotheby's Advisory*

MATTHEW ILES  
*Co-Founder and Partner, Serotonin*

### 28 WATCHFUL WAITING

SAM PETRUCCI  
*Head of Advice, Planning and  
Fiduciary Services*

JOHN F. GEER, JR., CFP®  
*Managing Editor*

## A New Chapter

*Understanding and adapting to rapidly changing market dynamics  
may be crucial for investors this year.*



The current decade is just getting started but has already been filled with plot twists that few saw coming. Amid so much worry about the pandemic, health and safety, the economy, the markets and political division, the performance of equities has been a key narrative, with strong double-digit gains in each of the past three years.

As we move toward the mid '20s, we are reaching perhaps the close of one chapter and the start of another. In particular, with a resilient economy and meaningful spike in inflation, the Federal Reserve has voiced readiness to pull back from its current level of support, starting with removal of bond purchases by March, along with three or four rate increases over the course of the year. As noted by Joe Amato in his outlook on page 3, this could have a significant impact on the markets, in the form of heightened price volatility. However, the strength of corporate earnings could help offset ongoing headwinds and result in gains in equities—although likely more modest than we've seen over the past three years.

For investors, we believe a key task is to revisit portfolios to ensure that asset allocations are not only closely aligned with personal goals, but that they fully address opportunities and potential risks that may be present across markets. In equities, this may mean assessing value and equity income weightings relative to growth, as well as looking at non-U.S. allocations for possible underexposure. In fixed income, it may involve drawing on multiple sectors and geographies to create return and yield potential given low-but-rising rates and elevated inflation. Where feasible, we also favor exploring alternative investments for diversification and return potential. On page 11, our Investment Strategy Group discusses the blurring lines between public and private real estate and how they can be employed in a highly tailored fashion for investors.

In our view, wealth planning should work in tandem with investment strategy—something we believe is especially true today with President Biden's "Build Back Better" agenda weakened but still potentially viable. As Sam Petrucci, our Head of Advisory, Planning and Fiduciary Services, notes on page 28, many of the most extreme proposals appear off the table, but others remain—suggesting the advantage of employing an array of familiar planning techniques, including those that may benefit from the current low-rate environment while it lasts.

Addressing climate change is important to many of our clients. Also in this issue of *Investment Quarterly*, our ESG Investing team highlights recent advances in seeking to achieve global net-zero emissions (page 18). Finally, our friends at Sotheby's provide insights into the budding NFT market and its potential effect on the art world (page 23).

I hope you enjoy *IQ*. Please reach out to your Neuberger Berman team with any questions about the markets, portfolios or planning issues.

Sincerely,

STEPHANIE B. LUEDKE, CFA  
*Head of Private Wealth Management*

# Market Focus



# The Plot Thickens

*As we look into 2022, the page appears to be turning from pandemic to inflation and policy, with a likely resulting surge in market volatility.*

JOSEPH V. AMATO, *President and Chief Investment Officer—Equities*

The past year was extraordinary in terms of the economic and societal turbulence provided by COVID-19 and the successive Delta and Omicron variants, coupled with a sharp upward turn in inflation. However, it was also remarkable for the strength of many risk assets, buoyed by a recovery in earnings and continued easy financial conditions despite the seeming promise of eventual central bank tightening.

After a 29% annual return by the S&P 500 in 2021 following two previous strong years, can stock market investors expect a repeat performance? To us that would seem unlikely even in an environment of more ordinary dynamics. But in the context of pandemic recovery, lingering supply chain stagnation and a hawkish turn by central banks, we see a more likely progression toward volatile, modest return prospects and shifts in market leadership.

We believe that 2022 may be a time when value investing may gain further traction over growth, given value's leverage to the expanding economy and the relative vulnerability of higher-priced growth names to rising interest rates. Moreover, we see this as a period to emphasize dividend income where it aligns with individual goals, as healthy fundamental conditions can support payouts even if share prices grow wobbly. More importantly, the current environment may provide a good opportunity to look at asset allocations to ensure that they line up with strategic goals after a three-year period of strong market returns and a significant change in potential underlying macro dynamics. (See the "Ten for 2022," our review of key investment themes for this year, on page 8.)

## ON SOLID FOOTING

As we move into 2022, much of the global economy is in solid shape as demand continues to recover from the pandemic and supply chains are gradually restored. The International Monetary Fund forecasts 4.4% growth for the global economy this year, along with 4.0% for the U.S.—down from 2021's torrid 5.6%, but well above the long-term average of 3.1% since 1947.<sup>1</sup> After some pullback, leading economic data has rebounded, suggesting that the U.S. is still in the early to middle "boom" phase

MUCH OF THE GLOBAL  
ECONOMY IS IN SOLID  
SHAPE AS DEMAND  
CONTINUES TO RECOVER  
FROM THE PANDEMIC  
AND SUPPLY CHAINS ARE  
GRADUALLY RESTORED.

<sup>1</sup> Source: FactSet.

## U.S. GROWTH EXTENDS ITS 'BOOM' PHASE

Conference Board U.S. Leading Economic Index, Six-Month Change



Source: Conference Board, LEI as of December 31, 2021. For illustrative purposes only. Nothing herein constitutes a prediction or projection of future events or future market behavior. Due to a variety of factors, actual events or market behavior may differ significantly from any views expressed or any historical results. Investing entails risks, including possible loss of principal. **Past performance is no guarantee of future results.**

of the economic expansion. Spendable household and corporate liquid assets are \$4.2 trillion above where they would be given pre-pandemic growth trends, corporate capex growth is close to its highest level in 15 years, and financial conditions are nearly the easiest on record. Meanwhile, with COVID-related worker shortages, employment growth remains reasonably strong and wage growth has been accelerating, supporting consumption. Overall corporate fundamentals are reassuring, with S&P 500 company consensus earnings expected to grow about 8.3% this year<sup>2</sup> and the default rate for U.S. high yield issuers holding at a paltry 1%.<sup>3</sup>

Within this constructive backdrop, we believe the coronavirus is taking more of a backseat in terms of investment concerns. Despite the recent surge in cases, Omicron symptoms generally appear less severe than for previous variants, while vaccines and antivirals have been largely effective in preventing or treating serious illness. Although some areas have seen increased restrictions, major lockdowns like those of 2020 appear unlikely. Instead, higher inflation and interest rates, coupled with uncertainty about resulting action from central banks, are taking center stage.

### POLICY PUSH

Until recently, policymakers were surprisingly slow to react to inflation, but heady late-2021 numbers, including a 6.8% CPI figure in December, have spurred them to become more active. In Europe, Norway and the U.K., central banks have raised rates, while the European Central Bank nearly doubled its estimate for eurozone inflation in 2022, to 3.2%, and announced that it would taper some bond purchases (even while maintaining others). Even the Bank of Japan followed suit, signaling an end to its corporate bond and commercial paper purchases this quarter.

In the U.S., the Federal Reserve accelerated the pace of its anticipated tapering, committing to end all bond purchases in the next few months. Moreover, its meeting minutes and forecasts now suggest that there will be three rate hikes in 2022, the first as early as March—a dramatic change in tone from just a few months ago. This compares with the market consensus of four rate hikes in 2022. The Fed has also revised up its 4Q 2022 inflation outlook from 2.2% to 2.6%—well above its 2% average target.

In general, the consensus remains that 2021 inflation trends are probably not sustainable, as supply chain disruptions ease, stimulus impacts fade, and labor demand and supply become better aligned. However, a key question is to what level inflation settles and how long it may remain there. Regardless, the challenge for central banks could be significant: They haven't seen this kind of inflationary pressure in decades, and current policymakers are more used to encouraging inflation than trying to tamp it down. Moreover, today's inflationary forces are in many ways supply-driven (supply chain snafus, reduced energy production, etc.) rather than demand-driven, so it is not clear how much leverage central banks have to address them without harming growth. Finally, some forces behind inflation may be more structural—e.g., changes in China, permanent reorientation of supply changes and expenses tied to fighting climate change—which may simply become part of the “cost of business.”

### MARKET CROSS-CURRENTS AND INVESTOR STRATEGY

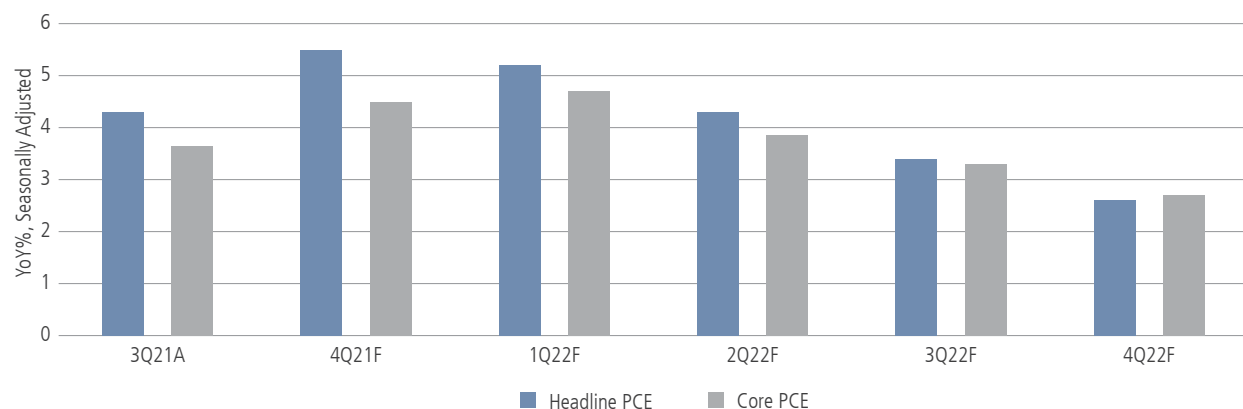
Historically, we have seen rising rates be a common headwind for financial assets, reducing the future value of corporate earnings and subjecting bonds to pricing pressure, not to mention increasing the

<sup>2</sup> Source: FactSet.

<sup>3</sup> Source: Fitch.

## HOW MUCH COULD INFLATION EASE THIS YEAR?

Consensus Inflation Forecasts



Source: Bloomberg, as of January 19, 2022. The PCE, or Personal Consumption Expenditures index, is the Fed's preferred measure of inflation. Core PCE excludes food and energy. For illustrative purposes only. Nothing herein constitutes a prediction or projection of future events or future market behavior. Due to a variety of factors, actual events or market behavior may differ significantly from any views expressed or any historical results. Investing entails risks, including possible loss of principal. **Past performance is no guarantee of future results.**

capital costs to businesses. Uncertainty about central bank policy and inflation may contribute to volatility and the compensation for risk required by investors for their capital.

Still, our constructive view of economic fundamentals translates into a moderately positive take on stocks and to a lesser degree corporate bonds and other non-Treasuries. Bottom line: we think a tightening cycle and economic growth can coexist.

Within equities, value appears more attractive than growth for the buffer it may offer against downside risk and its typically lower interest-rate sensitivity. So far, many large-cap growth stocks been resilient in the face of potentially tighter monetary conditions, but more leveraged segments have seen weakness. Importantly, we see appeal in equity income names, which tend to benefit from

lower interest-rate sensitivity and may provide steady, growing dividends even if pressure builds on equity valuations.

