BUILDING RESILIENT PORTFOLIOS

Rethinking safe haven assets

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IN BRIEF

- Holding safe haven assets has always involved a trade-off. Over the last 30 years, bonds have served well as diversifiers, providing both income and capital appreciation – hence, masking this trade-off. Basically, investors have been compensated for using positive yielding bonds to protect their portfolios.
- This is changing. A large proportion of developed market sovereign bonds now yield zero or less, making the opportunity costs of holding bonds painfully apparent. Investors need to challenge the concept of a "risk-free return," as they are now required to pay for the portfolio protection bonds provide.
- We discuss the role of traditional safe haven assets – namely, high quality sovereign bonds, reserve currencies and gold – in portfolio protection. We also look at alternative assets, such as private core real estate and infrastructure, and investigate their roles in the safe part of portfolios.
- Bonds still have a significant role to play in portfolio protection – despite low yields. In contrast, the outlook for the USD as a safe haven is unclear. Gold-related assets are gaining in importance as safe havens due to the deployment of unprecedented policy measures.
- Stable and high quality income streams from core real estate and infrastructure investments provide a strong offset against their lack of liquidity. For investors who are able to hold these assets through the cycle, select alternative assets bring diversifying properties to portfolio construction.
- In our view, there is no solitary safe haven asset, and the current environment demands a more thorough analysis of the optimal trade-offs that suit individual portfolios. The importance of effectively embedding safe haven assets in portfolios argues for devoting as much attention to efficiently building portfolio ballast as to optimizing returns.

INTRODUCTION

Portfolio protection is at the forefront of investors' minds in the current late-cycle environment – and with good reason. Equity markets are near all-time highs, bond yields are at cyclical lows, and geopolitical risks are increasing. Investors are asking how their assets will fare in the next downturn and what they can do to build more resilient portfolios.

Diversification across assets is central to the construction of resilient portfolios. Classic portfolio theory states that allocating to safe haven assets (such as high quality sovereign bonds) in a balanced portfolio builds a nonlinear expected return payoff profile and an effective floor under returns. Does that principle still hold? And if it doesn't – or if its meaning has shifted in subtle but important ways – what are the ramifications for portfolio construction?

For many multi-asset investors, sovereign bonds have been the traditional safe haven assets in balanced portfolios. The accepted trade-off for adding a safe haven asset has been that investors would forgo some of the higher expected returns from risky assets like stocks in return for a lower expected "risk free" return from bonds. Until recently, this assumption held: Bonds provided both income and capital return, so that investors were effectively being *paid* for adding portfolio insurance.

All of this has changed with the implementation of unprecedented monetary policies following the global financial crisis. Today a substantial proportion of developed market government bonds now have negative or near-negative yields. So for the first time in modern financial history, some investors effectively have to *pay* to add bonds to a portfolio. One might well ask whether the concept of a "risk-free return" has been exhausted.

With the advent of negative bond yields, the opportunity cost of holding bonds is plainly rising and their effectiveness in protecting portfolios is coming under scrutiny. This represents a challenge for investors in designing well-balanced portfolios. In our view, it demands a more careful analysis of safe haven assets and their trade-offs from a specific investor's perspective. Most importantly, it necessitates devoting as much attention to efficiently building portfolio ballast as to optimizing returns.

In the following pages, we investigate the role of safe haven assets in balanced portfolios, including:

- **traditional assets**: high quality bonds, foreign exchange (FX) reserve currencies and gold
- **alternative assets:** core real estate and infrastructure

We conclude that both traditional and alternative assets may exhibit safe haven properties that can be mapped to particular types of portfolios. *Crucially, our research demonstrates that there is no single safe haven asset; rather, different assets protect against different risks, and their relative effectiveness and opportunity costs vary. Investors, too, vary – in the relative importance of the risks they need to protect against.*

THE NEED FOR A BROADER DEFINITION OF SAFE HAVEN ASSETS

In the traditional sense, an asset is considered "safe" if: it serves as a store of value – i.e., generally maintains or even increases in value through market cycles; can be readily converted to cash without significant loss of value; and exhibits low volatility. Importantly, safe haven assets have a low or negative correlation to the general market and can protect portfolios during times of stress.

By definition, a safe haven asset will have an opportunity cost – either the direct cost of buying it, as in purchasing a stock option, or the potential returns forgone by holding it rather than another asset. The bull market in sovereign bonds of the last 30 years has somewhat obfuscated this trade-off, given that bond returns have been so strong. But now that yields are so low, these trade-offs are becoming brutally apparent.

Determining the most appropriate safe haven asset for a portfolio requires a thorough examination of what investors want to achieve and which trade-offs are least damaging. Nevertheless, the starting philosophy in adding a safe haven asset to a portfolio is common for all investors. Namely, in a downturn or period of market volatility, investors seek to:

1. stay solvent
2. keep cash flows stable to meet required outflows
3. have a little "dry powder" to capitalize on opportunities from market dislocations

Even allowing for negative yields, for some portfolios traditional high quality bonds may still be the most appropriate safe haven asset. But for others, a wide definition of what constitutes a safe haven asset, and an understanding of how well other safe haven assets might map to portfolio objectives, are essential to optimal portfolio design. We examine both traditional and alternative assets, assessing their ability to address these survival needs, balanced against the opportunity cost of their protective benefits.

