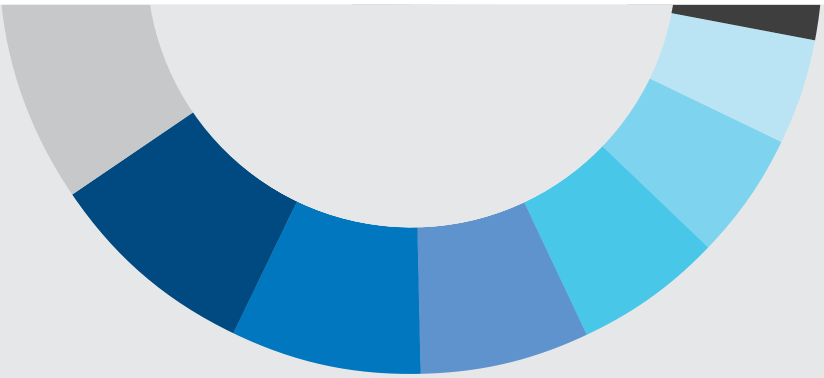
PORTFOLIO INSIGHTS

2021 Long-Term Capital Market Assumptions

25th Annual Edition | Executive summary



Time-tested projections to build stronger portfolios

IN BRIEF

- The global pandemic of 2020 precipitated the sharpest recession on record and also the fastest-ever rebound. As the economy begins to move toward a new business cycle, we expect the extensive deployment of monetary and fiscal stimulus to leave a lasting imprint.
- While the closer alignment of monetary and fiscal support will distinguish the next cycle from the last, many important issues transcend business cycles. Issues such as climate change, aging populations and technology adoption continue to affect economies and asset markets, and in some cases may have been made even more acute by the upheaval of the pandemic.
- Despite the abruptness with which the last cycle ended and the depth of the economic shock, our long-term growth and inflation projections are little changed. However, around our point estimates we believe there is a fatter and flatter distribution of tail risks.
- Forecasts for public asset market returns, meanwhile, fall sharply: The low starting point for yields translates to a bleak outlook for government bonds, and elevated valuations for equity present a headwind for stocks. Credit and emerging market debt remain brighter spots, but increasingly it is to alternative assets that investors must turn to find higher returns.
- As we move further into the 2020s, we will need to adopt a new portfolio for the new decade. With expanded opportunity sets and acceptance that truly safe assets no longer offer income, investors can more fully exploit the specific trade-offs that a portfolio can tolerate in order to harvest returns.

J.P.Morgan
Asset Management

A NEW PORTFOLIO FOR A NEW DECADE

In the immediate aftermath of an acute crisis, it can be difficult to look beyond the current news flow and think about the long term. But with the global pandemic still dominating the headlines, that task is even more challenging – and yet it is also even more essential.

In the 25th edition of our Long-Term Capital Market Assumptions (LTCMAs), we aim to do just that: to abstract from the challenges faced in the very near term and consider the lasting consequences of the COVID-19 crisis, and in particular how the policies adopted to tackle the crisis will affect the next cycle. We also consider some of the issues that transcend the pandemic and persistently shape the economic environment.

Perhaps it will come as a surprise that we expect very few lasting consequences for nominal economic activity around the world; our central forecasts for growth (**EXHIBIT 1A**) and inflation are very similar to those we published last year.

However, much like a swan, which appears to glide gracefully across the water while invisibly but furiously paddling below the water's surface, today's policymakers – central banks and governments – have been doing the hard work to maintain the economy's forward glide.

We believe that the imprint of their policy actions will linger well into the coming decade. Already, central banks such as the Federal Reserve (Fed) are adopting new frameworks[1] to manage the economy over a longer horizon.

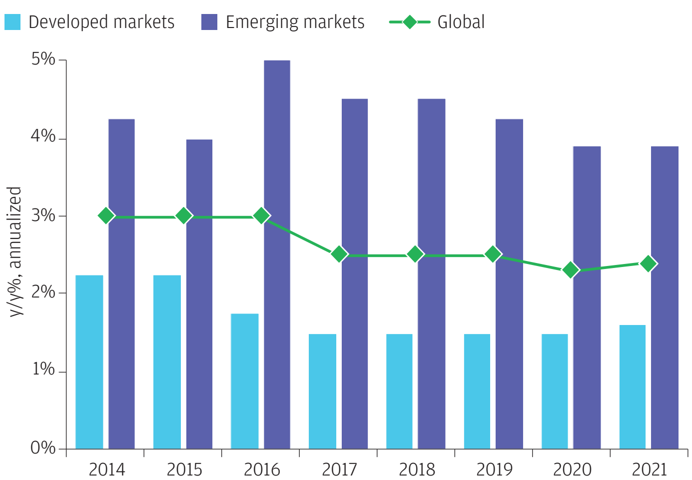
Most critically, we expect that fiscal intervention will remain a policy tool well into the next cycle. The alignment of monetary and fiscal policy in the same supportive direction is perhaps the biggest single difference in the fabric of the economy between this new cycle and the last one. Capital markets are already feeling the ripples of the more interventionist actions from policymakers (**EXHIBIT 1B**).

Unlike our macro projections, our forecasts for asset returns include more material changes. Once again, we are downgrading many of our forecasts for public market returns. The challenges for core fixed income are especially acute, which in turn prompts us to rethink how we construct balanced portfolios. The use of alternatives – to provide income and diversification – is more imperative than ever.

1 In Q3 2020, the Federal Reserve announced an "average inflation targeting" regime that allows policymakers to balance periods where inflation falls below target by letting inflation rise above the 2% target at times.

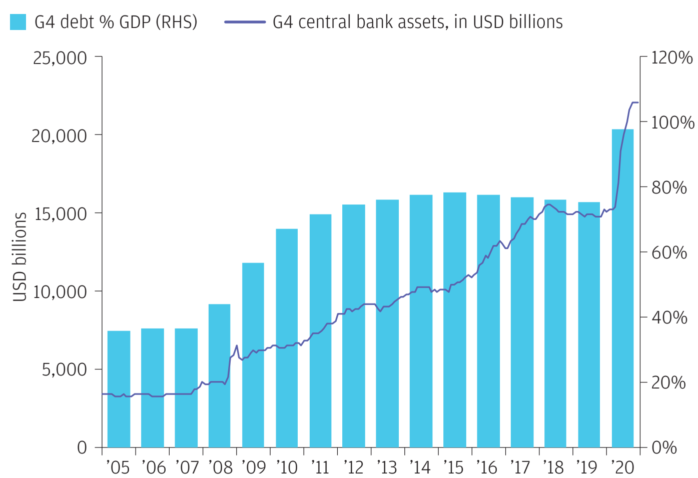
Limited change to potential growth forecasts ...