Stepping back, the current expansion seems likely to support the more cyclical non-U.S. economies and markets, just as it could help more cyclical sectors domestically. The strengthening U.S. dollar in recent months has been a major factor preventing non-U.S. outperformance, but there may be signs of an end to that momentum: European and U.S. inflation forecasts are now fairly aligned and, particularly with further federal stimulus now in doubt, there is greater potential for developed non-U.S. economies to raise their share of global GDP growth. In contrast, prospects for emerging markets are a bit more difficult, given sensitivity to interest rates, exposure to slowing growth in China and more struggles in dealing with the pandemic.

## MORE VOLATILITY AHEAD?

CBOE S&P 500 Volatility Index (VIX)



Source: FactSet, as of January 6, 2022. For illustrative purposes only. Nothing herein constitutes a prediction or projection of future events or future market behavior. Due to a variety of factors, actual events or market behavior may differ significantly from any views expressed or any historical results. Indexes are unmanaged and are not available for direct investment. Investing entails risks, including possible loss of principal. **Past performance is no guarantee of future results.**

Within fixed income, we favor a general tilt toward corporate credit, albeit with some caution as the likelihood of a low default rate is accompanied by the potential for volatility. It follows that performance this year may be due more to coupon-clipping than appreciation, although tactical trading on dips may provide a source of return potential. As in equities, lower interest-rate sensitivity, or shorter duration, appears a priority. And we believe it may be useful to seek additional return opportunities from liquidity risk rather than interest-rate risk, pointing to the merits of loans and private debt, which offer floating rates and also the potential to support robust demand for private equity and mergers and acquisitions.

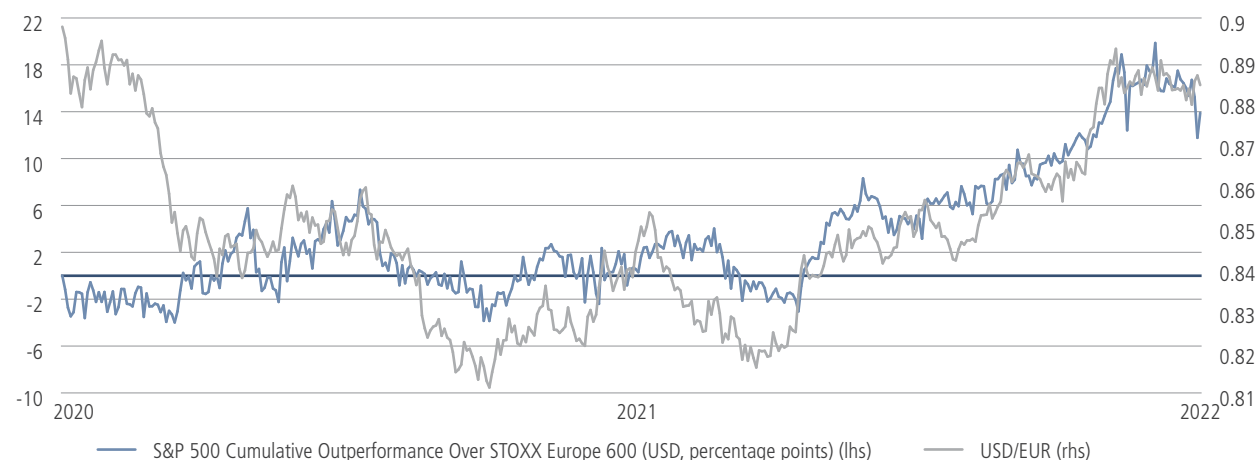
With equity and bond valuations stretched and at risk from rising rates, we see appeal in alternative investments that can potentially offer uncorrelated returns, excess returns generated away from the volatility of the public markets, mitigation of traditional asset class volatility, or returns derived from volatility itself. Hedged strategies, with a particular focus on market-neutral and uncorrelated approaches, may make sense for some investors, while commodities may provide value as a portfolio diversifier and can help hedge against further inflation surprises. Private markets also remain appealing, partly because of their lower volatility than public counterparts and the relative appeal of their valuations. Moreover, private equity managers tend to have more ways to improve operations and margins than public equity managers, and are therefore less reliant on multiple expansion for potential returns.

## CHANGING THE STORY LINE

Although we anticipate a period of more sustained volatility, we would caution investors to avoid overreacting to potential market swings in the months ahead. A degree of risk is almost always necessary, and the downside of cash and short-term instruments can be a lack of potential return in the face of more elevated inflation. Keeping portfolios in line with long-term goals can allow investors to maintain exposure to potential opportunities while avoiding the near-term tinkering that can be detrimental to long-term results. Core equity exposure is important, but there may be appeal in holdings geared to specific investment themes such as climate, technology connectivity or health care innovation. In fixed income, broadening exposure to an array of public and private sectors may help improve yield and return potential. More generally, an openness to moving beyond “home country bias” may prove useful as more value opportunities are evident abroad.

As 2022 continues to unfold, with fundamental and technical issues driving markets overall, we believe investors will have a degree of control over how that broader story specifically affects them, through asset allocation and sound planning. Indeed, the plotline may, over time, be very different from individual to individual depending on approach and consideration paid to specific goals in light of market realities.

## A WEAKER DOLLAR COULD FAVOR NON-U.S. MARKETS



Source: FactSet, as of January 6, 2022. For illustrative purposes only. Nothing herein constitutes a prediction or projection of future events or future market behavior. Due to a variety of factors, actual events or market behavior may differ significantly from any views expressed or any historical results. Indexes are unmanaged and are not available for direct investment. Investing entails risks, including possible loss of principal. **Past performance is no guarantee of future results.**

See disclosures at the end of this publication, which are an important part of this article.

Solving for 2022



## Ten for 2022

*The heads of our investment platforms have identified key themes they anticipate will guide investment decisions in 2022, covering trends in the macro environment as well as specific asset classes. You can read more about them in our annual outlook publication, Solving for 2022.*

JOSEPH V. AMATO, *President and Chief Investment Officer—Equities*  
ERIK L. KNUTZEN, CFA, CAIA, *Chief Investment Officer—Multi-Asset Class*  
SUZANNE PECK, *Head of Investments—Private Wealth Management*  
BRAD TANK, *Chief Investment Officer—Fixed Income*  
ANTHONY D. TUTRONE, *Global Head of Alternatives*

### MACRO: ENTERING A NEW AGE

#### 1 THE START OF ANOTHER LONG CYCLE—BUT ALSO A MORE VOLATILE ONE?

We are moving from the recovery phase of the current cycle to its middle phase. But what kind of cycle is it likely to be? The previous cycle was the longest in history and it ended only due to the exogenous shock of the pandemic. If anything, we believe that the willingness of fiscal and monetary authorities to support the cycle is even greater today. Inflation and new redundancies built into supply chains could introduce more business-cycle and market volatility, but we think we could be in for another long expansion.

#### 2 INFLATION: HIGHER AND MORE PROBLEMATIC

After 40 years of declining inflation and interest rates, the direction of travel appears to be changing, due to new central bank policy priorities, China's strategic reorientation, the energy transition, pressures in supply chains and labor's increasing bargaining power in negotiations over the spoils of growth. The tilt toward supply-side, cost-push inflation in this dynamic will likely pose a challenge to central banks. How central banks choose to navigate a changing inflation environment will likely generate market volatility in the coming year.

#### 3 A NEW AGE OF POLITICIZED ECONOMIES—AND NOT JUST IN CHINA

China's ongoing strategic reorientation of its economy explicitly elevates social and political objectives such as "common prosperity" and "internal circulation" over outright growth. But this is not just a China story. Worldwide, political and monetary authorities now have more tools, more capacity and more willingness to direct economic activity than ever before—in pursuit of climate, social equality, political, geopolitical and security goals, among many others. That likely means higher taxes. As the role of markets in resource allocation diminishes, we could also see more supply-and-demand mismatches, inflation and volatility.

#### 4 NET ZERO GOES MAINSTREAM

The 26th United Nations Climate Change Conference of the Parties (COP26) was held late last year in Glasgow, Scotland. Many countries went into COP26 lagging in their commitments, but impetus appears to be growing. The European Union's "Fit for 55" legislative agenda sets an aggressive standard. Just as important, the private sector is pressing ahead: We see critical mass in corporate net-zero pledges and plans, and in signatories to asset managers' and asset owners' net-zero initiatives. It will become increasingly imprudent in our view to ignore climate and climate policy risks in portfolios.

## **FIXED INCOME: RATES ADJUST, INVESTORS EMBRACE FLEXIBILITY**

### **5 AN ORDERLY ADJUSTMENT FOR BOND YIELDS AND SPREADS**

Core government bond yields remain low, particularly relative to current inflation; and credit spreads, in our opinion, are priced for perfection. We think the direction of travel in 2022 is up and wider, respectively. Finding income with modest or no duration will continue to be the priority, in our view, but major market disruption or significant credit issues appear unlikely. We believe a more tactical fixed income investment environment is developing.

### **6 INVESTORS PURSUE A MORE FLEXIBLE APPROACH TO SEEKING INCOME**

Faced with a combination of low and rising rates and tight credit spreads, investors are likely to double down on their search for short duration, floating rate, and less correlated sources of income. They may complement this with more tactical positioning, whether that be in interest rate risk exposure, asset allocation or into narrower, niche, but attractive markets. The opportunities likely to draw attention range from short duration credit, loans and collateralized loan obligations (CLOs) to China bonds and European corporate hybrid securities. We believe a mix of these short-duration, less-correlated and tactical sources of income could pay dividends in the year ahead.

## **EQUITIES: REFLATIONARY THEMES**

### **7 A REFLATION TAILWIND FOR VALUE AND CYCLICAL STOCKS AND REGIONS**

We think inflationary expansion is likely to support cyclical over defensive sectors, value over growth stocks, smaller over larger companies and non-U.S. over U.S. markets. That pattern was interrupted after Treasury yields hit a previous peak in March 2021, but could reassert itself as yields edge up again—particularly if this is accompanied by a weaker U.S. dollar. This environment would normally bode well for emerging markets, but substantial headwinds mean we tend to favor only specific opportunities, such as leading companies in India's innovation sectors.

### **8 WITH STRETCHED MARKET VALUATIONS, INCOME BECOMES MORE IMPORTANT**

The story of value underperformance is well known. But income, as a subset of value, has fared even worse over the past decade. There are three sources of equity returns: multiple expansion, earnings growth and compounded dividend income. Multiples appear stretched, and earnings have been growing above trend—which suggests to us that income may be more reliable over the coming year. Over the past 50 years, income has accounted for around 30% of equity total returns. Moreover, in an inflationary environment with low but rising rates, equity income is also a way to get short duration and inflation exposure into portfolios at relatively attractive valuations.

## **ALTERNATIVES: NO LONGER ALTERNATIVE**

### **9 A BIGGER MENU OF NON-TRADITIONAL DIVERSIFIERS FOR INVESTORS**

Investors face high valuations in many growth markets, combined with rising yields and diminished diversification benefits from core bonds, and the potential for inflation running above recent trend levels. This appears likely to encourage all types of investors to make larger, more diverse allocations to alternatives, liquid and illiquid, as well as assets that can mitigate the impact of transitory and secular inflation, such as commodities and real estate. Individual investors may have the ability to make the most notable moves, as private equity and debt products become more accessible to them.

### **10 EXECUTION RISK, NOT MARKET RISK, WILL LIKELY DETERMINE SUCCESS**

Valuations are high in current private equity deals. However, while starting valuation can be a strong determinant of long-term public equity returns, the relationship has not been so strong in private markets. We think that could be especially true with today's deals, from venture to buyout. Whereas historical vintages often relied on buying cheap and applying leverage, we see that today's average deal is comprised of more than 50% equity, and depends for its potential returns on successful operational and strategic enhancements, and merger-and-acquisition "roll-up" programs.