CORE FIXED INCOME

High quality sovereign bonds (referred to here as simply "bonds") are traditionally seen as ballast in balanced portfolios. Stock and bond returns, however, have not always exhibited their expected negative correlation (**Exhibit 1**). This was particularly true in the 1970s and early '80s, when negative oil supply shocks pushed inflation and yields higher and equity prices lower. It was not until inflation was brought under control during the tenure of Federal Reserve Chair Paul Volcker (1979–87) that the stock-bond correlation began its downward trend, eventually moving into negative territory.

Since the 1990–91 recession, negative growth shocks have consistently been accompanied by a reassertion of lower stock-bond correlations. This is seen most clearly in the stabilizing role of bonds in the wake of the global financial crisis.

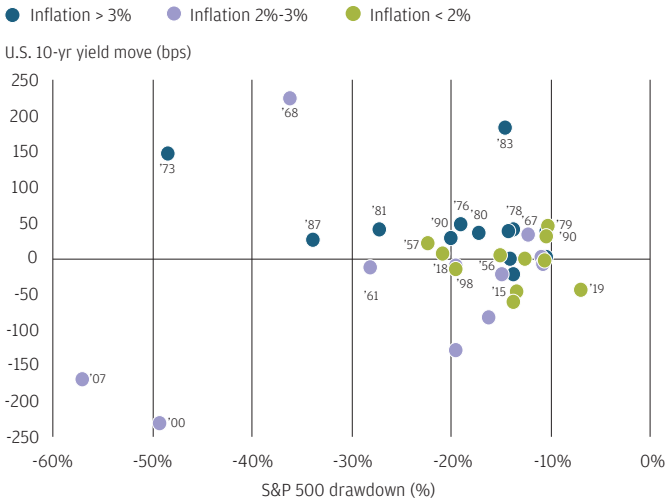
Exhibit 2 shows the impact of inflation on the stock-bond relationship, focusing on periods of equity market drawdowns in the U.S. from 1953 to April 2019. Our analysis shows that bonds have been more effective portfolio diversifiers (i.e., yields have fallen more consistently during equity market declines) in periods characterized by low to moderate inflation. An analysis of 10-year yields and stock market performance in the UK and Germany since the 1950s echoes these findings.

Until now, investors have been unusually compensated for protecting balanced portfolios by the positive coupons on bonds. In our view, high quality bonds will remain viable safe haven assets during the next 10 to 15 years, given our expectation for muted inflation over our Long-Term Capital Market Assumptions (LTCMA) investment time frame. Bonds are likely to provide a return *of* capital – even if they don't provide return *on* capital. They also offer protection in a market downturn and the liquidity required to take advantage of dislocations. Crucially, however, we do not see bonds as a major source of income or return on capital, and there are opportunity costs associated with holding bonds, especially at current low, and sometimes negative, real yields. Said another way, low yields and negative real yields can now be seen as an option premium to protect the return of capital in the future and as the cost of the liquidity that bonds offer.

Bonds have been a traditional liquid store of value and have offered protection against growth shocks. But low starting yields diminish the protective power of bonds. At best, bonds now provide only a modest cushion against inflation. At worst, investors may lock in a capital loss in the case of negative-yielding debt – a new trade-off that investors will need to weigh that is much more tangible than the concept of opportunity cost.

In equity drawdowns accompanied by high (>3%) inflation, bond yields have tended to rise, offering little protection

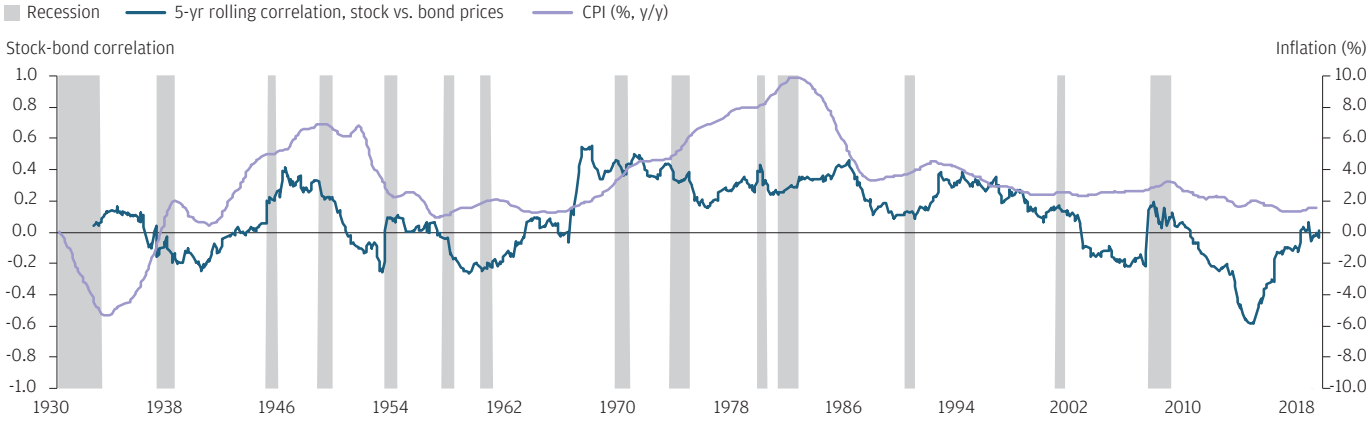
EXHIBIT 2: U.S. TREASURY 10-YEAR YIELD CHANGE VS. S&P 500 DRAWDOWN (JANUARY 1953–APRIL 2019)



Source: Bloomberg, J.P. Morgan Asset Management; data as of August 31, 2019.