EXHIBIT 1A: PRIOR TRAJECTORY OF LTCMA 10- TO 15-YEAR GLOBAL GROWTH FORECAST (2014–21)



... but big changes to policy have huge implications for asset return forecasts

EXHIBIT 1B: CENTRAL BANK BALANCE SHEETS AND FISCAL SPEND AS A % OF GDP, 2005–20



Source: Bloomberg, Haver, J.P. Morgan Asset Management; data as of September 30, 2020.

A LOT GOING ON BELOW THE SURFACE

Every new cycle follows a recession, and each recession has its own character and policy responses, which themselves influence the contour of growth in the years that follow. The last recession was unusual in that it was triggered by a sudden seizure in the supply side of the economy, whereas most previous recessions occurred because demand dried up.

This recession was not caused by the familiar sins of corporate, consumer or financial recklessness, and thus household savings rates and financial sector balance sheets were in reasonable shape when the economic shock hit. Moreover, the global trade tension that dominated 2019 weighed on corporate sentiment such that many firms entered the recession with neither capex nor inventory levels especially extended. Therefore, unlike in previous recessions, we do not believe we are looking at a lengthy and painful period in which capital and other resources need to transition from one overextended sector to another.

Essentially, this was a recession that shouldn't have happened – at least, not yet – and one caused by a truly exogenous shock rather than an endemic issue or imbalance that pushed the economy over a cliff. We believe, therefore, that economies will bounce back over the course of the next 12 months, and our forecasts of trend growth rates continue to be governed by many of the themes we have written about extensively in recent years, not least the steady aging of the workforce.

This leaves us with real growth projections that are modestly higher this year, with our forecast for global growth 10 basis points (bps) higher, at 2.4%, over the next 10 to 15 years. This is driven by the 10bps uplift in our developed market (DM) forecast, to 1.6%, itself entirely driven by the cyclical bonus we attribute to economies as they accelerate out of recession and close their output gaps. Our emerging market (EM) forecast is unchanged, at 3.9%, with the slight dip we see in trend growth offset by a cyclical bonus (**EXHIBIT 2**).

Our 2021 assumptions anticipate slow real GDP growth globally, with little change to trend assumptions but small cyclical bonuses applied to several economies

EXHIBIT 2: MACROECONOMIC ASSUMPTIONS (%)

	Real GDP			Inflation		
	2021	2020	Change	2021	2020	Change
DEVELOPED MARKETS	**1.6**	1.5	0.1	**1.6**	1.6	0.0
United States	**1.8**	1.8	0.0	**2.0**	2.0	0.0
Euro area	**1.3**	1.2	0.1	**1.3**	1.3	0.0
Japan	**1.0**	0.6	0.4	**0.7**	0.8	-0.1
United Kingdom	**1.6**	1.2	0.4	**2.0**	2.0	0.0
Canada	**1.7**	1.6	0.1	**1.8**	1.8	0.0
Australia	**2.4**	2.2	0.2	**2.3**	2.3	0.0
Sweden	**2.0**	1.7	0.3	**1.6**	1.6	0.0
Switzerland	**1.5**	1.1	0.4	**0.5**	0.5	0.0
EMERGING MARKETS	**3.9**	3.9	0.0	**3.3**	3.3	0.0
China	**4.4**	4.4	0.0	**2.5**	2.5	0.0
India	**6.9**	7.0	-0.1	**5.0**	5.0	0.0
Brazil	**2.4**	2.4	0.0	**4.3**	4.5	-0.2
Russia	**1.1**	1.2	-0.1	**5.3**	5.5	-0.2
Korea	**2.1**	2.2	-0.1	**1.8**	2.0	-0.2
Taiwan	**1.6**	1.6	0.0	**1.0**	1.1	-0.1
Mexico	**2.5**	2.2	0.3	**3.7**	3.7	0.0
South Africa	**2.5**	2.2	0.3	**5.3**	5.3	0.0
Turkey	**3.1**	3.0	0.1	**8.5**	8.0	0.5
GLOBAL	**2.4**	2.3	0.1	**2.2**	2.2	0.0

Source: J.P. Morgan Asset Management; estimates as of September 30, 2020. Emerging markets aggregate derived from nine-country sample.

Like our growth forecasts, our inflation forecasts are little changed, and our outlook for aggregate global inflation remains intact at 2.2%. Most of our developed market inflation forecasts are unchanged. Our emerging markets forecast also moves sideways, at 3.3%, despite small downward revisions for several countries. These reflect improving inflation-fighting credentials at some EM central banks. However, we note that the range of outcomes around our central case is wider and more evenly distributed than in previous years.

Fiscal policy is back

Even if the recession was not attributed to more normal causes, its depth and severity left policymakers with no choice but to step in. With many monetary tools exhausted, and as many regions entered the recession with policy rates already at emergency levels (having not risen at all during the preceding expansion), governments were forced to boost fiscal spending to unprecedented levels. Meanwhile, central banks widened their intervention into asset markets and expanded their collective balance sheets to over USD 20 trillion.

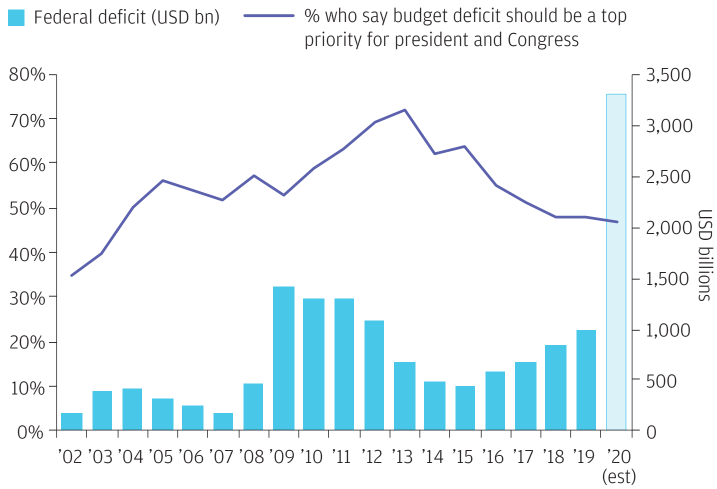
In the decade ahead, we expect more active fiscal stimulus in peacetime than at any time in modern financial history as fiscal and monetary policy pull in the same direction to achieve economic objectives. This is a marked change from the last few decades, when independent central banks were almost solely responsible for demand management. In our theme paper "The fiscal decade: The promises, problems and potential of fiscal stimulus," we emphasize the importance of this shift.