# Asset Matters



## Public/Private Investing: Real Estate to Enhance Portfolios

*In the converging landscape of public and private real estate, investment has become increasingly professionalized. As a result, investors are better able to access the space through a variety of structures that align with their unique liquidity needs, risk tolerance and total return objectives.*

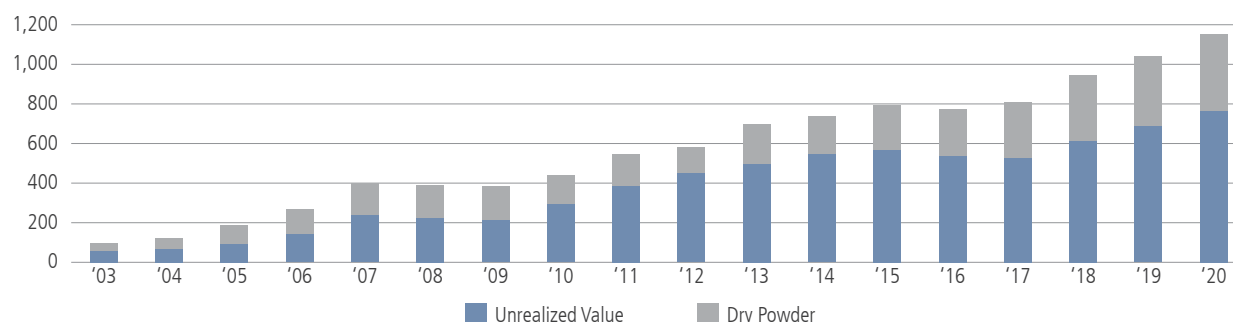
### INVESTMENT STRATEGY GROUP

The public and private real estate investment landscapes have been converging as the real estate market has become increasingly professionalized across both categories. While property-by-property investments continue to dominate, resulting in a fragmented, heterogenous market, the creation of public and private real estate operating companies and the growth in private equity real estate vehicles have broadened available opportunity sets. As a result, investors are increasingly able to access the space through public and private structures in a manner that aligns with their unique liquidity needs, risk tolerance, and income and total return objectives.

We believe the unique attributes of real estate can help investors diversify away from traditional public equity and fixed income asset classes to maximize risk management, improve yield and more effectively hedge the impact of inflation. In our view, these are all appealing characteristics in today's environment of low—and potentially rising—interest rates, elevated inflation and increasing correlations among traditional equity and fixed income assets. Real estate investors may also benefit from sector and geographic trends that have accelerated during the recent COVID-19 pandemic. As investors seek to address current and future market challenges, we believe real estate investments (both public and private) can play a critical role in a diversified portfolio.

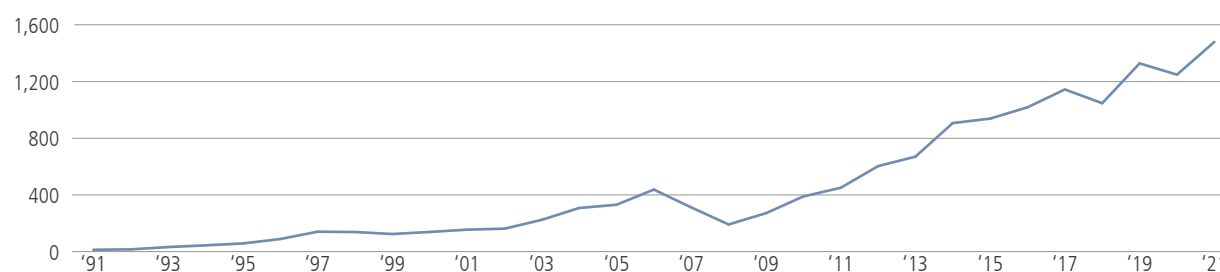
## REAL ESTATE FUNDS—PRIVATE AND PUBLIC—HAVE SEEN RAPID GROWTH

Real Estate Private Equity Funds Assets Under Management (\$ Billions)



Source: Preqin, as of September 2021. There can be no assurance that such characteristics will persist in the future.

REIT Market Capitalization (\$ Billions)



Source: NAREIT and Bloomberg, as of September 2021. FTSE NAREIT All REITs Index. There can be no assurance that such characteristics will persist in the future. Please see disclosures at the end of this publication for more information concerning Indexes, which applies throughout this article.

## EVOLUTION AND PROFESSIONALIZATION

Crucial to our view is the changing profile of real estate investing. For many years, the real estate market was focused on private ownership by family-run businesses, emphasizing tax minimization through the use of limited partnerships. Investors typically accessed real estate on an opportunistic basis, partnership by partnership and property by property, often driven by tax incentives. In the late 1980s and 1990s, real estate operating companies began to emerge, leading to the increased popularity of real estate mutual funds, followed more recently by a significant increase in professionally managed private equity funds. The \$16 trillion real estate market continues to be highly fragmented and largely privately owned.<sup>1</sup>

Today, this trend toward professionalization may help investors gain diversified exposure to real estate across a range of avenues. Depending on the investor, this may include a single operating company (public or private), a public real estate investment trust (REIT) mutual fund, or a private equity-style real estate fund. Diversification may be available across geography, property type, risk profile or underlying tenant, among other factors.

In our view, such exposure can complement personal real estate holdings. At the same time, we believe that professional investors are uniquely positioned to deliver potential long-term performance due to the fragmented, heterogeneous nature of real estate markets, extensive due diligence involved in evaluating real estate transactions, and the need for in-depth knowledge of local regulatory and tax-related issues, as well as the informational advantage often enjoyed by those who understand local market dynamics. We believe this professionalization may grow more important in a rapidly changing macroeconomic and real estate environment—particularly as investors attempt to deal with various current challenges in seeking to generate return and manage risk.

## FACING TODAY'S INVESTMENT CHALLENGES

Investors currently face a combination of issues associated with the early to middle stages of any economic expansion, which also relate to the economy's reemergence from the pandemic. At a high level are the low yields associated with the Federal Reserve's aggressive monetary easing, which was designed to keep the markets and economy going in the worst of the pandemic. As the reopening accelerated, so did inflation, propelled by pent-up

<sup>1</sup> Source: NAREIT and Neuberger Berman estimates, as of October 2021.

demand, ample liquidity, supply chain issues and shortages—notably in the commodity space—as many industries sought to ramp up production from reduced levels. At first perceived as transitory, it now appears that elevated inflation could last into this year and beyond. This, in turn, has prompted many central banks to start pulling back on bond purchases and ultralow interest rates, potentially putting pressure on the bond market, and increasing correlations between stocks and investment grade bonds—reducing the benefit of the latter as a portfolio diversifier.

As a result, there may be urgent questions around portfolios: how to keep up with inflation, how to generate meaningful income without taking excessive risk, and how to effectively diversify to limit losses during market volatility and both smooth returns and maintain potential for capital appreciation.

In the current climate, we believe that real estate, from both public and private sources, can potentially help with all of these issues, depending on the characteristics of the investment and the goals of the investor.

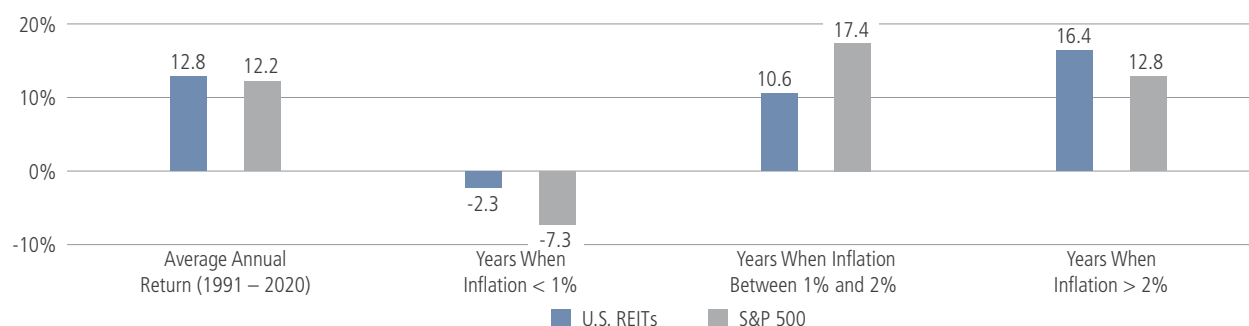
## A HEDGE AGAINST INFLATION

Historically, one of the key functions of “real asset” investments, including real estate, was to keep up with inflation. After the extraordinary price increases of the 1970s, Paul Volcker’s intense monetary tightening “broke the back” of inflation and, for the past several decades, it has been of limited concern. However, as inflation comes back into focus, it is worth understanding how that hedge can work.

At a basic level, real estate prices are a core part of the inflation rate and the two tend to go hand in hand. Beyond that, the economic arrangements created around real estate often take inflation into account. Think of a landlord, for example, who every year or two may have the ability to raise the rent on an apartment or storefront to cover costs or match market rates. Longer-term commercial leases often have protections, with annual “escalators” that may reset rents every year based on an inflation index. This resilience in the face of inflation has typically extended to real estate securities as well, as suggested by the total returns of publicly traded REITs and commercial real estate across inflation regimes (see displays below).

## RESILIENCE DURING INFLATION

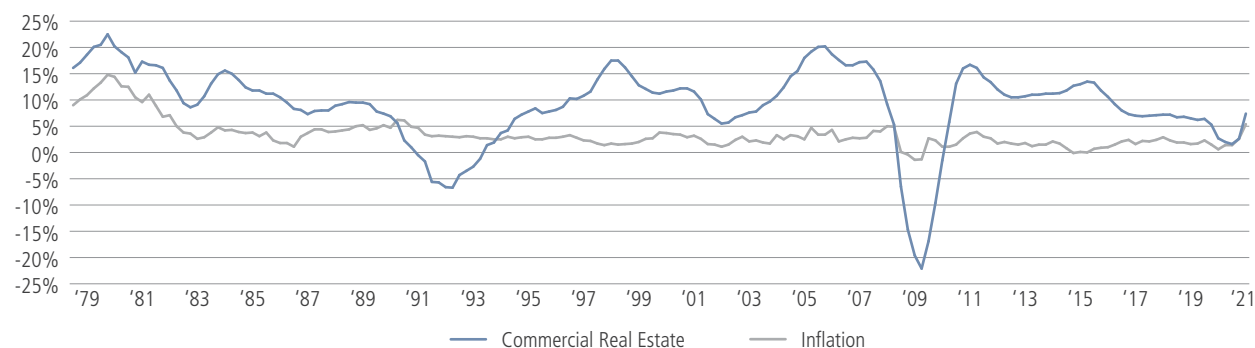
REIT vs. S&P 500 Returns in Different Inflation Regimes



Source: NAREIT, as of December 2020. NAREIT analysis of prices for the FTSE NAREIT All Equity REIT Index and S&P 500 Index; 1972-2020. Inflation measured for all items, all urban consumers. Indexes are unmanaged and are not available for direct investment. Unless otherwise indicated, returns reflect reinvestment of dividends and distributions. Indexes are unmanaged and are not available for direct investment. Investing entails risks, including possible loss of principal. **Past performance is no guarantee of future results.**