Stocks and bonds have not always exhibited their diversifying negative correlation, especially during periods of high inflation

EXHIBIT 1: S&P 500 AND BOND PRICE 5-YEAR ROLLING CORRELATION VS. INFLATION (U.S. CPI, %, Y/Y)



Source: Bloomberg, Robert Shiller, Yale University Department of Economics Online Data; data as of June 30, 2019.

Given that we expect the current low rate environment to persist for some time, it is important to consider other traditional safe haven assets, such as currencies and gold.

U.S. DOLLAR: FX RESERVE CURRENCY

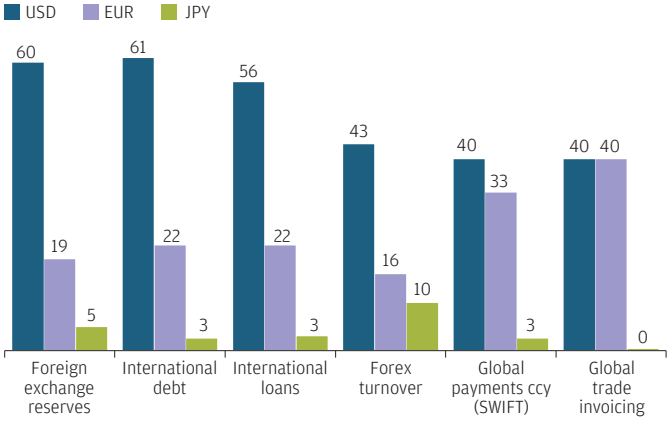
Reserve currencies, by their very nature, are highly liquid, high quality instruments that typically exhibit negative correlation to risk assets in times of stress.

Demand for the world's reserve currency

Currency has three traditional functions: as a medium of exchange, a store of value and a unit of account. By almost any measure, the U.S. dollar (USD) can be viewed as the world's main reserve currency (**Exhibit 3**). Over 60% of international foreign exchange reserves held by central banks are held in USD. Most commodities are denominated in USD, contributing to its high usage in trade invoicing. On the funding side, the USD is the main currency for cross-border trade and funding. In fulfilling most of these functions, the USD has a usage more than double that of the euro or the Japanese yen.

The U.S. dollar is a dominant currency for international transactions

EXHIBIT 3: USE OF USD VS. EURO AND YEN IN VARIOUS ECONOMIC FUNCTIONS (SHARE, %)

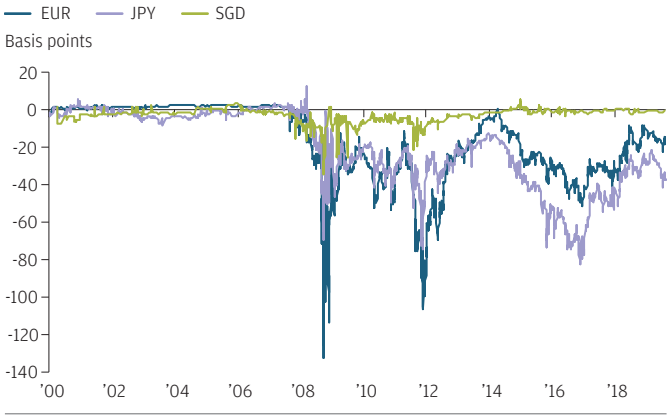


Source: Bank for International Settlements (BIS), European Central Bank (ECB), International Monetary Fund (IMF), Society for Worldwide Interbank Financial Telecommunications (SWIFT); data as of Q4 2017.

Another way to view demand for the USD is to look at the cross-currency basis swap, which shows the premium investors are willing to pay to access USD funding relative to other currencies. A more negative number implies a higher demand for U.S. dollars. In times of stress, demand for the USD picks up (**Exhibit 4**).

Demand for the USD rises (swap premia turn very negative) during periods of market uncertainty

EXHIBIT 4: USD 1-YEAR CROSS-CURRENCY BASIS SWAP PREMIA

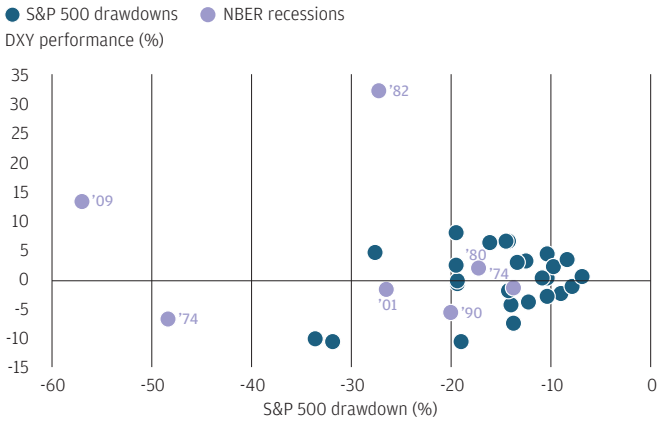


Source: Bloomberg; data as of August 31, 2019.