Should we welcome or fear greater government involvement in economies? It depends: Where a country has a well-ordered economy and solid institutional robustness, market access for the funding of even quite sizable fiscal expansions is likely to remain straightforward. As a result, we see little market-induced imperative for governments to return to a period of austerity (**EXHIBIT 3**). This is particularly so for countries that have clear projects and investments where capital can be effectively deployed, along with strong economic stewardship. A combination of these attributes is more likely to lead to productive investment, with a greater chance of boosting long-term potential growth.

However, where these conditions are not fully met, the risk of higher inflation, higher interest rates and, at the extreme, currency crises and being shut out of capital markets grows very quickly. Overall, higher fiscal spending is an inevitability in the next cycle, and one we cautiously welcome, but with the significant caveat that poorly executed fiscal expansion can have devastating second-order effects.

U.S. voters are becoming less focused on fiscal deficits, even as they grow

EXHIBIT 3: VOTER VIEW OF BUDGET DEFICIT AND SIZE OF FISCAL DEFICIT



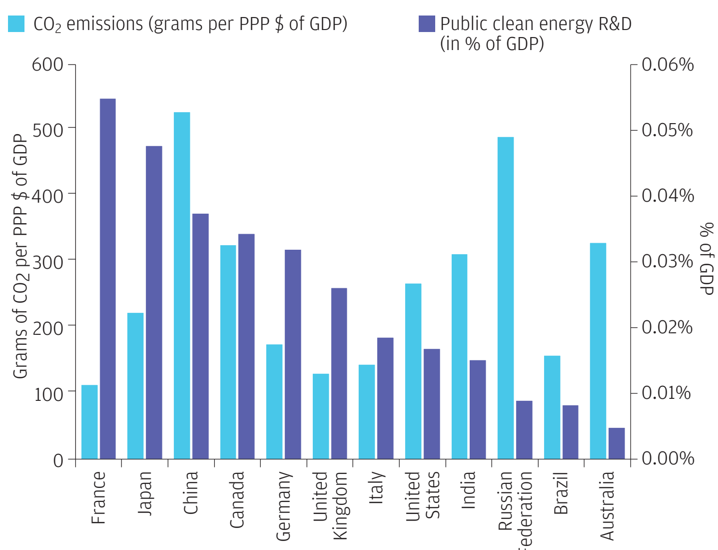
Source: Bloomberg, Haver, Pew Research Center, J.P. Morgan Asset Management; data as of September 30, 2020.

Rising to the climate challenge

Governments are not focused solely on supporting near-term activity. Many – particularly in Europe – are thinking longer term and often with particular attention to tackling climate change (**EXHIBIT 4**). Again, we see this as lending near-term support to demand and a longer-term enhancement to the supply side of the economy.

European countries have meaningful commitments to green investment even though they're not at the top of the list of polluters

EXHIBIT 4: GOVERNMENT INVESTMENT IN GREENING THE ECONOMY AND LEVEL OF CO2 EMISSIONS



Source: IEA, OECD, World Bank, Mission Innovation; data as of 2019 or latest available. R&D budgets for Brazil, Russia, India and China are estimates.

Note: R&D numbers are from public sector data and may not reflect private sector or joint venture research initiatives.

This year, we include a detailed analysis of the economic implications of climate change in the LTCMAs. Despite the huge social implications of climate change, economic models have been less conclusive, in large part because simple supply-demand frameworks and national accounting conventions tend to overlook the entrenched externality issues[2] that dominate the economic implications, especially over the long run.

Whether climate change is tackled through less intensive usage of "brown" energy or greater investment in green energy, we see a positive economic outcome in aggregate from more sustainable investment. Indeed, for some nations and regions, investment in greening the economy could be both a politically expedient and a growth-enhancing means of deploying fiscal stimulus. Clearly, there will be winners and losers, particularly as demand for fossil fuels levels off and eventually goes into reverse. But as with other long-term challenges, we expect that the adoption of sustainable technology will both lead to new innovation and increase efficiency.

Central bank policy constrained by a more leveraged system

Amid all the uncertainties, one thing seems clear: We are likely to be in a period of elevated leverage for some time to come. As we discuss in our theme paper on the issue of leverage, "Debt, debt everywhere: The implications of a high debt world," governments and corporates have taken on considerable additional debt to manage this period of weak revenues. This could have served to reduce future spending and investment. However, we suspect the burden of this debt will be eased thanks to a prolonged period of low interest rates courtesy of the world's central banks.

Central banks have little choice but to focus less on managing down price inflation and more on deploying and maintaining financial stability. Simply put, this is a significant step change – arguably a dilution or even a reversal of the approach embodied by Paul Volcker as Fed chair and replicated by policymakers around the globe for the last three decades. Indeed, it might even be said that central banks' incentives are perhaps becoming more aligned with issuers of debt than with the holders of debt.

Our debt and leverage theme paper also examines how persistently higher corporate leverage affects both firms' financial structures and the returns from corporate financial assets. For developed market firms, low prevailing rates present an incentive for higher leverage that is likely to continue for some time. Eventually, some degree of deleveraging may occur, but only when riskless rates rise and the overall cost of debt starts to increase.

Given the terming out of corporate debt and reasonable interest cover (even for optically high levels of debt), we expect to have to adjust to a lengthy period of elevated corporate leverage. Higher leverage may well support return on equity and will likely bring a surprisingly quick return to the corporate tendency toward elevated payout ratios via both dividends and buybacks.

POLICY INTERVENTIONS CHALLENGE PUBLIC MARKET RETURNS

Our macro forecasts are largely unchanged this year – testimony to the enormous efforts of policymakers to absorb the economic shock of COVID-19 and prevent lasting economic scars. However, this intervention has significant ramifications for financial markets. Central banks' direct manipulation of "risk-free" markets increased in the 2008–09 financial crisis. In the coronavirus crisis, their interventions have taken them deeper into the workings and pricing of risk assets. Supporting asset markets is an understandable part of the policy response, but it does now challenge expected returns, particularly in public markets.