## U.S. COMMERCIAL REAL ESTATE GROWTH VS. INFLATION

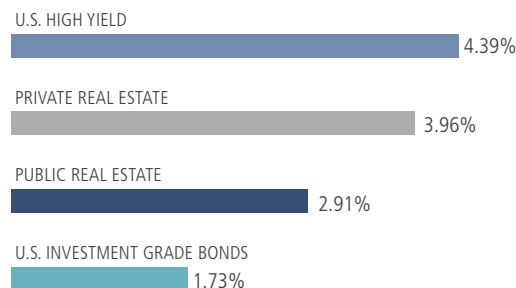
Year-Over-Year Percentage Change



Source: Bloomberg, NCREIF National Council of Real Estate Investment Fiduciaries. Data through September 2021. Year-over-year percentage change. Commercial real estate is represented by the NCREIF Index, inflation is the Consumer Price Index. Indexes are unmanaged and are not available for direct investment. Investing entails risks, including possible loss of principal. **Past performance is no guarantee of future results.**

## APPEALING YIELDS IN A LOW-INCOME ERA

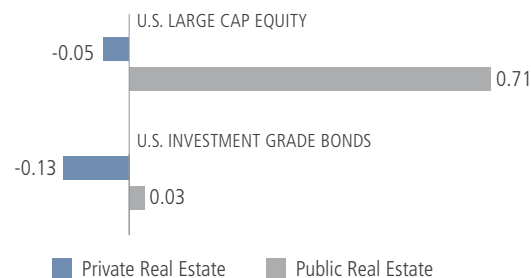
Yield Comparison: Real Estate vs. U.S. High Yield and Investment Grade Bond Indices



Source: Bloomberg, National Council of Real Estate Investment Fiduciaries. Data as of November 2021 for U.S. High Yield Market Index, public real estate (FTSE NAREIT All Equity REITs Index) and U.S. investment grade bonds (Barclays Capital U.S. Aggregate Bond Index), and as of September 2021 for private real estate (NCREIF Property Index, trailing 12-month income yield). Indexes are unmanaged and are not available for direct investment. Investing entails risks, including possible loss of principal. **Past performance is no guarantee of future results.**

## VALUABLE DIVERSIFIER

Real Estate Correlations vs. Stocks, Bonds



Source: NAREIT, Neuberger Berman. Public real estate: FTSE NAREIT All Equity REITs Index, private real estate: NCREIF Property Index, U.S. large-cap equity: S&P 500, U.S. investment grade bonds: Barclays Aggregate Bond Index. All calculations based on quarterly index returns for trailing 20 years ending June 30, 2021. Indexes are unmanaged and are not available for direct investment. Unless otherwise indicated, returns reflect reinvestment of dividends and distributions. Indexes are unmanaged and are not available for direct investment. Investing entails risks, including possible loss of principal. **Past performance is no guarantee of future results.**

## INCOME GENERATION AND DIVERSIFICATION

As with other broad investment categories, real estate characteristics vary. This extends to income generation, with some vehicles and strategies opting to provide yield as part of a total return approach and others focused more on capital appreciation. As a general idea, however, real estate often has the ability to generate income, which may be particularly valuable in light of low yields on many investment grade fixed income securities (see the first display at left).

Beyond yield, real estate has displayed a valuable level of diversification from traditional assets over the last 20 years—suggested by REIT correlations versus other publicly traded assets (see second display at left), with a correlation of 0.71 relative to large-cap equities and 0.03 to investment grade bonds. (1.0 represents perfect correlation in price movements, zero shows no relationship, and -1.0 reflects perfect inverse movement.) As you might expect, correlations between private real estate and publicly traded assets are even lower, at -0.05 and -0.13 relative to large-cap equities and investment grade bonds, respectively, given private markets' greater insulation from short-term market dynamics. In our view, the idiosyncratic nature of real estate may be particularly valuable as we navigate an uncertain and evolving market climate.

## ASSET CLASS IN MOTION: CURRENT REAL ESTATE DYNAMICS

The global economic landscape has been changing dramatically over the past two years, and in our view real estate is no exception, as pressures from the pandemic coupled with ultra-aggressive monetary and fiscal stimulus, as well as pre-existing strategic issues, have combined to affect business results and prospects. Assessing potential opportunity may require close attention to regional/industry specifics as well as valuation.

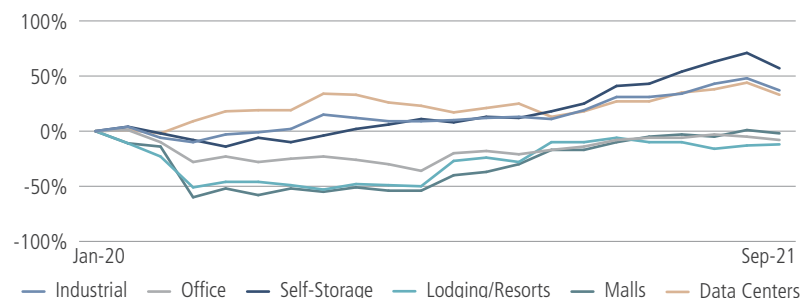
In terms of sectors, single-family homes, industrial warehouses, data centers and infrastructure including cell towers have secular tailwinds but may also carry higher pricing. Meanwhile, more COVID-exposed areas like retail, offices and hotels may provide appreciation potential as the reopening matures and the economy moves back toward broader normalcy. The displays on page 15 reflect the sharp bifurcation of performance in the real estate market thus far, both in public and private segments. All told, although real estate assets have seen significant appreciation since the depths of the health crisis and lockdowns, we still see significant room for return potential given strong economic growth and still-strong demand in some areas, but we emphasize the need for selectivity to manage ongoing risks.

## ACCESSING THE REAL ESTATE MARKET

Direct real estate has also been a common means of investing for generations. However, as many have likely learned from experience, opportunities in individual properties aren't for everyone. They often require large time and capital commitments, are typically hard to diversify, and may require very specialized expertise. We believe more relevant to readers here, therefore, are means to access professionally managed real estate portfolios, which fall broadly into private real estate and publicly traded real estate categories. Both categories potentially benefit from the characteristics outlined previously, including a fragmented market, local market differentiation, asymmetric information, long transaction lead times, and heterogeneous property characteristics. Moreover, we believe the use of professionally managed vehicles enhances the opportunity for long-term performance in light of the unique characteristics of real estate—an idea that in our view applies to both public and private markets.

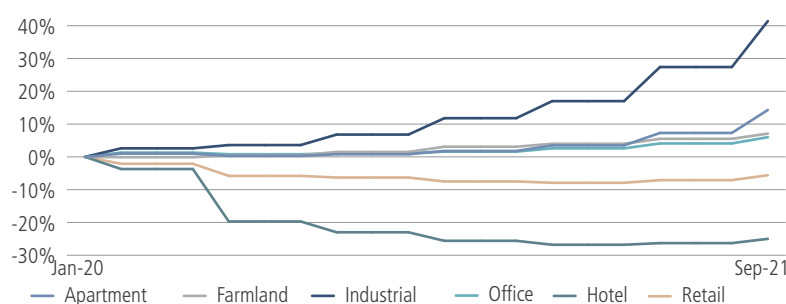
## PERFORMANCE GAPS DURING THE PANDEMIC

Public Real Estate Sector Cumulative Performance: January 2020 – September 2021



Source: Morningstar, NAREIT. Cumulative returns from January 1, 2020 to September 30, 2021. There can be no assurance that such characteristics will persist in the future.

Private Real Estate Sector Cumulative Performance: January 2020 – September 2021



Source: Morningstar, NCREIF National Council of Real Estate Investment Fiduciaries, Cumulative return from March 31, 2020 to June 30, 2021. There can be no assurance that such characteristics will persist in the future.

## PRIVATE REAL ESTATE

About 90% of the \$16 trillion U.S. commercial real estate market is in private hands,<sup>2</sup> and much of that is increasingly within fund structures. Private funds typically bring with them professional management and an array of focus areas and disciplines and, depending on the assets involved, may be particularly flexible in seeking to achieve investor goals, whether related to income or capital appreciation. They may also be able to generate exposure in areas of particular interest to the investor, and where opportunities may be particularly ample, although they typically focus on traditional real estate sectors such as office, industrial, multifamily residential, office, retail and lodging. Like other strategies in the private markets, private real estate funds may be able to operate without the short-term orientation and market turbulence that often affect publicly traded counterparts. Properties and companies that remain private tend to be smaller and less established than public REIT counterparts. Like many private equity funds, they typically have investor qualifications and relatively large investment minimums, although those are easing with the introduction of new investment structures. Traditional private funds also tend to be illiquid for multiyear periods and may require gradual commitments of capital before investors begin to see potential investment returns.

Strategies vary, but popular approaches include: investments in real estate operating companies, which provide meaningful diversification and the ability to invest with strong

## PRIVATE FUNDS

TYPICALLY BRING WITH THEM PROFESSIONAL MANAGEMENT AND AN ARRAY OF FOCUS AREAS AND DISCIPLINES AND, DEPENDING ON THE ASSETS INVOLVED, MAY BE PARTICULARLY FLEXIBLE IN SEEKING TO ACHIEVE INVESTOR GOALS.

<sup>2</sup> Source: NAREIT and Neuberger Berman estimates, as of October 2021.

Private real estate opportunities can be differentiated by risk profile and fall in to three main categories, as shown below:

	Core	Value-Add	Opportunistic
<b>Source of Return</b>	Income	Income + Capital Appreciation	Capital Appreciation
<b>Risk/Return Profile</b>	Moderate	Moderate – High	High
<b>Leverage</b>	Low	Moderate	High
<b>Occupancy/Level of Development</b>	High Occ./Low Dev.	Moderate Occ./Moderate Dev.	Low Occ./High Dev.

management teams with expertise in their specific niches and regions; lending, which rather than investing in the equity of a given firm or project, draws potential return from directly underwritten debt of real estate companies and transactions; and private equity-style real estate funds, which invest in individual properties across risk profiles, property types and geographies. Of particular interest today, in our view, is the recent growth and maturation of the real estate secondaries market, which involves the purchase of existing private equity real estate funds, often at a discount to prevailing market prices. Secondary market investing may reduce the delay before return of capital and investment proceeds that often takes place with many traditional approaches, and may provide some risk reduction given accumulated knowledge about the seasoned assets involved.

## PUBLIC REAL ESTATE

Most REITs are publicly traded companies that own, operate or finance real estate. Because of federal tax rules, they are required to distribute the bulk of the income they produce each year. Much like their traditional equity counterparts, publicly traded REITs tend to skew to larger and higher quality, and REITs are typically better able to withstand the scrutiny of the public markets and to support the required distribution of income in the REIT structure. Although initially focused on more traditional sectors of the real estate market, they have in recent years expanded to include a range

of disruptive business trends, as shown below in the current sector breakdown of a prominent U.S. equity REIT index. This differentiated sector exposure may complement private real estate strategies in an overall portfolio and diversify away from existing personal property holdings. REIT funds operate much like other diversified investment strategies, providing exposure to a range of companies to help increase potential for opportunity and manage risk. Unlike private counterparts, they are subject to equity market-related volatility, particularly during short-term bouts of volatility. However, over the long term, publicly traded REITs tend to reflect the fundamentals and investment returns of the real estate market, independent of equity markets overall (much like private real estate).