Our analysis of the U.S. dollar during episodes of market stress shows that USD performance has been mixed: The USD strengthened in the 1980-82 and 2007-09 crises but not in the 1973-74, 1990 or 2001 recessions (**Exhibit 5**).

U.S. dollar performance has been mixed across recessions and episodes of equity market weakness

EXHIBIT 5: USD PERFORMANCE DURING U.S. EQUITY MARKET DRAWDOWNS AND RECESSIONS (NOVEMBER 1971–JUNE 2019)



Source: Bloomberg, J.P. Morgan Asset Management; data as of August 31, 2019.

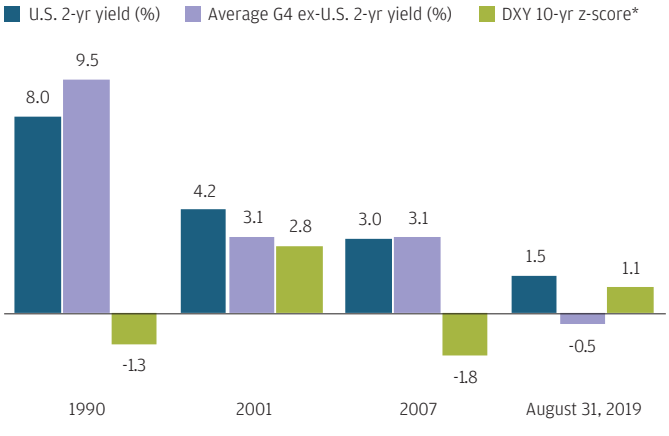
Looking ahead, we question the extent to which the USD will provide safe haven characteristics. Clearly, its performance will depend on the form and degree of the economic shock. The USD may not be a clear winner in the next downturn because:

- Demand from global FX reserve managers is falling: Over the last few years, the total stock of FX reserves stopped growing as emerging market (EM) current account balances deteriorated. Moreover, reserve managers are diversifying out of the USD and into other currencies and gold.

- U.S. rate spreads to other markets are wide (**Exhibit 6**): In previous recessions, the spreads between U.S. front-end yields and those of other G4 markets were tight; other central banks had more room to ease during a crisis. Today, with other central banks already at the zero lower bound, the U.S. Federal Reserve (Fed) has relatively more room to cut rates, which would reduce the rate support for the USD.
- The USD's valuation is high (Exhibit 6): As of August 2019, the U.S. Dollar Index (DXY) starting valuation was 1.1 standard deviations above its 10-year average.
- Interventionist policies are gaining support: It is possible that we will see foreign exchange policy move toward active currency depreciation. While it may be a low likelihood event, the impact of such intervention may be large enough to warrant a risk premium.

Today the Fed has more room to cut rates vs. other central banks than in past pre-recession periods

EXHIBIT 6: AVERAGE 2-YEAR YIELDS – U.S. VS. G4 EX-U.S. AND DXY Z-SCORE* GOING INTO RECESSIONS



Source: Bloomberg; data as of August 31, 2019.

*DXY z-score indicates the number of standard deviations the DXY valuation is above (below) its average over a 10-year trailing history.

For all that, it will make a difference where the economic stress comes from. If growth slows outside the U.S., the Fed would have less of a need to reduce rates and hence the USD could remain strong. Demand for U.S. dollars to meet international USD-denominated obligations should also not be overlooked. The trade-off when assessing the dollar as a safe haven asset is between the negative implications of holding an asset that is clearly overvalued and subject to the apparent willingness of the Federal Reserve to provide ample dollar liquidity as a first resort in any crisis vs. the ability to take advantage of market dislocations that ready dollar cash provides – which may be attractive to investors with a more dynamic stance to trading their portfolios.

Looking beyond the U.S. dollar, we would expect a basket of classic safe haven currencies to do well in periods of stress. As a result, diversifying the currency hedge to include the Japanese yen and Swiss franc should provide protection across a wider range of downturn scenarios. In our previous work, we found that certain currency pairs, like AUDJPY, have provided a nonlinear payoff in times of stress and are a consideration for optimizing the safe haven currency component of portfolios.

GOLD

One benefit of gold is its ability to protect against very different tail events. Bonds were favored as a safe haven asset vs. gold during the last 25 years because inflation was subdued and quantitative easing distorted bond markets (**Exhibit 7**). But is that set to change, given extremely low yields?

Is gold becoming a more cost-effective safe asset as real yields hover around zero?

EXHIBIT 7: U.S. TREASURY 10-YEAR REAL YIELD VS. GOLD PRICE

Source: Bloomberg, J.P. Morgan Asset Management; data as of August 31, 2019.