The challenge is most acute in sovereign fixed income markets. At a headline level, extremely low starting yields translate to meager average returns across government bond markets over the next 10 to 15 years. Our estimates of equilibrium yield are unchanged for cash and 30-year bonds in most currencies, but they are modestly lower at the 10-year point to allow for higher structural demand in the belly of the curve as central bank balance sheets grow. Given the very low level of starting yields, our return forecasts are lower for all maturities in most major currencies (**EXHIBIT 5**). Indeed, with the exception of CNY, MXN and KRW, we forecast negative real returns for all sovereign bonds over the next 10 to 15 years, and in the long end of EUR, GBP and CHF curves we expect even nominal returns to be negative.

[2] Consumption, production and investment decisions of individuals, households and firms often affect people not directly involved in the transactions. Sometimes these indirect effects are tiny. But when they are large, they can become problematic – what economists call externalities. Externalities are among the main reasons governments intervene in the economic sphere. Source: IMF.

Given the very low level of starting yields, our return forecasts fall across maturities and currencies

EXHIBIT 5: STANDARD G4, IG, HY AND EMD FIXED INCOME RETURN PROJECTIONS

	USD		GBP		EUR		JPY	
	Equilibrium yield (%)	Return	Equilibrium yield (%)	Return	Equilibrium yield (%)	Return	Equilibrium yield (%)	Return
Inflation	2.0%		2.0%		1.3%		0.7%	
Cash	1.9%	1.1%	2.0%	1.1%	1.0%	0.2%	0.3%	0.1%
10-year bond	3.0%	1.6%	2.4%	0.9%	2.0%	0.6%	0.9%	0.4%
Long Bond Index^	3.3%	0.3%	2.6%	-1.1%	2.3%	-0.5%	0.9%	0.4%
Investment grade credit	4.5%	2.5%	4.1%	2.0%	3.0%	1.4%	1.2%	0.8%
High yield	7.6%	4.8%			5.6%	3.6%		
Emerging market debt*	6.7%	5.2%						

Source: J.P. Morgan Asset Management; estimates as of September 30, 2020.
^ EUR: 15-yr+ index; JPY: JGB Bond Index; GBP: 15-yr+ index; USD: 20r-y+ index. * EMD sovereign debt.

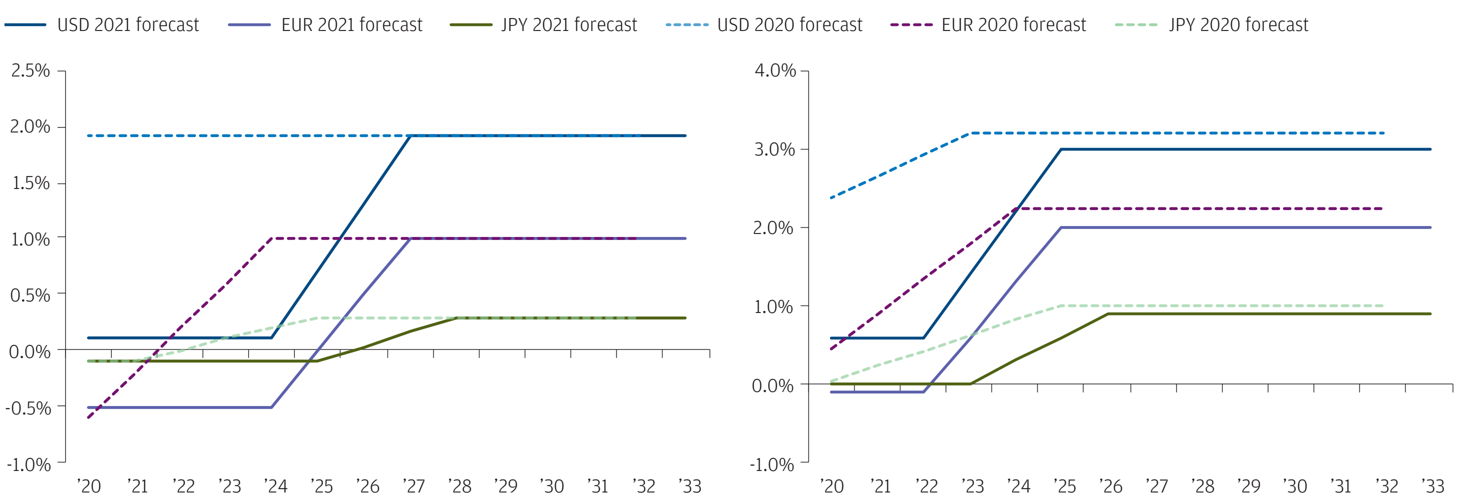
These are rather shocking numbers, to be sure, but they obscure two important subtleties in our return projections. First, our return expectations for EUR government bonds have actually risen slightly. Mechanically, this is because EUR yields this year are higher (i.e., less negative) than they were in the depths of the Sino-U.S. trade dispute that was still raging in autumn 2019. At a deeper level, however, the fact that EUR yields are actually higher now, after all the economic trauma of 2020, implies that Europe may have already hit its lower bound of interest rates before the pandemic swept through.

Second, given the intervention from global central banks through the pandemic and their subsequent commitments to low rates for an extended period, we have pushed out any expectation for rate normalization to at least 2024. However, once normalization starts, we think rates will rise quite swiftly – particularly if fiscal stimulus has led to some reflation, as we anticipate it will (**EXHIBITS 6A** and **6B**).

Given that we are in a new business cycle, and following forward guidance from central banks that rates will remain low for an extended period, we significantly push out rate normalization projections

EXHIBIT 6A: CASH RATE NORMALIZATION PROJECTIONS, 2021 VS. 2020

EXHIBIT 6B: 10-YEAR RATE NORMALIZATION PROJECTIONS, 2021 VS. 2020



Source: J.P. Morgan Asset Management; data as of September 30, 2020.

As a result, we see three distinct phases for sovereign returns: an initial phase of low yields and low returns – yet potentially reasonable Sharpe ratios, a middle phase of rising rates and negative returns, and a final phase in which yields have normalized and real returns are positive once again. Nevertheless, the returns in these later years will simply not be enough to offset the preceding periods of low and then negative returns as rates normalize.