## CONCLUSION: FITTING REAL ESTATE INTO PORTFOLIOS

We believe the public and private real estate markets are at a unique juncture today, as the spread of professionalized asset management has helped to enhance opportunities and manage risks within a still-fragmented landscape. Exposure to real estate may help generate income and total return, as well as serve as a potential hedge against renewed inflation. The use of both public and private vehicles in a portfolio may expand the array of opportunities and help craft exposure in line with individual objectives and risk tolerance.

PUBLIC REAL ESTATE: OLD AND NEW  
Percentage of FTSE NAREIT All Equity REITs Index

<p>U.S. REITs <b>50%+</b> Alternative Real Estate Exposure</p>	
<b>Traditional Real Estate Sectors</b>	<b>47%</b>
Retail	12%
Industrial	11%
Apartments	11%
Office	7%
Diversified	3%
Lodging/Resorts	3%

<b>Alternative Real Estate Sectors</b>	<b>53%</b>
Infrastructure	17%
Data Centers	9%
Healthcare	9%
Self-Storage	6%
Specialty	4%
Manufactured Homes	3%
Timber	3%
Single-Family Homes	2%

Source: FTSE NAREIT, as of September 30, 2021.

See disclosures at the end of this publication, which are an important part of this article.

# ESG Investing



## The Path to Net Zero

*Achieving ambitious climate goals is likely to require concerted action from government, business and capital providers.*

**JONATHAN BAILEY**, *Head of ESG Investing*

**SARAH PEASEY**, *Director of European ESG Investing*

The issue of climate change and achieving “net-zero” emissions is now front-and-center, as governments, companies and financial players become increasingly active in seeking to limit global warming. In November, the “COP26” climate change conference in Glasgow (the “26th Conference of the Parties to the United Nations Framework Convention on Climate Change”) provided a focal point for current efforts, and highlighted the challenges and potential opportunities to work together to solve a crucial issue for the 21st century and beyond.

The conference was the latest in the series of annual meetings that produced the 2015 Paris Agreement, under which countries set the goal of limiting global temperature increases to under 2.0°C above pre-industrial levels (and as close to 1.5°C as possible) by 2050—a level beyond which many believe there could be irreversible damage to the planet and its inhabitants. This was the first such gathering in two years (2020 was skipped due to COVID-19) and the first since the U.S. rejoined the Paris Agreement, so there was considerable anticipation about potential initiatives, along with a degree of skepticism about ultimate impact.

Overall, we would say the results were mixed to positive. Huge gaps persist between countries’ past pledges and real action; however, the event provided some measure of accountability for the world’s biggest emitters and advanced increased ambitions for the future.

## KEY DEVELOPMENTS AT COP26

An array of important results emerged from the Glasgow conference:

**Finance:** We saw the establishment of the Glasgow Finance Alliance for Net-Zero, a network of 450 financial institutions managing a total of \$130 trillion pledging net-zero emissions by 2050. A new Sustainability Standards Board was also announced by the International Financial Reporting Standards foundation to provide better measurement and accountability on climate reporting.

**Energy:** 190 countries and companies agreed to phase out coal power and end support for new plants. At least 23 countries made new commitments, including five of the top 20 coal power-using countries. There were also commitments to scale up clean power and ensure a just transition, while financial institutions made landmark commitments to stop funding “unabated” coal power generation.

**Nature and Land Use:** More than 100 countries, representing around 85% of the world’s forests, pledged to halt deforestation by 2030, supported by nearly \$20 billion in public and private funding. A similar number of countries pledged to reduce methane emissions by at least 30% in the next decade (but, so far, not China, Russia or India).

**Adaptation, Loss and Damage:** Commitments totaling \$232 million were made to the “Adaptation Fund” by several nations to help underdeveloped countries deal with climate impacts—more than double the previous highest figure.

**Transportation:** The RouteZero campaign brought together commitments from policymakers, auto manufacturers and other stakeholders to shift toward 100% zero-emission vehicles (ZEVs) adoption by the end of the 2030s.

## CLIMATE AGREEMENT HIGHLIGHTS

Turning specifically to the COP26 climate pact itself, we saw the following developments:

**Nationally Determined Contributions (NDCs):** Under the Paris Agreement, nations are required to set forth their NDCs, or actions to reduce climate change, every five years. Because existing commitments do not meet the 1.5°C target, however, NDCs will again be reviewed in 2022.

**Coal:** Although wording on coal was watered down from “phasing out” to “phasing down,” COP26 is the first agreement at this level to make direct reference to reducing reliance on fossil fuels—a modest but important step.

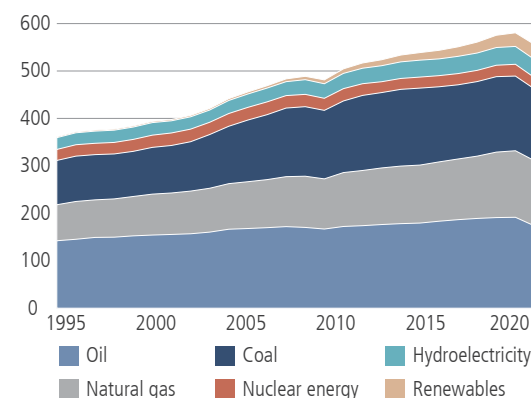
**Adaptation and Climate Finance:** Developed nations have fallen short in their 2009 commitment to distribute \$100 billion a year in climate finance to the developing world, starting in 2020. Even so, rich nations increased their commitment to \$500 billion over the next five years, to be focused on adaptation rather than emissions reduction.

**Loss and Damage:** COP26 could not agree on funding for loss and damage in the developing world—one of the most contentious ambitions, given the potential liabilities it creates. This was pushed back to next year’s conference.

**Carbon Markets:** A new framework would enable a carbon offset market open to the public and private sectors, and a separate bilateral system to allow countries to trade credits.

## ENERGY TRANSITION MAY NEED TO ACCELERATE

World Consumption (Exajoules)



Source: BP Statistical Review, 2021.

## LOOKING FOR FOLLOW-THROUGH

Even with the fanfare, there was (and remains) natural skepticism around COP26 and the potential for international cooperation that leads to concrete advances.

In our view, strong action is needed, particularly on NDCs. Climate Action Tracker recently analyzed the policies of 36 countries, as well as the 27-nation European Union, and the data supported that all major economies (making up 80% of global emissions) were behind their pledges to meet the 1.5-degree target by 2050. Although many environmentalists have long hoped for mandates to end the use of thermal coal and internal combustion engines, neither the U.S. nor China, which account for half of global emissions, have taken these steps. The U.S. recently vowed to go carbon-neutral by 2050, but China is still only pledging net-zero emissions by 2060 and India by 2070.

Thus, we believe a key takeaway from COP26 is that the private sector and private capital will likely be critical in leading where policymakers are lagging. On the private front, we believe signs are more hopeful. Many companies are increasingly working to limit their carbon footprint and transitioning to clean energy, while documenting their progress. Meanwhile, asset owners and managers representing \$130 trillion in assets, including Neuberger Berman, are now committed to net-zero investing by 2050.

Many of our clients expect us to decarbonize their portfolios, anticipating that these moves will likely change the cost of capital for key sectors and, through the market mechanism, do governments' work for them.

## NATURAL ALIGNMENT: CLIENTS AND SUSTAINABILITY

Although as a matter of public policy and community commitment, we believe strongly in the need to curb emissions dramatically in the coming decades, our position is ultimately based on a client-centric idea that climate will likely have a significant impact on investment return potential in two ways:

First will be the physical impact of climate change itself. Extreme weather events, wildfires, floods and rising sea levels are likely to disrupt certain supply chains and threaten the viability of some capital assets.

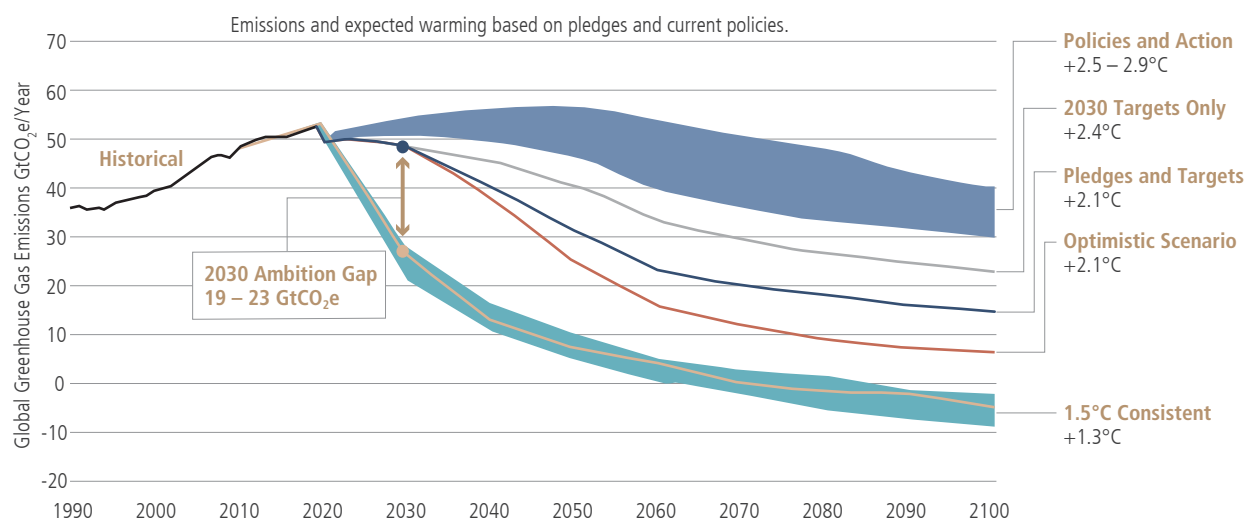
Second are business risks associated with the transition toward global net-zero emissions. Efforts to slow climate change through carbon taxes, regulation, green fiscal spending, energy transitions and changing purchasing behavior are likely to create new winners and losers in business, and new risks and opportunities in investment.

How can investors effectively identify these issues in portfolios? This is a fundamental question that combines high-level assessments of climate trends and specific research observations. As a broad principle, we feel it is important to be well grounded in data, analysis and research in order to accurately assess the potential impact on sectors, companies and portfolios.

A core tool at our disposal is a climate value-at-risk (or CVaR) measure that quantifies climate risk, both in terms of physical impact and transition toward net zero. The CVaR framework seeks to quantify the impact that climate change and the transition to a net-zero economy might have on companies' equity valuations and

## TIME APPEARS TO BE RUNNING OUT

Warming Projected by 2100



Source: Carbon Action Tracker, as of November 2021. For illustrative purposes only. Due to a variety of factors, actual events or market behavior may differ significantly from any views expressed.

bond yields. It helps to identify risks and potential opportunities associated with certain temperature-increase scenarios and translate them into an economic value in present dollars.

CVaR is typically greater among the most carbon-intensive industries such as the energy, utility and certain consumer discretionary sectors, such as airlines. There are pockets of positive CVaR impact, too, for example on companies with significant portfolios of renewable technology patents. Overall, portfolios with the greatest exposure to higher carbon-emitting sectors tend to face greater physical and transition climate risks over time.

Quantitative tools are only part of the assessment of climate vulnerability (and in some cases, potential opportunity). Deep experience and familiarity with a given industry or company on the part of analysts and portfolio managers can provide important context and meaning when it comes to judging trends and assessing the potential trajectory of a given business in the face of climate transition—which can be helpful both in making investment decisions and in dialogue with companies.