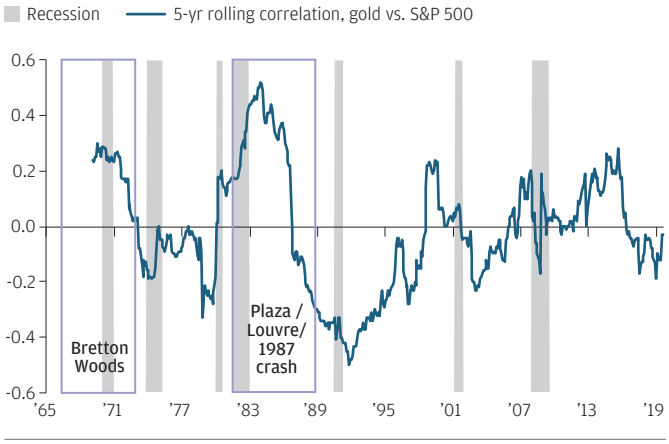
Gold: A diversifying store of value

Historically, gold has exhibited strong negative correlation to equity markets, particularly during the high inflation regime of the 1970s. Even during coordinated FX intervention under the Plaza and Louvre Accords,[1] the role of gold as a stabilizer strengthened (**Exhibit 8**). With more talk of currency intervention, this relationship between the USD and gold is of increasing relevance.

[1] The Plaza Accord (September 1985) saw a substantial depreciation of the U.S. dollar relative to the yen and Deutsche mark; the subsequent Louvre Accord (February 1987) served to halt the USD's decline.

Gold has been a stabilizing asset across a variety of economic, market and policy environments

EXHIBIT 8: GOLD VS. S&P 500 RETURNS – 5-YEAR ROLLING CORRELATION



Source: Bloomberg; data as of August 31, 2019.

Gold has provided positive returns during periods of negative growth shocks as well as positive inflation shocks. However, in terms of inflation regimes, average returns have generally been most pronounced during extremely low (less than 1%) or high (greater than 3%) inflation. In the episodes in between, however, gold returns were lackluster (**Exhibit 9A**).

At the same time, gold has delivered positive returns in both rising and falling equity markets (**Exhibit 9B**). For example, in monthly periods when the S&P 500 experienced a 1-standard deviation (std) decline (-1std, or -4.4%), the average monthly return for gold was +1.3%. When the S&P 500 experienced a +1std monthly increase (+4.4%), the average monthly return for gold was a slightly lower +1.0%.

The ability of gold to provide stability under a range of economic and market environments is due to the diversity of its demand drivers:

- Investors' need for a store of value: Gold appreciates in line with inflation, maintaining its real value.
- Reserve asset demand: Central banks have been buying gold as a strategic investment and a way to diversify their reserves out of the U.S. dollar. According to a World Gold Council survey, in 2019, 11% of emerging market central banks signaled an intention to increase gold holdings.[2] China, in particular, has been steadily increasing gold reserves, from 1% of total reserves in Q1 2014 to 2.5% in Q1 2019.[3]
- Personal wealth: Prices rise/fall with net worth and the demand for luxury goods, particularly in expanding emerging market economies. China and India account for 50% of current consumer demand for gold.[4]
- Opportunity cost: Prices rise/fall as the relative return for holding other assets, such as bonds, decreases/increases (Exhibit 7).

In the coming years, gold may gain appeal as a diversifier if monetary policy becomes less potent and low to negative rates reduce the opportunity cost of holding gold. Moreover, in a politicized environment in which authorities may favor currency debasement, gold as an alternative diversifying safe haven asset is gaining traction among investors.

Traditional safe haven assets all involve an implicit trade-off in terms of market risk and return. While this trade-off may be appropriate for many portfolios, there are some for which different trade-offs may be optimal. In our final section, we look at less traditional safe haven assets within alternative strategy classes. To be clear, these investments are suitable for a specific group of investors who are able and willing to forgo liquidity for a steady income stream.

[2] 2019 Central Bank Gold Reserve Survey, World Gold Council, July 2019.

[3] World Gold Council.

[4] Ibid.

Gold's average returns have been most pronounced during high and low inflation regimes

EXHIBIT 9A: GOLD RETURNS DURING DIFFERENT INFLATION REGIMES

INFLATION REGIMES	CPI <= 1%	1% < CPI <= 3%	CPI > 3%
Average (monthly, %)	0.7	0.3	0.6
Median (monthly, %)	0.7	0.3	0.1
Observations (No.)	26	247	268

Source: Bloomberg, J.P. Morgan Asset Management; data as of July 30, 2019.

Gold has delivered positive returns in both up and down markets

EXHIBIT 9B: GOLD RETURNS BY S&P 500 MONTHLY PRICE CHANGE DISTRIBUTION

S&P 500 (1std = 4.4%)	-2std	-1std	+1std	+2std
Average (monthly, %)	1.3	1.3	1.0	2.2
Median (monthly, %)	3.5	2.2	0.1	1.7
Observations (No.)	19	69	71	11

Source: Bloomberg, J.P. Morgan Asset Management; data as of July 30, 2019.