Fed policy easing has also arrested the dollar's bull run. We first flagged overvaluation of the dollar in 2016, but we also noted that dollar bull (and bear) markets can run for several years (**EXHIBIT 7**) and that a stretched valuation was a necessary, but not sufficient, condition for a secular reversal.

It is possible now, however, that an extended period of U.S. "exceptionalism" – in growth, interest rates and equity market performance – may be coming to an end. As a result, we expect the dollar to weaken in most crosses over this cycle, with notable falls coming against EUR, JPY and CNY.

In the past, USD's high valuation has acted to boost our long-term forecasts of global asset returns relative to domestic returns for dollar-based investors, while increasingly weighing on forward returns available in U.S. assets for investors in other regions. However, it is only when currencies actually start to reverse their secular trends that any currency differentials begin to accrue to investors. This has served to sharply widen the dispersion of our long-term return forecasts across equities and credit markets.

Turning to credit, we believe that central banks will continue to intervene in credit markets for some time, essentially capping downside risks in the very highest quality segment of the market, at least. This should offset the impact of persistently higher leverage. As a result, our equilibrium spread assumptions are little changed for developed market corporate credit this year: down just 5bps, to 160bps, for U.S. investment grade (IG) and unchanged at 500bps for U.S. high yield (HY) credit. This translates to lower forecast returns, down 90bps, to 2.50%, for U.S. IG – where the longer duration of the index weighs heavily. Return assumptions fall a more modest 40bps, to 4.80%, for U.S. HY; it benefits from a smaller duration drag and prevailing spread levels close to our estimate of long-term equilibrium. The pattern for European IG credit is similar, with EUR IG falling 40bps, to 1.40%, and European HY returns are unchanged at 3.60%.

For emerging market debt (EMD), central bank support for the market is less clear, and thus higher debt levels do lead us to increase our equilibrium spread assumptions. We increase our equilibrium spread assumptions for EM sovereign debt by 25bps, to 375bps, and for EM corporates by 75bps, to 400bps, translating to return forecasts of 5.20% and 4.70%, respectively.

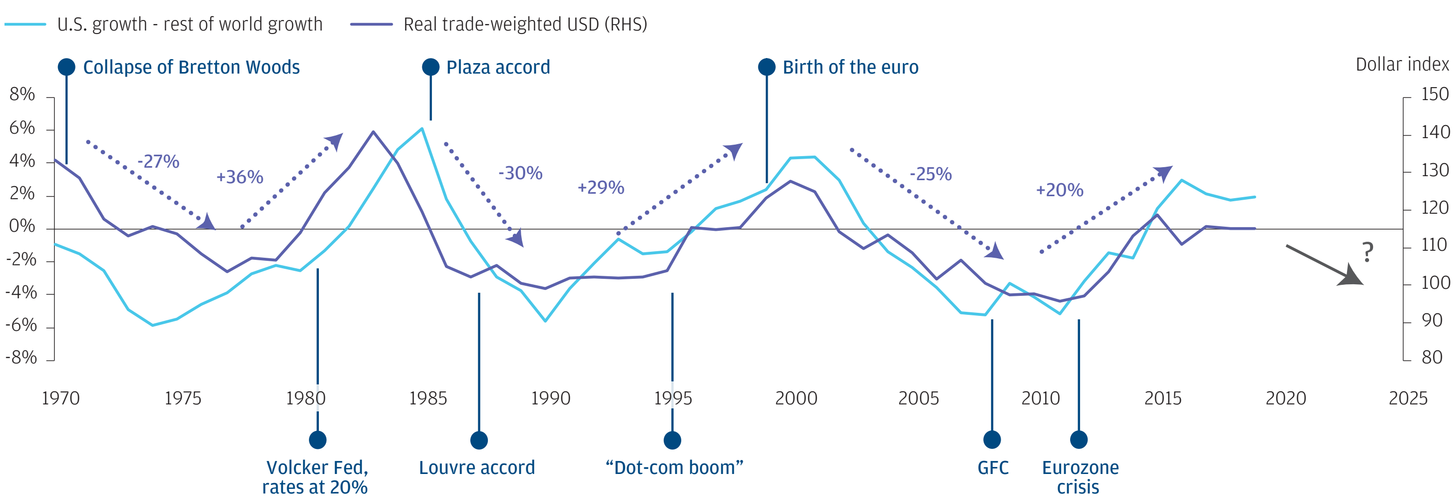
Return forecasts for credit assets in general this year are reasonably resilient – even allowing for the impact of duration in IG credit. For some time now, we have described credit as the bright spot within fixed income, but given the high starting valuations in equity markets, credit now compares very favorably with stocks, in both return and risk terms.

In equities, the main message from our forecasts this year is increased dispersion between U.S. and non-U.S. equity returns. This trend, evident in recent years, this year has become more pronounced – especially when our forecast returns for global equities are translated into USD.

In making our forecasts, the lower level of interest rates and greater use of leverage combine to lead us to modestly raise our assumption of fair valuations. As described more fully in our Equity

An extended period of U.S. "exceptionalism" may be coming to an end, leading to a weaker dollar

EXHIBIT 7: SECULAR USD BULL AND BEAR MARKETS OVER THE LAST 50 YEARS

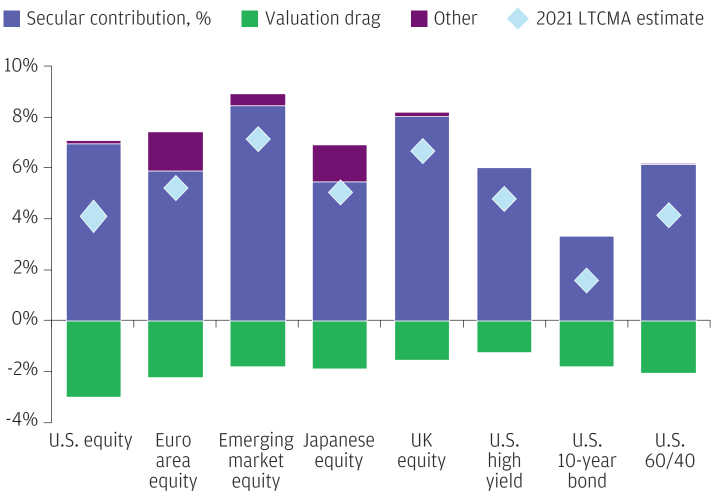


Source: Bloomberg, Haver, J.P. Morgan Asset Management; data as of September 30, 2020.