## ENGAGEMENT ON NET ZERO

Although exclusion of carbon-heavy industries has been a common tactic among some investors, in our view a purely exclusionary approach will not be enough to meet global climate ambitions. Large financing gaps within the existing energy industry need to be filled to ensure an orderly transition, as volatility in oil and gas pricing has recently shown. But we should also expect more focus on how portfolios actively and measurably contribute to climate solutions.

In our view, the journey to net zero will require substantial technological innovation: For cement production, for example, net zero will likely require the sequestration of half the industry's emissions using Carbon Capture and Storage (CCS), which remains expensive and unproven at scale; in transportation, the ambition is for nascent green hydrogen to play a key role. Some of these solutions will be investable, some not, and as COP26 has shown, policymakers are likely to subsidize advances in certain areas while nudging capital allocation toward others through regulation and official taxonomies of sustainable activities.

We believe that engagement is a crucial element to our research and investing framework, and one that could be especially vital on the path to net zero. Active engagement, in our experience, can be quite effective in gauging climate risks and moving companies along their net-zero "journey." By interacting with managements, we can better gauge materiality of those plans and the degree to which they may seek to pivot beyond fossil fuel dependencies. Maintaining an open dialogue on climate can influence decision-making, while the use of proxy voting to stake out public positions on climate disclosure and emissions can also help to foment strategy, to the potential benefit of climate and shareholder value.

Seeking to increase the power of our voice and encourage change, in 2020, we launched NB Votes, an advance proxy vote disclosure initiative in which our firm announces our voting intentions before annual meetings at select companies. In this effort, we have included a broad range of proposals, with a balance of votes in support of and against management recommendations across multiple areas of emphasis (see "Engagement 360°," *Investment Quarterly*, Spring 2021). We have been pleased to find that the program has clarified our priorities among companies as well as encouraging other managers to follow suit on amplifying proxy impact.

## THE PATH AHEAD

COP26 offered a climate agenda of great ambition—arguably the most ambitious seen since Paris in 2015. Two years ago, the goal of reaching 1.5°C seemed all but impossible, yet what Glasgow offered was, in our view, a genuine "north star" and path to net zero.

In our view, transitioning away from our current global energy system is of paramount importance, though we need to acknowledge the challenges in doing so. We believe reaching the 1.5°C target will require a reshaping of the entire global economy in less than 30 years, while maintaining economic stability and reducing energy equality across the developing world. Transitions to newer, cleaner energy systems could require significant shifts not only in technology, but in political regulations, and the behavior of users and adopters across the world.

When these parties met in Paris in 2015, the world was on a trajectory toward global temperatures of 4°C to 6°C above pre-industrial levels. Today, the International Energy Agency puts us on a path to 1.8°C, as long as existing commitments are honored; Climate Tracker says 2.4°C.

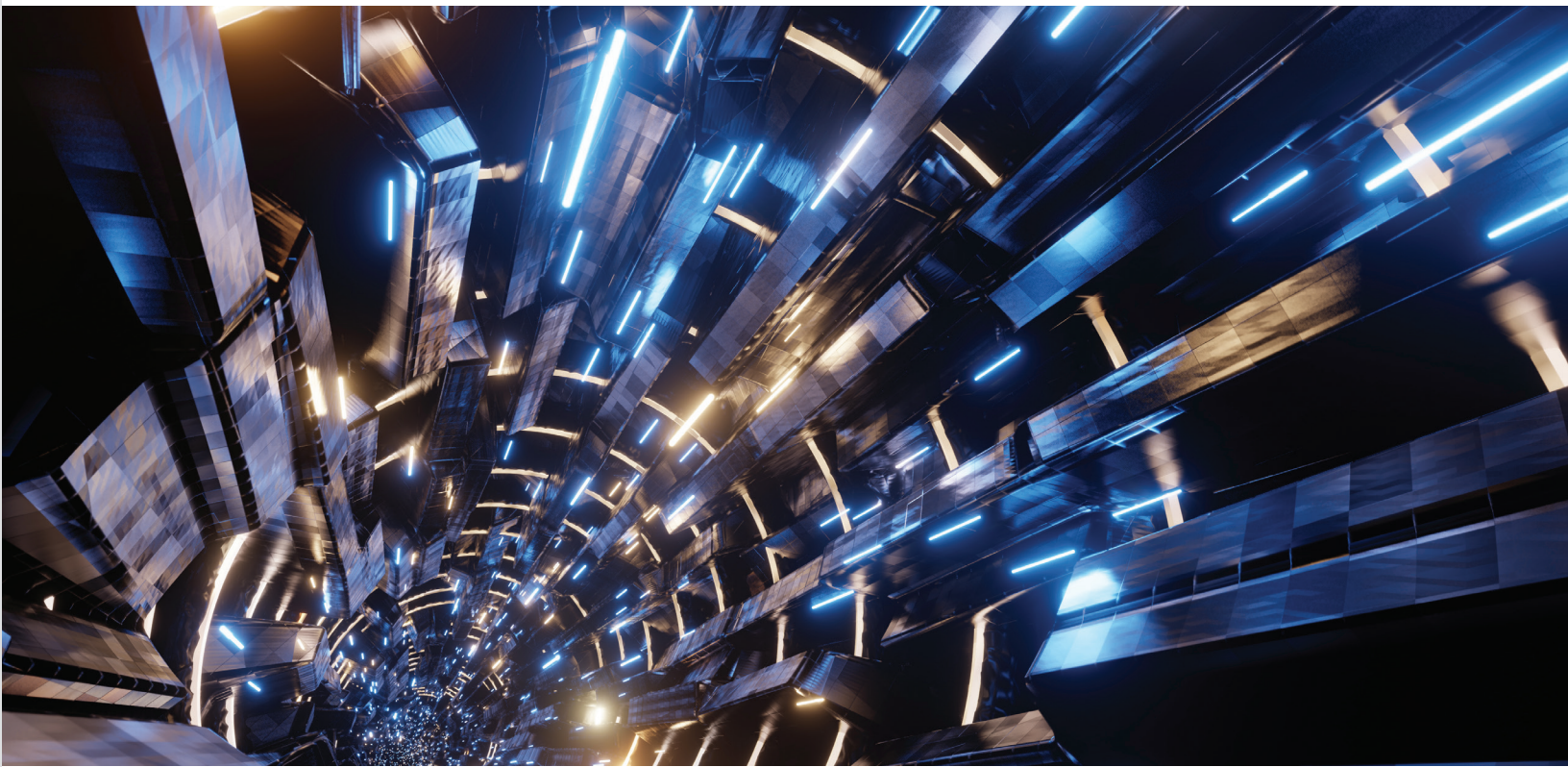
Over the short term, we hope that COP26 will help deepen our conversations with clients to help them on their own climate journey, but also with the companies we invest in to encourage them to set even more ambitious goals. That said, we believe the benefits of COP26 extend way beyond just the short term for investors.

COP26 was a summit of compromise and balance, keeping finance flowing and boosting adaptation. Asset owners, managers and insurers representing \$130 trillion in assets (including Neuberger Berman) have signed on to initiatives committing them to net zero by 2050. We believe achieving such targets will require significant investment, which means investors and financial institutions, like ourselves, will play an unequivocal part in mobilizing capital toward both private and public sector finance.

We really are only at the start of this very long journey. Many difficult stretches lie ahead, but in our view, asset managers have a pivotal role to play and a huge responsibility to get this right. It is an effort that we at Neuberger Berman feel privileged to be a part of.

See disclosures at the end of this publication, which are an important part of this article.

Innovation



# NFTs: When Markets Collide

*We see an important trend in digital art that could create new avenues for artists, collectors and philanthropy.*

**GREGORY KHOST**, *Head of Business Development, NB Private Wealth Management*

**NINA DEL RIO**, *Vice Chairman, Sotheby's Advisory*

**MATTHEW ILES**, *Co-Founder and Partner, Serotonin*

Over the past year, the once-obscure term of NFTs, or non-fungible tokens, has garnered mainstream attention, as some digital works have attracted millions of dollars at auction, and new NFTs have burgeoned, motivated by creativity and profit. Still, understanding of this trend remains murky given its fluidity and unique combination of art, commerce and digitalization.

During the fall, Neuberger Berman and Sotheby's hosted an in-person event providing insight into this developing realm. Gregory Khost, our Head of Business Development for Private Wealth Management, interviewed Nina del Rio, Vice Chairman, Head of Sotheby's Advisory: Museums, Corporations, Individuals, and Matthew Iles, Co-Founder and Partner at Serotonin, a technology marketing firm, and General Manager of Sotheby's Metaverse, to explore NFTs, their potential for artists and collectors, and how they are already helping transform the art world. The following Q&A was adapted from their discussion.

FOR ARTISTS, NFTS COULD  
PROVIDE THE POTENTIAL  
FOR A RENAISSANCE  
BY ALLOWING THEM TO  
PARTICIPATE IN THEIR  
CREATIVITY IN PERPETUITY.

---

## NFTS: KEY TERMINOLOGY

---

**Blockchain:** A list of digital records, called blocks, that are linked using cryptography. A blockchain is resistant to modification of its data.

**Cryptocurrency:** A digital asset designed to work as a medium of exchange (currency). Individual coin ownership records are stored electronically using cryptography.

**Ethereum:** The blockchain platform with “smart contract” functionality where most NFTs are created. Its unit of exchange is the “ether” cryptocurrency.

**Minting:** The creation of an NFT on blockchain.

**Nonfungible Token:** An NFT is a digital object (often an artwork) that can readily be identified as unique, as opposed to currency units, which are identical to one another.

**Greg:** NFTs have been called the Wild West of the art industry and, in Matthew’s words, “a renaissance for the creator economy.” Before we get into the potential implications of NFTs, can you first explain what they are and how they work?

**Matthew:** Although often considered an artwork, at a basic level, an NFT is any digital object that can be readily identified as unique. If you think about currency, it is typically fungible, which means one dollar can readily be substituted for another—they are essentially identical. The same principle applies to cryptocurrencies like Bitcoin, except that they are listed in a shared digital ledger called blockchain. NFTs are on that ledger but their coding is considered to be one-of-a-kind. As with a cryptocurrency, owners hold their NFTs in a digital wallet, which may be housed on a server, computer or even a thumb drive.

**Greg:** What accounts for the surge of interest in NFTs?

**Matthew:** Over the past 25 years, we’ve been increasingly living online, and the pandemic reinforced that experience for many consumers. There’s obviously a lot wrong with the internet, but increasingly people are spending their time there, looking at things that are beautiful. Meanwhile, many artists have been creating works that are digital in nature—motion graphics, digital art—but historically haven’t had a means to turn that digital art into an asset, and often their creative work has been duplicated endlessly. Although NFTs have been around for about six years, this value of establishing ownership—and the terms of ownership—is being recognized. So, the dual trends of online experience and value have converged.

**Greg:** What could all this mean for artists?

**Nina:** From the perspective of artists, I believe this provides the potential for a renaissance. NFTs can include what are called smart contracts, which potentially could allow artists to participate in their creativity in perpetuity. That is a very large and potentially meaningful shift in the art market. Currently, artists sell their physical work either directly or through a gallery, and then it’s out there in the secondary market. They often don’t participate in the resale of that work. In the NFT world, that potential exists. For example, they may place conditions on ownership that are built into the NFT itself, including a share in the proceeds of resale, or terms where buyers may (or may not) repurpose NFT images. All this also has implications for philanthropy, as we will get to in a minute.