REAL ASSETS: CORE REAL ESTATE AND INFRASTRUCTURE

Real assets do not fit neatly into our definition of traditional safe haven assets. These assets (real estate in particular) have experienced significant drawdowns during recessions and are not highly liquid or readily converted to cash. However, real assets can help provide investors with a key survival skill: keeping cash flows stable to meet required outflows – something many sovereign bonds can no longer do.

While real estate (and other alternative assets) exhibit significant economic volatility (actual realized volatility), their accounting volatility can be lower, mostly due to their quarterly reporting frequency (**Exhibit 10**). The lag in appraisals does help to smooth returns. However, for real estate these lags have been reduced since the 1990s, and an increasing number of open-end diversified core equity (ODCE) funds have introduced more third-party oversight procedures to ensure valuations are credible and timely.

While alternative assets can be volatile, reporting frequencies can dampen accounting volatility

EXHIBIT 10: ECONOMIC VS. ACCOUNTING VOLATILITY FOR SELECTED ALTERNATIVE ASSETS

	ECONOMIC VOLATILITY*	ACCOUNTING VOLATILITY**	VOLATILITY DIFFERENCE
U.S. direct core real estate	12.25	7.70	4.55
Global infrastructure levered	11.75	9.50	2.25

Source: Bloomberg, MSCI, J.P. Morgan Asset Management; estimates as of September 30, 2018; historical data as of December 31, 2018.

* 2019 Long-Term Capital Market Assumptions.

**Accounting volatility was calculated using 12 years of historical total returns (Q3 2006–Q4 2018) with each data point weighted by recession periods vs. nonrecession periods. Recession assumed 15% of the time.

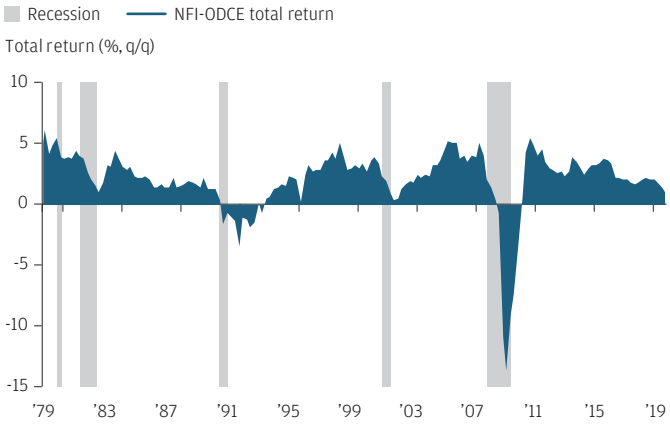
Looking at the performance of the NFI-ODCE Fund Index (National Council of Real Estate Investment Fiduciaries [NCREIF] Fund Index-Open End Diversified Core Equity) around previous recessions, the 2007–08 crisis appears to be the outlier (**Exhibit 11**). As the Great Recession had its roots in a housing crisis, the performance of real estate assets was disproportionately affected.

The average real estate drawdown during the four recessions prior to 2008 gives an indication of the expected drawdown in a non-housing market related financial crisis – a roughly 4% quarter-over-quarter (q/q) decline about six quarters after the start dates of those recessions. These numbers are, of course, biased favorably due to smoothing around quarterly data.

Another safe haven characteristic of real estate is its positive but low correlation to other assets, including equities.

The severity of the real estate drawdown during the housing-led 2007–08 crisis was exceptional

EXHIBIT 11: TOTAL RETURN OF NFI-ODCE FUND INDEX*



Source: Bloomberg, J.P. Morgan Asset Management; data as of June 30, 2019.

*National Council of Real Estate Investment Fiduciaries (NCREIF) Fund Index-Open End Diversified Core Equity.

Core real estate has high quality, relatively transparent income streams, which in the current environment are well above core government bond yields. The income generated can smooth out the total return performance, providing a buffer against capital depreciation and needed cash flow during times of stress (**Exhibit 12A**).

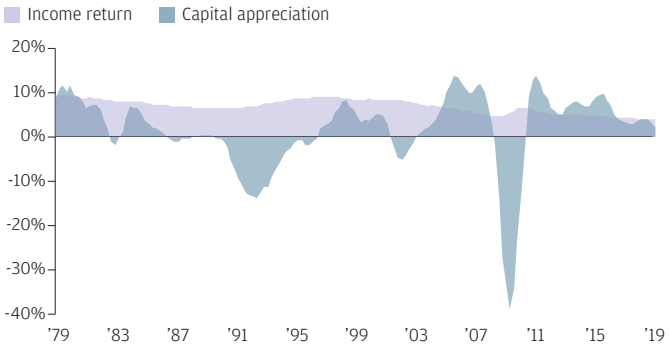
Increased demand for green projects supports infrastructure investment

We see similar safe haven properties in infrastructure-related assets (**Exhibit 12B**).[5] Core infrastructure investment is likely to remain in demand in the coming years, especially with the growing interest in "green" projects. The European Investment Bank, for example, has signaled its intent to increase green investment following strong political support. The heightened popularity of green parties and intensified focus on environmental, social and governance (ESG) scores in evaluating investment mandates support strong demand for green infrastructure investments. Moreover, most green investments are likely to carry government guarantees, backed by tax receipts, that can improve the quality of the cash flows and reduce the credit risks underlying these long-term projects.