Assumptions article, we have brought our assumption of fair price/earnings (P/E) ratios more in line with the 30-year average. Even so, the starting level of valuations in this cycle is unusual, and the cheaper valuation levels that followed the rout in February and March 2020 rebounded extraordinarily quickly (**EXHIBIT 8**). Nevertheless, it is not quite correct to describe stocks as expensive. Certainly, the valuation tailwind that existed in the early part of previous business cycles is absent, but compared with valuations in bond markets, equities look attractive.

This cycle is starting at an unusual point, with equity valuations elevated and presenting a headwind for returns in many stock markets

EXHIBIT 8: CYCLICAL VS. STRUCTURAL RETURN DRIVERS FOR KEY EQUITY AND OTHER ASSETS



Source: Bloomberg, Datastream, J.P. Morgan Asset Management; data as of September 30, 2020.

The impact of elevated valuations is most stark for U.S. large cap equities, where our return forecast falls by 150bps, to 4.10%. This pulls global equity returns down by 140bps, to 5.10%, while our global equity ex-U.S. forecast is down 100bps, to 6.70%, all in U.S. dollar terms, implying better forecasts for some non-U.S. markets. UK equities lagged in 2020, contributing to a better entry level, pushing our return forecast up 60bps, to 6.70% in local currency. By contrast, Japanese equity forecasts are down 40bps, to 5.10%, and eurozone equity forecasts fall 60bps, to 5.20%, both in local currency. Our forecast for EM equity returns falls by 200bps, to 7.20%, in U.S. dollar terms. Although this represents a 230bps premium to developed market equities, the gap between DM and EM return forecasts has narrowed by 60bps this year. Valuations explain some of that shift, but it also arises because – after the U.S. equity market – EM equities showed the best performance over the last year,[3] while a number of other key stock markets actually declined.

What's the alternative?

A trend toward lower public market asset returns, in place for some years, is increasingly prompting investors to look toward alternative and private asset markets. Our thematic paper "Alternatives: From optional to essential" explores the further mainstreaming of alternative assets and why these asset markets have grown from an esoteric backwater of the capital markets to a huge and rapidly expanding opportunity set.

In years to come, we expect access to, and liquidity in, alternative asset markets to grow robustly (**EXHIBIT 9**). For context, the global private equity market, at the riskier end of the spectrum, is now bigger than the entire UK stock market. At the more conservative end of the spectrum, core real estate globally represents an asset pool totaling some USD 4.8 trillion.[4] Certainly, there are trade-offs in allocating to private and alternative assets, but this is the case in any investment decision. Simply put, the trade-off between market risk and returns in many public markets offers scant reward, leading investors to consider how to monetize other risk premia, such as illiquidity.

Within financial alternatives, our forecast returns for cap-weighted private equity fall 100bps, to 7.80%. The decline reflects lower public market assumptions, even as alpha expectations are flat to up despite elevated purchase price multiples and significant dry powder. The slight upgrade in alpha expectations is based on the ability to deploy dry powder more productively in a dislocated economy and rotation into higher growth sectors. Return forecasts for most hedge fund strategies come down this year, reflecting lower returns available in public market assets. Nevertheless, we do believe that conditions for alpha generation are improving, which will heighten the importance of manager selection.

In real assets, returns have held up remarkably well. Our forecasts for core real estate rise by 10bps in the U.S. and in Asia-Pacific, to 5.90% and 6.60%, respectively, while Europe ex-UK core real estate is unchanged at 5.00%, and UK core real estate rises from 5.50% to 5.90%. There are some fears that the impact of COVID-19 will profoundly change working habits, impacting the office sector. While we acknowledge the near-term impact on absorption, we note that the optimal mix of underlying real estate assets is constantly changing, and in the long term these changes will continue to be evolutionary at the asset and sector level. Retail, for example, has been under pressure for some years, but at the same time logistics and warehousing are in high demand. The post-COVID-19 world and changing working practices may alter the mix of asset types, but in aggregate, real estate remains an important asset class with robust return prospects.

[3] September 2019 to September 2020.

[4] Private real estate equity, non-corporate owned, non-REITs.

In general, forecast returns for alternatives and private assets have held up better than those for public markets

EXHIBIT 9: RETURNS FOR KEY ALTERNATIVE ASSET CLASSES

	2021	2020
PRIVATE EQUITY (USD)	7.80%	8.80%
Small cap	7.30%	8.70%
Mid cap	7.40%	8.50%
Large/mega cap	8.00%	9.00%
HEDGE FUNDS (USD)		
Long bias	3.40%	4.80%
Event-driven	3.10%	4.80%
Relative value	3.60%	4.50%
Macro	2.20%	3.30%
Diversified	3.30%	4.50%
Conservative	3.10%	4.00%
REAL ESTATE-DIRECT (LOCAL CURRENCY)		
U.S. core	5.90%	5.80%
European ex-UK core	5.00%	5.00%
UK core	5.90%	5.50%
Asia-Pacific core	6.60%	6.50%
REITS (LEVERED, LOCAL CURRENCY)		
U.S.	6.50%	6.00%
European ex-UK	5.90%	5.50%
UK	6.00%	6.00%
Asia-Pacific	6.40%	6.00%
Global	6.40%	6.00%
GLOBAL INFRASTRUCTURE (USD)		
Core	6.10%	6.00%
GLOBAL TRANSPORT (USD)		
Core	7.60%	
COMMODITIES (USD)	2.30%	2.50%
Gold	2.90%	3.00%

Source: J.P. Morgan Asset Management; data as of September 30, 2020.

Infrastructure and transportation also offer standout returns to investors, with global core infrastructure returns up 10bps, to 6.10%, this year and global core transportation – a newly added asset this year – at 7.60%. Across real assets, the uplift compared with public markets is compelling.

However, it is important to recognize the trade-offs being made in alternatives broadly – notably liquidity – and the importance of manager selection in accessing these returns. In making portfolio construction choices with alternative assets, investors will increasingly need to extend traditional mean variance-based (risk-return) allocation frameworks to account for the different aspects of risk premia across alternative assets.