**Greg:** The trend of NFTs is by nature quite decentralized. How do you square that with the historical role of auction houses and galleries as curators and intermediaries?

**Nina:** We believe that institutions like Sotheby’s have an important role to play, and we deliberately curate in this space. That said, NFTs are democratizing, which is a direction that we feel should be embraced. It’s reflected in our development with Serotonin of Sotheby’s Metaverse, an online destination for collectors of digital art, where we offer an array of NFTs for auction. Our first sales event, “Natively Digital 1.2,” put the spotlight on those who have championed digital artists and contributed to the digital art space—many before it was popular to do so.

**Greg: What brought you to that point? It is a major transition.**

**Nina:** NFTs have been on our radar for some time, but the pandemic served as a real accelerant. When much of the art world shut down, we tried a number of innovative things. We reduced our reliance on physical catalogs and emphasized more digital communications. We also branched out, inviting bidders to participate with us in areas like sneakers, wines and prints—segments that are perhaps more welcoming and easier to access, and which brought in a wider array of participants. We also started thinking about how we could serve a greater role in the digital arena, which continues to expand even as the world emerges from the pandemic. A particular catalyst came from interaction with museum directors, who were clearly interested in knowing more about NFTs and how they could help support philanthropic goals. My discussions with Matthew evolved from there, and led to the curated experience in our Metaverse.

**Greg: Please talk a little more about the charitable aspect of this. How can it work?**

**Matthew:** This goes to the idea of membership, and a framework that Nina and I have been developing is an “NFT patrons” program, which derives from currently popular NFT groups such as CryptoPunks and Bored Ape Yacht Club. If you haven’t heard of them, they are essentially clubs where folks own a unique NFT, but are also members of a broader community trying to grow its cultural impact.

This is quite a powerful trend in pop culture, but when you consider applying it to philanthropy, it takes on different goals. Specifically, is there a way to leverage assets from within a museum collection that people might want to “own” as an NFT? This NFT would provide the same benefits as being a benefactor, patron or VIP member of a museum, including access to physical and virtual events, special dinners, inclusion in donor lists and the like. For example, donated funds could go to a specific project, where the donor could receive access to a membership group with similarly minded NFT owners.

It’s an interesting combination of art and utility. The visual/artistic aspect is what you buy and get to put on a screen, but it comes with a utility to access other benefits—something that we’re finding has a lot of resonance when it comes to museum partners.

**Greg: Let’s go back to digital creators and artists, who historically have been compensated on platforms based on popularity, as reflected in visits and “likes.” How can NFTs affect that dynamic?**

**Matthew:** Over the past decade, a handful of platforms have come to dominate the internet. They typically make money by engaging us frequently with content that we like, share or click

on, and then showing us relevant advertisements, with creators receiving a small portion of that ad revenue. Often, creators will have to post content very frequently to maintain their position in platform algorithms, contributing to a “rat race” environment. With a scenario built around NFTs, there may be a way for creators to remove the middleman, and to focus more on creation and less on commerce.

Because an NFT is a token, it’s easy to prove ownership, which opens the door for sellers to grant buyers access to special privileges such as the right to view exclusive content or attend special events. So, you can create a subscription/membership model built into the ownership of the artwork itself. All of which is to say that NFTs provide a new way of being able to engage with fans and collectors, and monetize them on any platform.

**Nina:** Looking at this through the filter of the art world and the perspective of artists, imagine the flexibility of just being able to market their work on their own and sell to whomever they want to sell to on platforms that are much more accessible than a gallery exhibition. This is not a judgment one way or the other, but it provides artists and creators amazing flexibility and freedom.

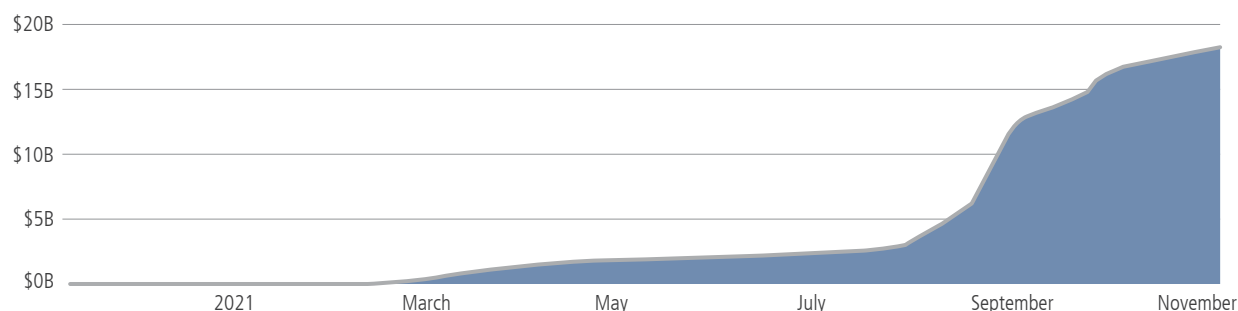
**Greg: Despite all the positives, there has been concern about the environmental impact of cryptocurrency and, by extension NFTs. What do you see as the issue?**

**Matthew:** NFTs are part of the blockchain, which require massive computer networks to keep track of them. So, what’s concerning is the energy consumption of all these computers. A fundamental premise of Bitcoin is that it can’t ever be changed, so the ability to curtail energy usage tied to that particular cryptocurrency seems limited. However, Ethereum, where most NFTs are created, has a potential path toward more energy efficiency, while other less-developed competitors are also trying to use advanced methods to limit energy consumption. So, it’s true that the original blockchain technologies consume a lot of energy relative to their perceived value, but newer iterations, which will make up the bulk of new issuance, are likely to reduce much of that concern. Many of those involved—from developers, to entrepreneurs, to consumers—know that this issue could hold back the industry, so they are working hard to address it.

**Greg: Finally, I’m hoping you can provide your perspective on where NFTs could fit into the broader art world moving forward.**

**Nina:** Something we understand from our involvement is that a lot of the participants who are buying NFTs now are also invested in cryptocurrency. Perhaps their homes are filled with digital artwork, or paintings as well. Although we haven’t seen it so far, we do anticipate a moment when these two worlds—the traditional collector and the NFT buyer—converge.

## NFT ART MARKET, 2021 TOTAL ANNUAL SALES (\$ BILLIONS)



Source: Nonfungible. Cumulative through November 2021. For illustrative purposes only. Nothing herein constitutes a prediction or projection of future events or future market behavior. Investing entails risks, including possible loss of principal. **Past performance is no guarantee of future results.**

**Matthew:** How collectors can enjoy or use their NFTs moving forward is a question that could affect its relationship with traditional art. To the naked eye, an NFT may be identical to digital copies that proliferate on the internet, and yet it is unique. To some degree, broader acceptance may be a function of hardware. Even before NFTs took off, Samsung introduced a television that didn't look like a TV and could display digital art when you weren't watching programs. Most televisions are in prominent locations, but are blank for most of the day. So, the potential is there to not only display NFTs, but conceivably to put in place verification so that only NFTs can appear on a given device. You might program a monitor to show NFTs on a rotating basis, or perhaps port your collection to another device when you are visiting friends, to share the works on their displays. Things will progress organically, but it could take a while. In the meantime, the world appears to understand the broad concept of owning NFTs, but is grappling with specific parameters as well as how digital art and NFTs will play out in relation to traditional media and also as part of our daily lives.

**Greg:** This has been fascinating. Thank you both for your insights.



### NINA DEL RIO

Nina has led Museum, Private and Corporate Art Services at Sotheby's since 2004 and recently assumed the leadership of Advisory Services, which provides collection-related resources to individuals, institutions and corporations. Under her direction, Sotheby's has overseen the vast majority of institutional and corporate collections to have come to market over the past decade. Nina began her career with Sotheby's as an intern in 1988, and after a brief hiatus publishing prints at the Marlborough Gallery in New York, she returned in 1995 to become Director of the Contemporary Prints department. Starting in 1999, she helped to launch Sotheby's online auction platform. Nina graduated cum laude from Tufts University with a Bachelor of Arts degree in Art History and Political Science. She attended the Museum Studies program at the École du Louvre in Paris, after which she worked at PS1 in Long Island City, New York.



### MATTHEW ILES

Matthew is a brand strategist and Web3 product builder. He is a co-founder of Serotonin, a marketing firm and product studio for transformative technologies, and co-founder and COO of Mojito, the first company to spin out of Serotonin. Mojito is a Web3 platform for NFT commerce that powers Sotheby's dedicated NFT marketplace, Sotheby's Metaverse, where Matthew currently serves as Managing Director. Previous to his work at Serotonin, Matthew founded the blockchain-for-journalism startup Civil, which was acquired by ConsenSys, a key company in the Ethereum blockchain ecosystem. Before entering the world of decentralized technology, Matthew led Nine Lines, a prominent marketing agency where he worked with 40+ consumer startups over six years, and he co-created the digital marketing course for General Assembly.

See disclosures at the end of this publication, which are an important part of this article.

# Wealth Planning



## Watchful Waiting

*The most extreme U.S. tax proposals appear dead in the water, but some increases and rule changes may still be possible.*

**SAM PETRUCCI**, *Head of Advice, Planning and Fiduciary Services*

Senator Joe Manchin of West Virginia famously signaled his opposition to the Build Back Better plan in December, dashing other Democratic leaders' hopes of passage by the end of 2021. However, despite the perception that the legislation is finished, it's possible that some reduced version could make it through. The good news is that many of the most extreme proposals were eliminated by the latest U.S. House proposal, which should allow for continuation of some valuable estate planning techniques.

### **WIGGLE ROOM ON TAXES**

To consider why the legislation may not be entirely dead, consider the positions of some of the key players. Senator Manchin's opposition has, in general, not been to tax increases, and indeed he sympathizes with the President's view that the rich should "pay their fair share." Rather, he has objected to the size of the plan, and its potential to increase inflation and the budget deficit. Meanwhile, Senator Kyrsten Sinema (D-AZ) has been adamant about avoiding tax increases for most Americans, which has already led to the House proposal's focus on the very rich and large corporations to generate revenues. In other words, if progressives can stomach major program reductions and the elimination of what Manchin has called funding "gimmicks," then there may be a viable pathway—particularly given the belief that Democrats need to pass something to avoid electoral carnage in November.

### **WHAT'S IN AND WHAT'S OUT?**

Over the past couple years, legislators have introduced many proposals to increase taxes, ranging from the moderate to the draconian. At this point, we feel that the best guide to potential changes remains the U.S. House bill passed in November. The following are its key tax provisions affecting individuals, as well some high-profile ideas that fell by the wayside—items that were important to include here in case they are somehow resuscitated.