[5] Due to lack of data, we do not evaluate the performance of infrastructure assets during recessions prior to 2008.

Real assets can provide reliable income streams to meet cash flow requirements and help buffer capital losses in a crisis

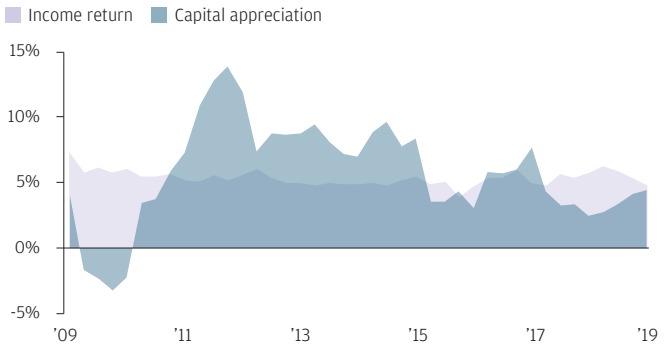
EXHIBIT 12A: NFI-ODCE* CAPITAL APPRECIATION AND INCOME RETURNS (Q1 1979–Q2 2019, Y/Y, %)



Source: National Council of Real Estate Investment Fiduciaries (NCREIF), J.P. Morgan Asset Management; data as of June 2019.

* National Council of Real Estate Investment Fiduciaries (NCREIF) Fund Index-Open End Diversified Core Equity.

EXHIBIT 12B: MSCI GLOBAL INFRASTRUCTURE* CAPITAL APPRECIATION AND INCOME RETURNS (Q1 2008–Q1 2019, Y/Y, %)



Source: MSCI Global Quarterly Infrastructure Asset Index; data as of Q1 2019.

*MSCI Global Quarterly Infrastructure Asset Index; returns from start of index history.

Infrastructure investment projects, while not liquid, could be suitable diversifying safe assets for specific long-term investors who can hold them through the cycle and harvest the illiquidity premium embedded in their pricing (see "How should long-term investors manage exposure to negative yields?"). Similar to real estate (Exhibit 10), they also have the benefit of lower accounting vs. economic volatility due to reporting frequency.

HOW SHOULD LONG-TERM INVESTORS MANAGE EXPOSURE TO NEGATIVE YIELDS?

Liability-aware investors are exposed to falling rates if their assets (including derivative overlays) are shorter in duration than their liabilities. So how do they deal with the current environment? The discussion so far has focused primarily on preserving capital values, or offsetting falls in risk assets, during periods of market stress. However, liability-aware investors must manage to the economic value of their liabilities as well as the accounting and regulatory consequences of falling interest rates. This is most directly relevant for those investors with liabilities that are valued by reference to market conditions, most notably: European insurers who operate under Solvency II and discount liabilities with swap rates, and defined benefit pension funds that value some liabilities based on local fixed income markets. As we show, most market stress scenarios in recent history have been accompanied by falling yields, which could cause an increase in some liability valuation metrics. To the extent that these entities have chosen not to hedge their exposure to falling interest rates, preserving the market value of assets only solves part of the problem. Unfortunately, there is only one way to address the liability side of the challenge, and that is to match the liability duration via cash fixed income assets or derivatives. In other words, there is only one true safe haven for liability-aware investors.

Many liability-aware investors aspire to hedge their exposure to falling interest rates strategically in the long term and can limit the opportunity cost of doing so by using overlay strategies that allow them to continue holding riskier assets for long-term growth. However, many have deferred fully hedging their liabilities against the expectation that interest rates are likely to normalize, allowing them to hedge at higher levels of rates and after liability valuations have fallen.

We believe it is unlikely that yields will normalize until after a recession or period of market stress occurs; as a consequence, this strategy of deferral is likely to result in further short-term pain and funding level stress. Given our muted expectations for the levels of yields at normalization, and how long normalization might take, it is unclear that the long-term benefit of waiting will be material in terms of funding outcomes. However, increasing allocations to physical bonds does have a long-term potential opportunity cost. Accessing duration through the derivatives markets or by reshaping existing bond portfolios into liability-aware formats may be preferable for most investors. These approaches allow investors to increase duration hedging while retaining exposure to long-term growth assets. At this point, the safe haven discussion becomes relevant to liability-aware investors as they seek to preserve and grow their risky asset portfolio. See *Pension Pulse – Summer 2019*, J.P. Morgan Asset Management, July 2019, for more details.

CONCLUSION

Holding a safe haven asset has always involved a trade-off – traditionally assumed to be a lower expected return for greater portfolio protection. But with yields now negative in real and often nominal terms, many investors are paying an actual price for holding bonds as insurance. The modest growth, muted inflation and lower-for-still-longer rate environment projected in our 2020 Long-Term Capital Market Assumptions suggest that bonds can still help protect portfolios, but at an outright cost.