A NEW PORTFOLIO FOR A NEW DECADE

In last year's LTCMAs, we suggested that investors should look beyond the traditional 60/40 stock-bond portfolio. This year, the impetus is stronger still. In last year's edition, we noted that while bonds would continue to play a role in portfolios – offering protection in times of economic weakness – their other role of providing income was compromised. This year, bonds proved their worth in the first quarter, delivering handsome returns as the economy came to an abrupt halt, but looking forward, absenting a further crisis and even more negative yields, we see little prospect of a positive real return from bonds.

Investors therefore face a difficult decision: how to harvest an acceptable return without an unacceptable increase in portfolio risk. Investors may well find that the level of market risk required to generate an acceptable level of return is unpalatable unless other trade-offs – such as illiquidity risk, currency risk or increasingly dynamic asset allocation – are embraced.

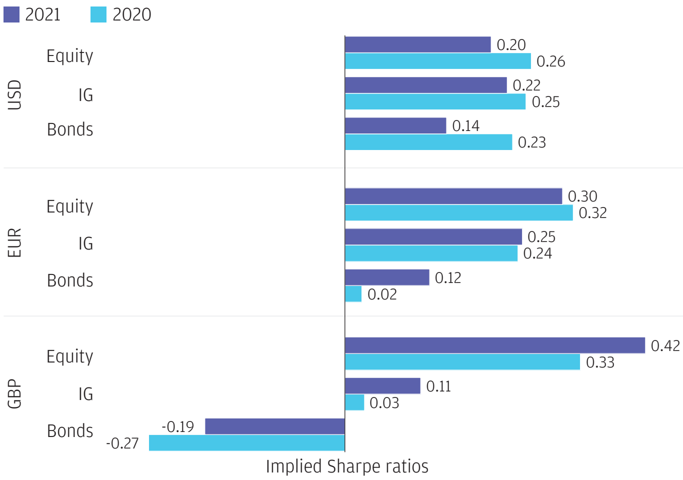
Moreover, one shouldn't underestimate the scale and nature of the risks ahead. Our central scenario is essentially that policy is sensible and works to prevent lasting scars. But we think many of our forecasts have fatter tails – i.e., a wider distribution of risks around our central projection. A revival in productivity presents an even greater upside risk than in recent years, given the rapid adoption of new technologies in recent months. Persistent trade friction remains one of the key downside risks.

The concept of fat tails is also important in our inflation forecasts. In last year's LTCMAs, we noted that since the early 1980s inflation has consistently exhibited downside bias compared with *ex ante* expectations – something that was especially pronounced in the last cycle. With fiscal policy now pulling in the same direction as monetary policy, the upside risks to inflation are growing. To be clear, we think this plays out over the medium term, since wide output gaps will serve to contain inflation in the next few years. But for the first time in several years, we see a plausible upside risk to our inflation forecasts.

To maximize returns while acknowledging wide-ranging risks, investors should look at the widest array of assets available and consider an expanded opportunity set. In many cases, there may be regulatory hurdles to doing this, but over our 10- to 15-year forecast horizon we believe such restrictions will gradually adapt to the negative real return outlook, and unappealing Sharpe ratios, in traditionally "safe" assets (**EXHIBIT 10**). Most crucially, when investors design a portfolio to meet specific goals and accommodate any practical constraints rather than starting with a market portfolio and adopting arbitrary allocation limits, it allows a clearer appreciation of optimal trade-offs in portfolios.

Sharpe ratios for U.S. dollar assets have slipped notably this year

EXHIBIT 10: 2021 AND 2020 SHARPE RATIOS FOR KEY G3 ASSETS



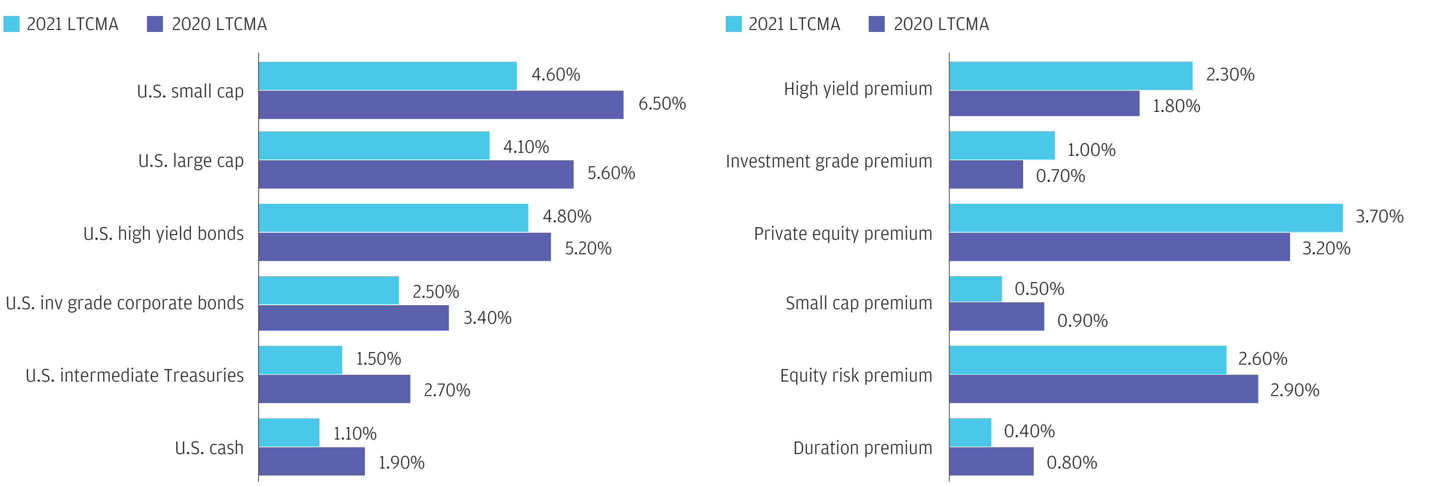
Source: Bloomberg, J.P. Morgan Asset Management; data as of September 30, 2020.

Greater use of scenario analysis is another important aspect of portfolio design that investors will need to adopt. Scenario analysis is widely practiced, but its adoption is often limited to testing the extremes of a given view of the world. Investors and risk managers seldom systematically consider entirely alternative states. One way to reconcile low market volatility with high uncertainty is to reflect that it is possible for tail risks to be well contained within one state of the world – through persistent central bank policy interventions, for instance. But if that state of the world were to collapse – perhaps due to a failure of central bank credibility – then investors could find themselves in an entirely different and much more uncertain environment.