## WHAT'S IN?

- **Surtax on "high-income taxpayers."** A surtax of 5% would apply to personal income over \$10 million and an additional 3% tax would be imposed on income over \$25 million; these taxes would apply to trusts and estates at much lower thresholds of \$200,000 and \$500,000, respectively.
- **Expansion of "SALT" rules.** In a positive move for those in high-tax states, the cap on deductions for state and local taxes would rise from \$10,000 to \$80,000 through at least 2030. Many progressives (and most Congressional Republicans) oppose this idea.
- **Limitations on QSBS.** If certain qualifications are met, long-term holders of qualified small business stock currently receive 75% and 100% exclusions on sales (up to certain dollar limitations). Under the House plan, this exclusion would be reduced to 50%.
- **Retirement accounts.** Beginning in 2029, the House would prohibit new contributions and mandate required minimum distributions once aggregated account values exceed \$10 million; in addition, conversion of traditional individual retirement accounts to Roth IRAs would be prohibited for "high-income taxpayers" beginning after December 31, 2031. Conversions of all after-tax contributions to Roth IRAs would be disallowed beginning in 2022.
- **Net investment income tax.** The current tax on investment income above certain thresholds would be expanded to include a 3.8% tax on business profits for high-income taxpayers.
- **Wash sale rules.** Traditional assets like stocks and bonds are currently subject to wash sale rules, which require a waiting period prior to their repurchase. These rules would be extended to cryptocurrencies.
- **Corporate taxes.** The House proposal would establish a 15% minimum tax on large corporations with income over \$1 billion and impose a 1% excise tax on stock buybacks.

## WHAT'S OUT?

- **Tax rates.** Neither ordinary income nor long-term capital gain rates would change, other than the surtaxes (noted in What's In) above certain income thresholds.
- **Cost basis rules.** Some proposals would have wiped out or reduced the current "step-up" in cost basis to fair market value at death. The House bill has no such changes.
- **Billionaire's tax.** Another eliminated idea would have required a "mark-to-market" tax on appreciated investment positions (generally for those worth \$1 billion or more), meaning that the positions would have been taxed based on their market value at a given time.
- **Small business income.** Despite proposals to the contrary, deductions for 20% of qualified small business income remain in place for now.
- **Estate and gift taxes.** Various legislators would have reduced the current \$12.06 million exemption from estate and gift tax. Although still in effect, the exemption is set to sunset back to around \$6 million in 2026.
- **Grantor trusts.** No change is anticipated to popular estate planning strategies where income is attributable to the grantor of the trust.
- **Valuation discounts.** Some have sought to curb the use of valuation discounts of assets based on lack of marketability and/or minority ownership for estate and gift tax purposes, but the approach remains unscathed.
- **Dynasty trusts.** In some jurisdictions, current laws allow for the creation of trusts that can last for several generations. These trusts also appear to have survived.
- **Retirement accounts.** Some proposals would have required investors to sell any private equity investments in their IRAs by the end of 2023; these have been removed.
- **Carried interests.** There will be no change of the three-year holding period currently required to obtain long-term capital gain treatment of so-called carried interests, which are a key compensation source for private equity managers.

### OPPORTUNITIES TO CONSIDER: INTEREST RATES AND MORE

Although much attention is being paid to potential legislative changes, we believe that significant opportunities for planning may revolve around still-low interest rates—which many expect to climb on the back of central bank tightening over the next couple of years.

Certain “estate freeze” techniques, including grantor retained annuity trusts (GRATs) and intentionally defective grantor trusts (IDGTs), generally allow for the tax-free transfer of assets to beneficiaries above certain interest rate hurdles set by the IRS. The lower the rate (the “Section 7520” rate for GRATs is currently 1.6%, while the “midterm” 3- to 9-year rate for IDGTs is 1.3%), the easier it may be for trust investments to surpass it. The difference between the current rates and, for example, a 3% or 4% rate might seem insignificant in the context of multiyear double-digit equity returns. However, assuming a more modest market outlook, two

or three percentage points could make considerable difference—reinforcing the value of considering such techniques sooner rather than later. Should rates indeed rise, then other estate planning strategies such as qualified personal residence trusts (QPRTs) and charitable remainder trusts (CRTs) would become more attractive.

Beyond interest rate-oriented strategies, we believe the takeaway from Washington, DC may be to capitalize on techniques that appear likely to survive the current legislative cycle. For those with the available assets, using the gift and estate tax exemption is a natural step—especially given the 2026 sunset mentioned above. Regular annual gifting, capitalizing on retirement accounts, the use of asset discounts and engaging in structured charitable giving, among others, may also be appropriate. Talking with your advisors about such ideas, in light of your overall wealth and estate plan, can help you benefit from current opportunities while structuring your financial picture to seek long-lasting success.

---

## 10 QUESTIONS: WEALTH PLANNING IN THE NEW YEAR

Below are some key questions to ask yourself about your financial and estate picture as we move into 2022. See our *Wealth Planning Checklist* for further details.

- 
1. Do you have a will or revocable trust to properly dispose of your estate and which names fiduciaries (guardians, executors, trustees)? If so, when was the last time it was reviewed or updated?
  2. Do you have living wills, health care proxies and powers of attorney?
  3. How do you hold title to your assets?
  4. Have you properly named designated beneficiaries of your retirement accounts and life insurance?
  5. Are you fully insured?
  6. Are you saving for education through a 529 plan?
  7. Are you contributing the maximum amount to retirement accounts?
  8. Do you have a “financial plan” that fully considers your overall picture?
  9. For those with larger estates, have you considered advanced estate planning strategies to minimize your estate tax burden?
  10. Do you contribute to charity? Have you considered more structured techniques like donor-advised funds?
- 

See disclosures at the end of this publication, which are an important part of this article.

---

# Highlights 1Q 2022

FROM THE ASSET ALLOCATION COMMITTEE

The robust economy, and positive earnings and default outlook, make the case for risky assets this year, although inflation and higher interest rates could increase volatility.

**Equities:** U.S. small and mid-cap stocks, as well as non-U.S. developed and emerging markets, appear to provide value compared to U.S. large caps. Across U.S. equities, we favor value and cyclical, as well as equity income, which provides relative value and less sensitivity to rates.

**Fixed Income:** With low yields and a likely upward trend in interest rates, investment grade bonds generally offer limited return potential. We favor high yield, floating-rate loans and private debt; emerging market debt valuations remain appealing even as some risks increase.

**Commodities:** Commodities could provide exposure to a surge in pent-up demand, as well as a hedge against potential elevated inflation. Gold and other precious metals could serve as a safe haven during near-term uncertainty.

**Private Equity and Real Estate:** While private equity valuations appear elevated, a focus on operational improvements to businesses may create value away from potential public market volatility. Private real estate is enjoying tailwinds from economic reopening and inflationary pressures.

All views are over the next 12 months. See disclosures at the end of this publication, which include additional information regarding the Asset Allocation Committee and the views expressed.

This material is provided for informational purposes only and nothing herein constitutes investment, legal, accounting or tax advice, or a recommendation to buy, sell or hold a security. This material is general in nature and is not directed to any category of investors and should not be regarded as individualized, a recommendation, investment advice or a suggestion to engage in or refrain from any investment-related course of action. Investment decisions and the appropriateness of this material should be made based on an investor's individual objectives and circumstances and in consultation with his or her advisors. This material is not intended as a formal research report and should not be relied upon as a basis for making an investment decision. The firm, its employees and advisory clients may hold positions within sectors discussed, including any companies specifically identified. Specific securities identified and described do not represent all of the securities purchased, sold or recommended for advisory clients. It should not be assumed that any investments in securities, companies, sectors or markets identified and described were or will be profitable. Neuberger Berman, as well as its employees, does not provide tax or legal advice. You should consult your accountant, tax adviser and/or attorney for advice concerning your particular circumstances. Information is obtained from sources deemed reliable, but there is no representation or warranty as to its accuracy, completeness or reliability. All information is current as of the date of this material and is subject to change without notice. Any views or opinions expressed may not reflect those of the firm as a whole. Any discussion of environmental, social and governance (ESG) factor and ratings are for informational purposes only and should not be relied upon as a basis for making an investment decision. ESG factors are one

of many factors that may be considered when making investment decisions. Third-party economic or market estimates discussed herein may or may not be realized and no opinion or representation is being given regarding such estimates. Neuberger Berman products and services may not be available in all jurisdictions or to all client types. The use of tools cannot guarantee performance. Diversification does not guarantee profit or protect against loss in declining markets. As with any investment, there is the possibility of profit as well as the risk of loss. Investing entails risks, including possible loss of principal. Investments in hedge funds and private equity are speculative and involve a higher degree of risk than more traditional investments. Investments in hedge funds and private equity are intended for sophisticated investors only. Unless otherwise indicated, returns reflect reinvestment of dividends and distributions. Indexes are unmanaged and are not available for direct investment. **Past performance is no guarantee of future results.**

The views expressed herein may include those of the Neuberger Berman Multi-Asset Class (MAC) team, Neuberger Berman's Asset Allocation Committee and Neuberger Berman's Investment Strategy Group (ISG). The Asset Allocation Committee is comprised of professionals across multiple disciplines, including equity and fixed income strategists and portfolio managers. The Asset Allocation Committee reviews and sets long-term asset allocation models, establishes preferred near-term tactical asset class allocations and, upon request, reviews asset allocations for large, diversified mandates. Tactical asset allocation views are based on a hypothetical reference portfolio. ISG analyzes market and

economic indicators to develop asset allocation strategies. ISG consists of five investment professionals and works in partnership with the Office of the CIO. ISG also consults regularly with portfolio managers and investment officers across the firm. The views of the MAC team, the Asset Allocation Committee and ISG may not reflect the views of the firm as a whole, and Neuberger Berman advisers and portfolio managers may take contrary positions to the views of the MAC team, the Asset Allocation Committee and ISG. The MAC team, the Asset Allocation Committee and ISG views do not constitute a prediction or projection of future events or future market behavior. This material may include estimates, outlooks, projections and other "forward-looking statements." Due to a variety of factors, actual events or market behavior may differ significantly from any views expressed or any historical results. Nothing herein constitutes a prediction or projection of future events or future market or economic behavior. The duration and characteristics of past market/economic cycles and market behavior, including length and recovery time of past recessions and market downturns, is no indication of the duration and characteristics of any current or future market/economic cycles or behavior.

A bond's value may fluctuate based on interest rates, market conditions, credit quality and other factors. You may have a gain or loss if you sell your bonds prior to maturity. Of course, bonds are subject to the credit risk of the issuer. Neither Neuberger Berman, nor its employees provide tax or legal advice. You should consult your accountant, tax adviser and/or attorney for advice concerning your particular circumstances. This information should not be construed as specific tax or investment advice. Please contact a tax advisor regarding the suitability

of tax-exempt investments in your portfolio. If sold prior to maturity, municipal securities are subject to gains/losses based on the level of interest rates, market conditions and the credit quality of the issuer. Income may be subject to the alternative minimum tax (AMT) and/or state and local taxes based on the investor's state of residence.

Tax planning and trust and estate administration services are offered by Neuberger Berman Trust Company. "Neuberger Berman Trust Company" is a trade name used by Neuberger Berman Trust Company N.A. and Neuberger Berman Trust Company of Delaware N.A., which are affiliates of Neuberger Berman Group LLC.

Hypothetical growth examples are for informational and educational purposes only.

Links to third-party websites are furnished for convenience purposes only. The inclusion of such links does not imply any endorsement, approval, investigation, verification or monitoring Neuberger Berman us of any content or information contained within or accessible from the linked sites.

For more information on COVID-19, please refer to the Centers for Disease Control and Prevention at [cdc.gov](https://www.cdc.gov).

Neuberger Berman Investment Advisers LLC is a registered investment adviser. The "Neuberger Berman" name and logo are registered service marks of Neuberger Berman Group LLC.



Neuberger Berman  
1290 Avenue of the Americas  
New York, NY 10104-0001

[www.nb.com](http://www.nb.com)