The good news is, investors may have more choices for building protection and resiliency into their portfolios than they think. Expanding the concept of safe haven assets to include not only bonds, reserve currencies and gold but also selected alternative assets is a good starting point (**Exhibit 13**). Investors should then consider what they really need to successfully navigate periods of market stress (in our view: staying solvent, meeting cash flow obligations, being nimble enough to seize investment opportunities) and what trade-offs they are more or less willing to make to achieve their investment objectives.

Different safe haven assets are attractive for different reasons

EXHIBIT 13: SAFE HAVEN ASSETS – POTENTIAL ADVANTAGES AND OPPORTUNITY COSTS

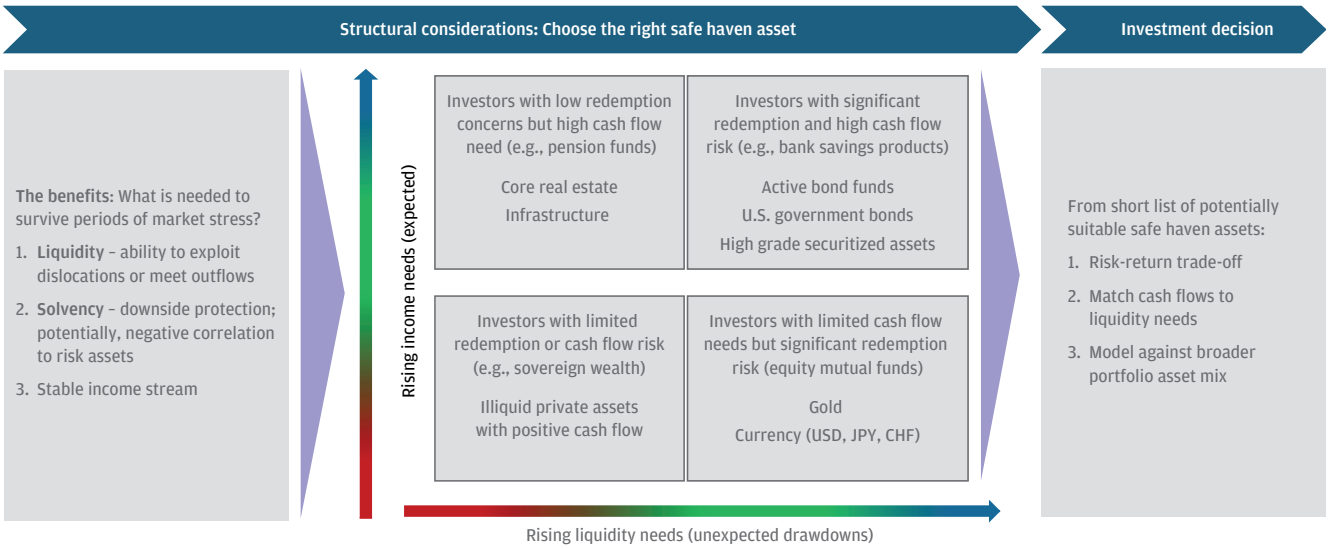
Significant benefit | Some benefit | No benefit | Not applicable

ASSET CLASS	LIQUID / HIGH CONVERTIBILITY TO CASH	NEGATIVE CORRELATION TO RISK ASSETS	STABLE INCOME STREAM	STORE OF REAL VALUE	LOW ACCOUNTING VOLATILITY	MOST STRONGLY PROTECTS AGAINST ...	PRINCIPAL OPPORTUNITY COST / TRADE-OFF
Cash/money market funds						Volatility, recession	Negative yield
Core government bonds						Growth shocks	Low yield, inflation risk
Inflation-linked bonds						Inflation	Negative yield, liquidity
U.S. dollar						International shock (EM)	Not reliable, interventionist policy
Gold						Extreme negative growth or positive inflation shock	No return, does poorly outside stress
Core real estate						Shallow recession, predictable cash flow	Illiquid, housing market crisis
Infrastructure						Shallow recession, predictable cash flow	Illiquid

Source: J.P. Morgan Asset Management Multi-Asset Solutions; subjective assessments as of August 2019.

Investors should spend as much time optimizing the risk parameters of their portfolios as they do seeking return

EXHIBIT 14: A FRAMEWORK FOR SELECTING SAFE HAVEN ASSETS



Source: J.P. Morgan Asset Management; views as of September 30, 2019.

The solutions may be surprising, and the most appropriate trade-offs will vary across investors. As an example of some of the trade-offs, **Exhibit 14** shows which safe haven assets are favored based on income needs and capital liquidity needs. Long-term investors who can warehouse volatility without being forced to sell can harvest income returns from core real assets that exhibit low beta to equity markets. In contrast, for investors who are more focused on mark-to-market performance and face capital outflows but have low cash flow obligations, more liquid safe haven assets such as gold, cash and bonds may be more attractive.

There is simply no single, perfect safe haven asset. Markets and economies are dynamic and present multiple and changing risks. Investors have different risk exposures and protection priorities. But one thing is clear: In this world of persistently low rates and a mature economic cycle, investors should spend as much time optimizing the risk parameters of their portfolios as they do fortifying portfolio return generation.

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