Building portfolios that can be robust across different future states of the world is becoming as critical as optimizing for risks and returns around our central viewpoint. Bonds, for instance, offer limited return in our base case of stable long-term growth and balanced inflation risks, but should the combination of fiscal and monetary stimulus lead to significantly higher inflation, then bond exposures will suffer considerable losses. Real assets, by contrast, may provide a more stable store of value in a wider set of future states, but it comes at the cost of liquidity today, which is a trade-off not all investors can make (**EXHIBIT 11**).

Returns have fallen for most public market assets, but in risk premia terms assets such as credit, equity and private equity remain attractive

EXHIBIT 11: RETURN AND RISK PREMIA FOR KEY USD ASSETS



Source: J.P. Morgan Asset Management; data as of September 30, 2020.

Today there are no easy portfolio choices. In the past, a new economic cycle coincided with low yields and low stock market valuations. The choice for investors came down to how firmly they believed in the forthcoming recovery and economic expansion. The stock-bond frontier serves to highlight the structural challenge ahead for investors: Low yields and elevated equity valuations act in concert to push the frontier to very low levels (**EXHIBITS 12A** and **12B**).

In prior early cycles, harvesting returns was simply a case of pushing further along the risk frontier, but in this new cycle simply assuming ever more market risk may not be the most efficient trade-off. To be clear, there are opportunities for investors – as the number of assets that sit well away from the stock-bond frontier demonstrates.

However, the absolute level of returns available in the most liquid public bond and equity markets presents a dilemma. This is not a "close your eyes and buy" world, and while we believe that the coming expansion will support risk asset markets, valuations present a challenge.

Asset markets that have seen the least policymaker intervention, such as high yield credit, EM debt and many alternative assets, still offer some promise of reasonable returns. But in asset markets where policy action has been most pronounced, future returns are impaired. The result is a number of key assets sitting meaningfully above the stock-bond frontier, implying that investors do have a path toward building a robust portfolio and accessing higher potential returns. But none of these options is risk-free – what is optically a compelling prospect from a market risk lens will inevitably involve other trade-offs.

One of the first things we are taught in Economics 101 is that there is no such thing as a free lunch. And the return forecasts in our 25th anniversary edition of the LTCMAs make this plain: The price for dealing with the pandemic today comes at the cost of tomorrow's returns in many conventional asset markets. In building a new portfolio for a new decade, we urge investors to draw on an expanded range of opportunities across public and private assets and new approaches to risk management to address the shortfall in returns across traditional asset classes. After all, lunch is not the only meal of the day.

Stock-bond frontiers are meaningfully lower than last year, showing the combined impact of ultra-easy monetary policy compressing yields and fiscal plus monetary stimulus together boosting equity valuations

EXHIBIT 12A: USD STOCK-BOND FRONTIERS

2021 stock-bond frontier | 60/40 portfolio (2021) | 2020 stock-bond frontier | 60/40 portfolio (2020) | 2008 stock-bond frontier | 60/40 portfolio (2008)

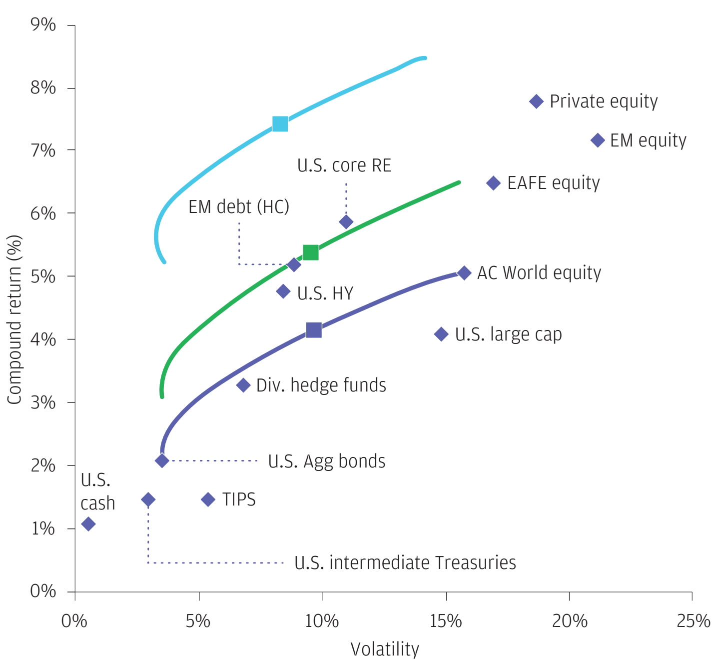
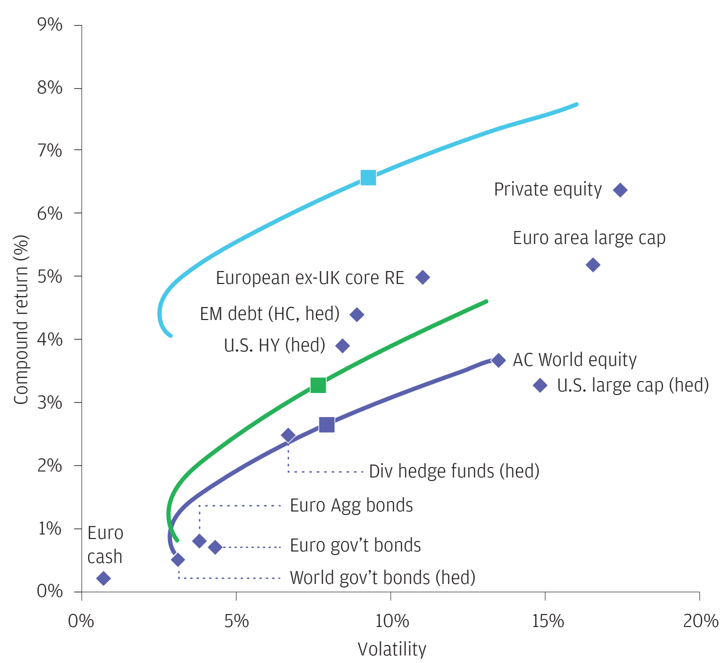


EXHIBIT 12B: EUR STOCK-BOND FRONTIERS



Source: J.P. Morgan Asset Management; data as of September 30, 2020.

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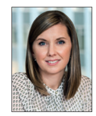

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